Initial Study/Mitigated Negative Declaration for the Pacific Industrial Warehouse Project, Santa Clarita, California

MAY 2023

PREPARED FOR

City of Santa Clarita, Planning Division

PREPARED BY

SWCA Environmental Consultants

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR THE PACIFIC INDUSTRIAL WAREHOUSE PROJECT, SANTA CLARITA, CALIFORNIA

Prepared for

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SWCA Project No. 074508

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ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
AB	Assembly Bill
ADT	average daily traffic
Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
APN	Accessor's Parcel Number
Applicant	Pacific Industrial, LLC
AQMP	Air Quality Management Plan
Basin Plan	Water Quality Control Plan for the Los Angeles Basin (Basin Plan)
bgs	below ground surface
BMP	best management practice
BP	Business Park
CAAQS	California Ambient Air Quality Standards
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CBC	California Building Code
CCR	California Code of Regulations
CDOC	California Department of Conservation
CEQA	California Environmental Quality Act
CH_4	methane
CHRIS	California Historical Resources Information System
City	City of Santa Clarita
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
County Public Works	County of Los Angeles Department of Public Works
CRHR	California Register of Historical Resources
dB	decibel(s)
dBA	A-weighted decibel(s)

District	Santa Clarita Valley Sanitation District
DTSC	Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FRAP	Fire and Resource Assessment Program
FTA	Federal Transit Administration
FTBMI	Fernandeño Tataviam Band of Mission Indians
GHG	greenhouse gas
HVAC	heating, ventilation, and air conditioning
I-	Interstate
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
JCOZ	Jobs Creation Overlay Zone
LACoFD	Los Angeles County Fire Department
LID	low-impact development
Ldn	day-night average sound level
Leq	hourly average
LOS	level of service
LRA	Local Responsibility Area
LST	localized significance threshold
MBTA	Migratory Bird Treaty Act
MOCA	Mineral Oil Conservation Area
mgd	million gallons per day
MLD	Most Likely Descendant
MS4	Municipal Separate Storm Sewer System
MT	metric tons
MTCO2e	metric tons of carbon dioxide equivalents
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
Ninyo and Moore	Ninyo and Moore Geotechnical and Environmental Sciences Consultants
NO_2	nitrogen dioxide
NOx	oxides of nitrogen
NPDES	National Pollution Discharge Elimination System

OEHHA	Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
PCE	passenger car equivalent
PEA	Preliminary Endangerment Assessment-Human Health Risk Assessment
PM_{10}	coarse particulate matter
$PM_{2.5}$	fine particulate matter
ppm	parts per million
project	Pacific Industrial Warehouse Project
REC	Recognized Environmental Condition
RTF&A	R.T. Frankian and Associates
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coast Information Center
SCE	Southern California Edison
SCVJSS	Santa Clarita Valley Joint Sewerage System
SCV Water	Santa Clarita Valley Water Agency
SLF	Sacred Lands File
SO_x	sulfur oxides
SoCalGas	Southern California Gas Company
SR-	State Route
SRA	source-receptor area
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminant
TAZ	traffic analysis zone
THCP	Tribal Historic and Cultural Preservation
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VMT	vehicle miles traveled
VOC	volatile organic compound
WRP	wastewater reclamation plant

1 INTRODUCTION

Pacific Industrial, LLC (Applicant), proposes the development of a vacant site in the city of Santa Clarita, California, which requires review under the California Environmental Quality Act (CEQA). This Initial Study/Mitigated Negative Declaration (IS/MND) evaluates the environmental effects of the Pacific Industrial Warehouse Project (project). The project would include the construction and operation of a 174,000-square-foot industrial/warehouse building and associated site improvements on a 12.84-acre property.

1.1 California Environmental Quality Act

CEQA (California Public Resources Code [PRC] Section 21000 et seq.), as amended, applies to projects initiated by, funded by, or requiring discretionary approvals from state or local government agencies. The State CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations [CCR]), as revised) states that a "Lead Agency" is "the public agency which has the principal responsibility for carrying out or approving a project." Therefore, the City of Santa Clarita (City) is the Lead Agency responsible for compliance with CEQA for the project.

As Lead Agency, the City must complete an environmental assessment of the project to determine whether implementation of the project would result in significant adverse environmental impacts. To fulfill the purpose of CEQA, this Initial Study (IS) has been prepared to consider the potential environmental impacts the project could cause.

Based on the nature and scope of the project and the evaluation contained in the IS environmental checklist (contained herein), the City, as the Lead Agency, concluded that a Mitigated Negative Declaration (MND) is the proper level of environmental documentation for this project. The IS shows that impacts caused by the project are either less than significant or significant but mitigable with incorporation of appropriate mitigation measures as defined herein. This conclusion is supported by State CEQA Guidelines Section 15070, which states that an MND can be prepared when "(a) the initial study shows that there is not substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or (b) the initial study identifies potentially significant effects, but (1) revisions in the project plans or proposals made by, or agreed to by the applicant, before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and (2) there is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment."

1.2 Project Location

The project site is located at 26313 Golden Valley Road in the city of Santa Clarita, Los Angeles County, west of Golden Valley Road and south of Centre Pointe Parkway (Figure 1). The project site encompasses Assessor's Parcel Number (APN) 2836-016-083 within Sections 24 and 25, Township 4 North, Range 16 West, as shown on the Newhall, California, U.S. Geological Survey (USGS) 7.5-minute quadrangle map.

1.3 Environmental Setting

The project site is in the Santa Clarita Valley within northwestern Los Angeles County, south of the Santa Clara River and northwest of the San Gabriel Mountains. It is situated approximately 3.8 miles south of the Sierra Pelona Mountains, 2.5 miles northwest of the San Gabriel Mountains, and 4.2 miles northeast of the Santa Susanna Mountains. The project site is located within the low foothills overlooking the confluence of the upper Santa Clara River (Soledad Canyon) approximately 0.8 mile to the south. Elevation within the project site varies from a high of 1,490 feet above mean sea level (amsl) within the natural vegetated slopes to approximately 1,370 feet amsl within the low, level eastern basin portion of the proposed project site. Vegetation within the general area would likely have consisted, prior to development, of sage scrub on the hillsides and ridges and oak savannah parkland within the alluvial floodplain. The current conditions represent considerable disturbance within the southern and eastern portions of the site, resulting in those areas being barren of vegetation. The project site contains, within its northern and western portions, low hills covered in a mosaic of native (sage scrub) and nonnative (annual grasses) vegetation.

Soils in the project site are characterized as Saugus loam with Yolo loam (U.S. Department of Agriculture 2023). The Saugus loam exists at 30 to 50 percent slopes and has a series profile typically consisting of 0 to 42 inches of loam; 42 to 46 inches of weathered bedrock. The parent material is a weakly consolidated alluvium. The Yolo loam exists at 2 to 9 percent slopes and has a series profile typically consisting of 0 to 72 inches of loam and is characterized by alluvial fans. The site is underlain by sedimentary rock units of the Plio-Pleistocene–age Saugus Formation comprising interbedded light brown to reddish brown siltstone and sandstone. This formation is characterized as moderately cemented, indurated, and generally poorly exposed (R.T. Frankian and Associates [RTF&A] 2021).

The project vicinity is generally characterized by urban land uses, although undeveloped hillsides and ridgelines define the area southwest of the project site. Land uses immediately surrounding the project site include an operational National Technical Systems aerospace testing facility to the east (on land with a Business Park zoning designation), business park buildings to the north and west (on land with a Business Park zoning designation), and the Los Angeles County Sheriff’s Department station (including an operational helicopter pad), the Whittaker-Bermite site (a former munitions testing and manufacturing site) to the southwest, and vacant hillside to the south (on land with Business Park and Specific Plan zoning designations). The project site is bordered to the northeast by an unnamed concrete-paved stormwater channel.

1.4 General Plan and Zoning Designations

The project site’s existing land use designation is Business Park (BP) and the existing zoning designation is Business Park Zone with a Jobs Creation Overlay Zone (JCOZ). The BP designation provides for mixed employment districts in areas accessible to transportation and visible from freeways and major arterials and is intended to promote the development of master-planned environments with a high quality of design and construction. Allowable uses in this designation include offices, medical offices, research and development, light assembly and fabrication, warehousing and distribution, and supportive commercial uses with a maximum floor area ratio (FAR) of 2.0. The purpose of the JCOZ is to support the General Plan objective of promoting the creation of strong regional and local economies via the implementation of strategic land use planning policies. Specifically, the JCOZ intends to 1) attract and promote the creation of high-quality jobs within the City’s four targeted industries—aerospace, biomedical, entertainment, and technology—and other industries at the discretion of the City Director; 2) enhance the city’s overall jobs/housing balance; and 3) provide greater employment opportunities throughout the entire city.

1.5 Project Description

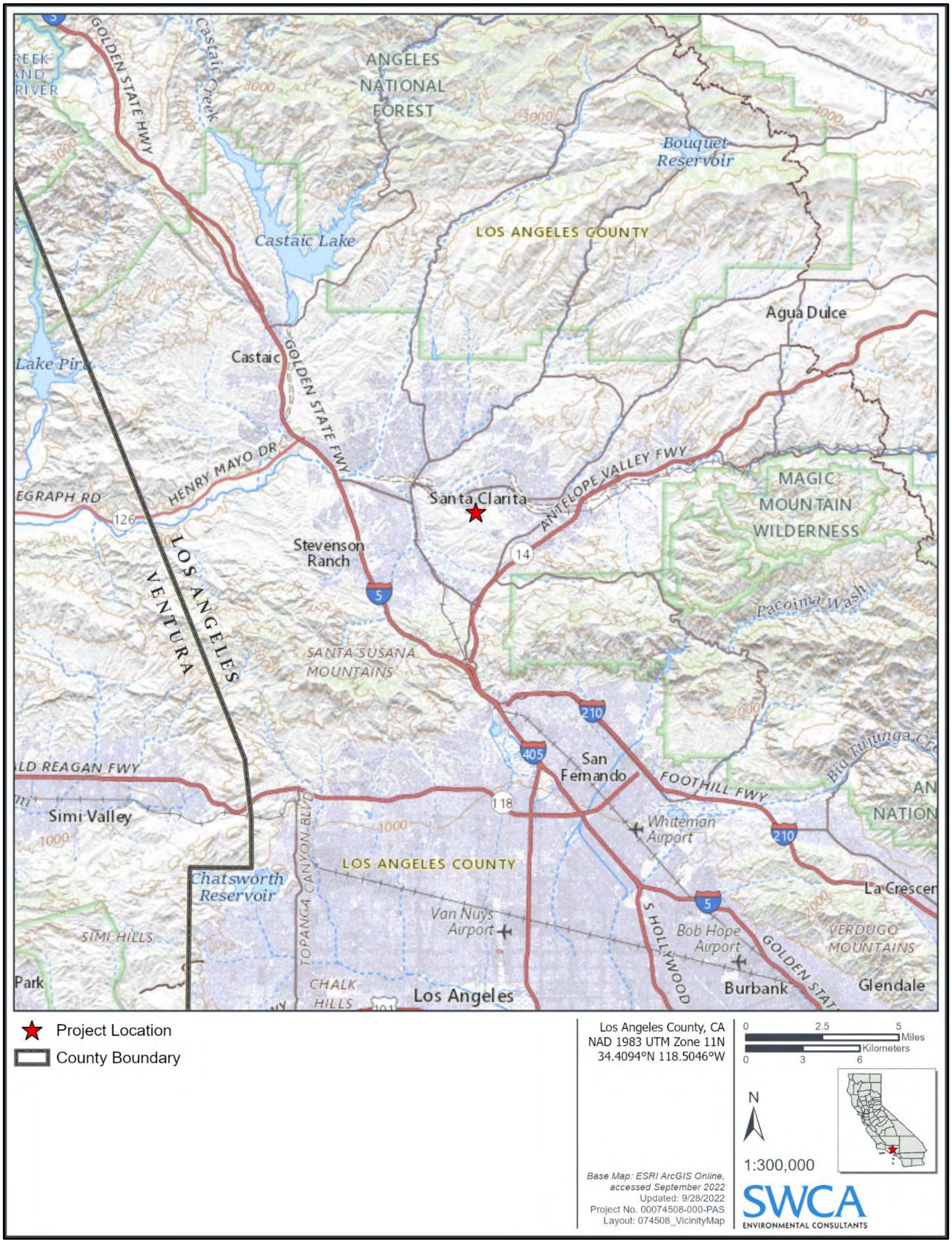
1.5.1 *Project Overview*

The Applicant proposes to develop a 174,000-square-foot industrial warehouse building and associated development on a 12.84-acre property (Figure 2 and Figure 3). The proposed building would consist of 161,000 square feet of warehouse space, 4,000 square feet of mezzanine, and 9,000 square feet of office space (one office at the southeast corner and one office at the southwest corner of the proposed warehouse) with a maximum building height of 52 feet (measured from finished floor to the top of the parapets) (see Figure 6 for elevation renderings of the project). The building is proposed to be constructed with painted concrete tilt-up panels and low-reflective, blue-glazed glass. Articulated building elements include parapets with a varied roofline, wall recesses, formliners, and mullions. The exterior palette for the building would include various neutral, earth-toned colors, including shades of beige, gray, and dark blue (see Figure 4 and Figure 5 for architectural renderings of the project). The Applicant also would provide an employee lunch area with tables and chairs at the southeast corner of the site. Other associated on-site improvements would include 25 docking stations along the southern side of the building, as well as landscaping, paving, parking, and exterior lighting.

1.5.2 *Landscaping*

The project would provide 194,046 square feet of landscape coverage, which accounts for approximately 35% of the project site. Proposed landscaping would be ornamental in nature and would feature trees, shrubs, and drought-tolerant accent plants in addition to a variety of groundcovers. Trees, shrubs, and groundcover would be concentrated along the project site’s frontage with Golden Valley Road and along the project site’s northern, western, and southern boundaries. Also, landscaping would be massed at driveways, around the warehouse building, and in and around automobile parking areas.

Before a building permit to construct the proposed warehouse building is issued, the Applicant would be required to submit final planting and irrigation plans to the City for review and approval. The plans are required to comply with Section 17.51.030 of the Santa Clarita Municipal Code, which establishes requirements for landscape design, automatic irrigation system design, and water-use efficiency.



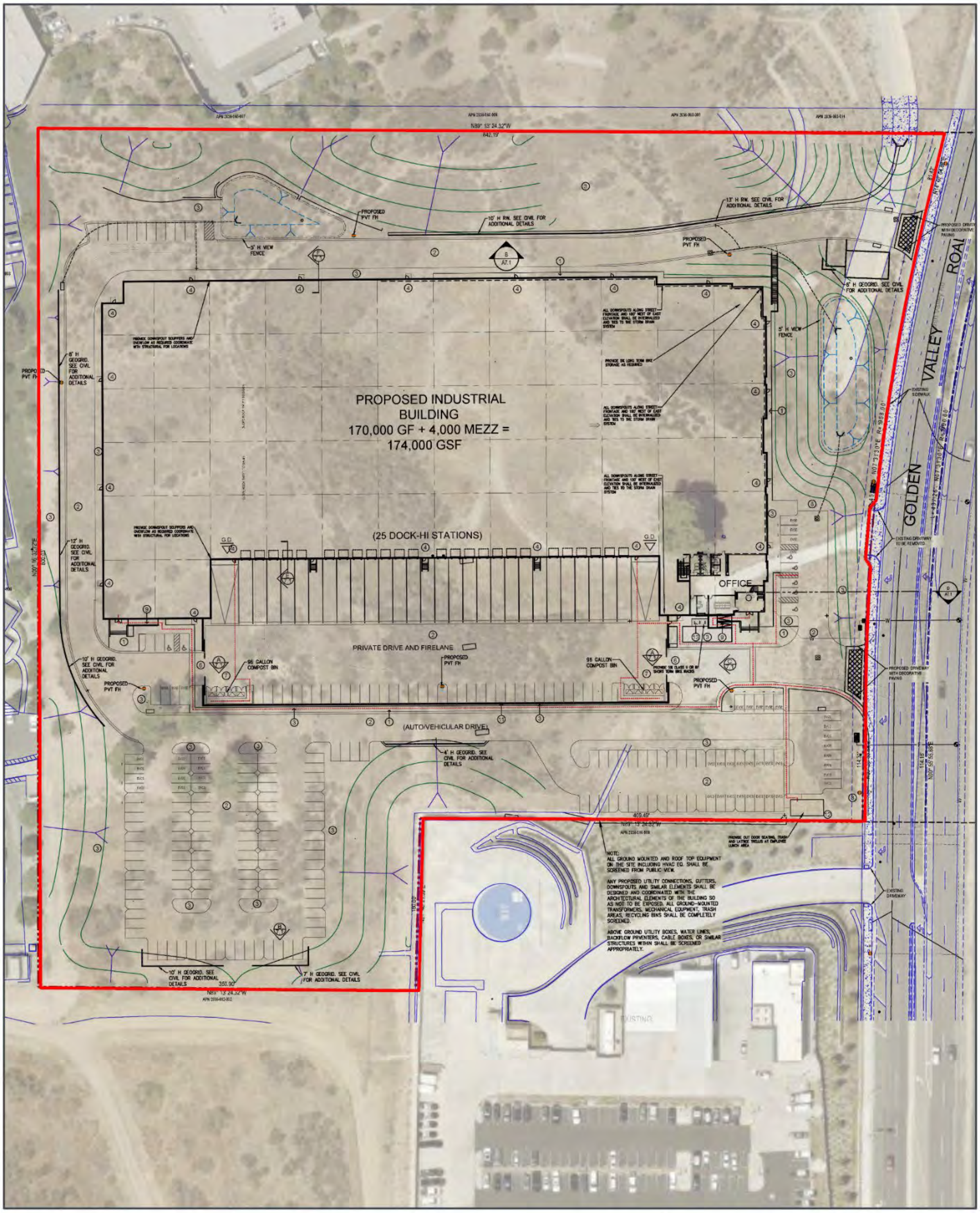
Los Angeles County, CA
NAD 1983 UTM Zone 11N
34.4094°N 118.5046°W

Base Map: ESRI ArcGIS Online, accessed September 2022
Updated: 9/28/2022
Project No. 00074508-000-PAS
Layout: 074508_VicinityMap

Figure 1. Project vicinity.

Base Map: ESRI ArcGIS Online, accessed May 2023
Updated: 5/10/2023
Project No. 00074508-000-PAS
Layout: 074508_AerialMap

Figure 2. Project location.



Source: Pacific Industrial / AO Architects - Site Plans 2021

Project No. 00074508-000-PAS
Layout: 074508_SitePlan

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Figure 3. Site plan.

NEWLY PLANTED TREES -VIEW LOOKING NORTH WEST

FULL GROWN TREES -VIEW LOOKING NORTH WEST

Source: Pacific Industrial / AO Architects - Site Plans: May 2023

Project No. 00074508-000-PAS
Layout: 074508_Arch_Renderings

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Figure 4. Proposed Pacific Industrial Warehouse building and landscaping (1 of 2).

NEWLY PLANTED TREES -VIEW LOOKING SOUTH WEST

FULL GROWN TREES-VIEW LOOKING SOUTH WEST

Source: Pacific Industrial / AO Architects - Site Plans: May 2023

Project No. 00074508-000-PAS
Layout: 074508_Arch_Renderings

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Figure 5. Proposed Pacific Industrial Warehouse building and landscaping (2 of 2).

Source: Pacific Industrial / AO Architects - Site Plans: May 2023

Project No. 00074508-000-PAS
Layout: 074508_Arch_Renderings1

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Figure 6. Proposed Pacific Industrial Warehouse elevation renderings.

1.5.3 *Access, Parking, and Circulation*

The project would include two parking lots in the southern portion of the project site and one small strip of parking spaces at the northwest corner of the site. The project would provide a total of 236 parking stalls, including standard, Americans with Disabilities Act (ADA)–compliant, and electric vehicle parking stalls. Table 1 breaks down the number of parking stalls by parking type. The project also would provide 24 bicycle rack spaces, which would be installed just outside the proposed office space at the southeast corner of the warehouse building.

Table 1. Parking Summary

Parking Type	**Number of Stalls**
Standard	206
ADA-compliant	6
Electric vehicles	24
Total	**236**

Vehicular access to the project site would be provided by two proposed driveways along Golden Valley Road. The driveways would connect to a private roadway that would loop around the warehouse building to provide access to the docking stations and parking lots. The private roadway would be designed to provide adequate access to the site for fire department and other emergency personnel. Pedestrian access would be provided by the existing sidewalk along Golden Valley Road. The sidewalk would connect to the proposed driveways, which lead to the warehouse building.

In addition, the following measures are being incorporated into the project design to reduce vehicle miles traveled (VMT) generated by the project and to assist the City in achieving longer-term VMT reduction:

- End-of-trip bicycle facilities, such as bike parking, bike lockers, showers, and personal lockers.
- Commute trip reduction marketing, including information sharing and marketing to educate employees about their travel options such as carpooling, transit, walking, or biking.
- Preferential parking permit program, to provide enhanced parking options for those that commute by carpool, vanpool, or sustainably fueled/powered vehicles.
- Bike parking, to provide short-term and long-term bike parking options on the project site.

1.5.4 *Lighting*

Exterior lighting would be subject to compliance with the Santa Clarita Municipal Code (Section 17.51.050), which requires all lights to be directed downward and be of a cut-off design to prevent illumination of other properties and off-site glare. In addition, the Municipal Code requires that all light fixtures at building entrances be on between sundown and 10 p.m. or 1 hour past the close of the business. All outdoor lighting would be required to be off between the hours of 10 p.m. and sunrise, except where uses are in operation past 10 p.m.

1.5.5 *Drainage and Utility Improvements*

The project would include the installation of new sewer and water lines. The proposed water line and sewer line at the southeast corner of the site would connect to an existing water line and sewer line along

Golden Valley Road. A fire line and fire hydrants would be installed around the perimeter of the proposed warehouse and would connect to an existing fire line in Golden Valley Road.

The project's on-site stormwater drainage system would consist of catch basins, underground storm drain pipelines, and two underground water quality basins. Runoff from the project site would flow to one of the two proposed water quality basins (one each located in the northwest corner and northeast corner of the project site) for water quality treatment. Flows would then be conveyed to an existing drainage ditch located at the northeast corner of the site, and then off-site to an existing storm drain beneath Golden Valley Road.

1.5.6 *Grading and Geotechnical Requirements*

The project would require approximately 190,000 cubic yards of cut and approximately 190,000 cubic yards of fill, with the bulk of the hillsides on the western side of the site to be cut, while fill would generally be placed in the existing canyon areas in the eastern portion of the site (RTF&A 2021). Project grading would include cuts and fills of up to approximately 65 feet and 38 feet, respectively, to produce a level building pad bounded by descending and ascending 2:1 slopes. In addition, retaining walls up to about 12 feet in height are proposed around the northern, western, and southern borders of the project site.

The City's Municipal Code Chapter 17.86 provides design criteria and construction standards regarding import and export of earth materials, excavation, grading, earthwork construction, fills, ridgeline and hillside development, and slope setbacks. In Municipal Code Chapter 18.04, the City has adopted the provisions of Chapter 16, Structural Design and Chapter 18, Soils and Foundations of the California Building Code (CBC), including provisions to address the effects of earthquake ground motions. Compliance with these standards is demonstrated and verified through the City's grading plan review and permit process. The City Engineer may require geological and soil engineering reports, including seismic hazard zone studies, to verify site conditions and the sufficiency of proposed design and construction measures. The City has adopted the County of Los Angeles Department of Public Works (County Public Works) *Manual for Preparation of Geotechnical Reports*, dated July 1, 2013 (County Public Works 2013), and a site-specific geotechnical report was prepared for the project (see Appendix A).

The Applicant would implement the recommendations as provided in the *Report of Updated Geotechnical Plan Review Pacific Golden Valley* (Geotechnical Plan Review), prepared for the project by RTF&A, July 8, 2021 (Appendix A). The Geotechnical Plan Review provides detailed project-specific preliminary recommendations that are considered to be part of the project. A list of the geotechnical components and preliminary recommendation topics are provided below in Table 2. Detailed descriptions of each preliminary recommendation topic can be found in Appendix A.

Table 2. List of Preliminary Geotechnical Recommendation Topics

Geotechnical Component	Preliminary Recommendation Topics
Site Grading	Site preparation, removal depths, expansive bedrock requirements, transition lot requirements, expansive soils requirements, materials for fill, oversized material, environmental concerns, import material compaction, shrinkage and bulking, permanent slopes, propose cut slopes, temporary slopes, fill slopes, surface drainage, and erosion protection.
Foundations	Footing requirements, bearing capacity lateral resistance, and static and seismic settlement.
Floor Slab Support	Expansive soil conditions, floor slabs. post-tensioned floor slabs, and water vapor mitigation.
Pavement Design	Pavement section thickness, layout of paving joints.
Retaining Walls	Lateral earth pressure, traffic surcharge loads, seismic lateral earth pressure, wall drainage, density of backfill.

Geotechnical Component	Preliminary Recommendation Topics
Utility Trench Backfill	Backfill soil compaction.

Source: RTF&A (2021)

1.5.7 *Construction Schedule and Equipment*

Project construction would span approximately 19 months, commencing around August 2023. Table 3 lists the types of construction equipment, quantity, and estimated hours of equipment operation per day anticipated during the various phases of project construction.

Table 3. Project Construction Equipment Inventory

Construction Phase	Equipment Type	Quantity	Daily Usage Hours
Site preparation	Rubber-tired dozers	3	8
	Tractors/Loaders/Backhoes	4	8
Grading	Excavators	2	8
	Graders	1	8
	Rubber-tired dozers	1	8
	Scrapers	2	8
	Tractors/Loaders/Backhoes	2	8
Building construction	Cranes	1	7
	Forklifts	3	8
	Generator sets	1	8
	Tractors/Loaders/Backhoes	3	7
	Welders	1	8
Paving	Pavers	2	8
	Paving equipment	2	8
	Rollers	2	8
Architectural coating	Air compressors	1	6

1.6 Required Entitlements

The City has the primary authority over the project’s required entitlements. Entitlements required for implementation include the following:

- Development Review approval to review the proposed development, including the site plan;
- Hillside Development Review to review the proposed development on hillsides with an average slope greater than 15 percent; and
- Architectural Design Review approval to ensure compliance with the City’s architectural standards.

1.7 Intended Uses of this Document

The intent of this IS/MND is to 1) determine whether project implementation would result in potentially significant or significant impacts on the physical environment, and 2) incorporate mitigation measures into the project design, as necessary, to eliminate the project's potentially significant impacts or reduce them to a less-than-significant level. This document is intended to facilitate public involvement in the planning process by providing opportunities for public review and comment on the project. The document also intends to inform decision makers of potential environmental effects prior to acting on a discretionary decision(s).

In accordance with State CEQA Guidelines Section 15073 and PRC Section 21091, agencies and the public must be allowed at least 20 days to review and comment on a proposed MND. When the Lead Agency is a State agency or the project is of Statewide concern, the public review period shall be as long as the review period established by the State Clearinghouse, which is normally 30 days. Given the Lead Agency for this project is the City of Santa Clarita and not a State agency, this IS/MND will be circulated for at least 20 days for public and agency review, during which time individuals and agencies may submit comments on the adequacy of the environmental review. Following the public review period, the City will consider any comments received on the IS/MND when deciding whether to adopt the document.

2 ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The project could have a “Potentially Significant Impact” for environmental factors checked below; however, with incorporation of the project’s mitigation measures, impacts would be reduced to less than significant. Please refer to the following pages for discussion on mitigation measures or project revisions to either reduce these impacts to less-than-significant levels or require further study.

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

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

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

☐ I find that the 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 measure based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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

Date: 5/15/2023

Signed:

David Peterson, Senior Planner
City of Santa Clarita

I. Aesthetics

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

Setting

The project site is located within the jurisdictional boundaries of the City of Santa Clarita on a site that is currently undeveloped. The visual character of the project site is dominated by moderately sloping vegetated hillsides in the northern and western portions of the site as well as areas of relatively flat land in the central and southern portions of the site. Portions of the project site have been previously disturbed and include a paved entry road from Golden Valley Road. The project site is immediately surrounded by developed land that includes business park and related commercial and industrial uses with buildings of generally three-to-five stories in height;[1] however, undeveloped hillsides dominate the visual landscape to the southwest and southeast of the project site.

Environmental Evaluation

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

Less than Significant Impact. Scenic vistas generally refer to views of expansive open space or other natural features, such as mountains, undeveloped hillsides, large natural water bodies, or coastlines. Scenic vistas generally refer to views that are accessible from public vantage points, such as public roadways and parks. The city is aesthetically characterized by scenic mountains and canyons, including backdrops, hillsides, and ridgelines. These landforms are considered important components of the city's scenic views. However, the City's General Plan Conservation Element does not specifically list any local scenic vistas (City of Santa Clarita 2011a). The City also designates certain ridgelines subject to development restrictions. There are no such protected ridgelines within the project site; the closest protected ridgeline is located approximately 0.15 mile to the southwest (City of Santa Clarita 2023). Current views of these protected ridgelines from the project site are distant and intermittently interrupted by existing development adjacent to the project site.

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[1] City's Municipal Code Section 17.38.015 Design Standards for Buildings in the Jobs Creation Overlay Zone identifies office projects must have a minimum height of three stories, and industrial projects must have a minimum height of greater than 35 feet and a maximum height of 55 feet.

The project would construct a 174,000-square-foot warehouse building with a maximum building height of 52 feet. Since the project site has an average cross slope of greater than 15 percent, the project would be required to undergo a Hillside Development Review prior to project approval. Section 17.51.02(C) of the City's Municipal Code provides specific development standards for Hillside Development Review including grading design guidelines, architectural standards, landscape design requirements, and retaining wall specifications. Adherence to the development standards set forth in Municipal Code Section 17.51.02(C) and approval of the Hillside Development Review by the City's Community Development and Public Works Departments would ensure new development on the project site would be developed in accordance with the aforementioned standards.

While project implementation would change the visual landscape of the project site from undeveloped to developed and introduce a new structure that would alter the views of the project site currently observable from Golden Valley Road, it would not block the views of the protected ridgelines visible southwest of the project site, as shown in Figure 5. The protected ridgelines to the southwest would remain visible in the distance and the proposed building would generally be consistent with the existing character of the surrounding warehouse and industrial use buildings. 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 nearest officially designated state scenic highway is a portion of State Highway 2 that extends through the San Gabriel Mountains, beginning just north of the City of La Cañada Flintridge (California Department of Transportation [Caltrans] 2019). The portion of State Highway 2 that is officially designated as a State Scenic Highway is located approximately 22 miles southeast of the project site. The nearest eligible State Scenic Highway is Interstate 5, which is approximately 4 miles west of the project site. Due to distance and intervening development/topography, the project site is not within the viewshed of a State Scenic Highway. As such, the project would not substantially affect any scenic resources within State Highway 2 or Interstate 5. Therefore, the project would not damage scenic resources within a State Scenic Highway and *no impact* would occur.

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

Less than Significant Impact. Per PRC Section 21071, an "urbanized area" is defined as "(a) An incorporated city that meets either of the following criteria: (1) Has a population of at least 100,000 persons [or] (2) Has a population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons." As the City of Santa Clarita is an incorporated city that has a population that exceeds 100,000 persons, the project is located within an urbanized area. Therefore, pursuant to this threshold, a potentially significant impact to visual character only would occur if the project were to conflict with applicable and/or other City of Santa Clarita regulations governing scenic quality.

Implementation of the project would result in the visual conversion of the site from vacant, undeveloped land to a 174,000-square-foot warehouse building with associated parking lots, drive aisles, utility infrastructure, landscaping, exterior lighting, and signage. The project would be compatible with the size, scale, and architectural and landscaping features of other existing light industrial warehouse buildings constructed to the north, east, and west of the project site. Furthermore, the project would be required to comply with the development standards pursuant to the City's Municipal Code, including Section 17.50.020 governing hillside development, Section 17.51.030 governing landscaping and irrigation standards, as well as development standards in Section 17.38.015 for projects in the JCOZ (City of Santa Clarita 2022). While project implementation would change the visual landscape of the project site from undeveloped to developed and introduce a new structure on the project site, the development standards discussed above act to regulate the visual quality of new development and ensure that new development does not detract from any scenic qualities in the surrounding area. Given the project site is located in an urbanized area and the project would not conflict with applicable regulations governing scenic quality, impacts would be *less than significant.*

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

Less than Significant Impact. The project is located within an urban area with moderate levels of ambient lighting, including street lighting, vehicle headlights, architectural and security lighting, and indoor building illumination, all of which are common to densely populated areas. Under existing conditions, the project site contains no sources of artificial lighting; however, streetlights are present along the project site's frontage with Golden Valley Road. The Applicant proposes to develop the site with an industrial warehouse building and would introduce new lighting elements on-site to illuminate the parking areas, truck docking areas, and building entrances.

The Applicant would be required to comply with lighting requirements as set forth in the City's Municipal Code Section 17.51.050. All lights would be required to be directed downward and be of a cut-off design to prevent illumination of other properties and off-site glare. In addition, the Municipal Code requires that all light fixtures at building entrances be on between sundown and 10 p.m. or 1 hour past the close of the business. Outdoor lighting would be required to be off between the hours of 10 p.m. and sunrise, except where uses are in operation past 10 p.m. Mandatory compliance with the Municipal Code would ensure that the project would not introduce any permanent design features that would adversely affect daytime or nighttime views in the area.

With respect to glare, a majority of project building materials would consist of concrete panels, which are non-reflective. While window glazing has a potential to result in minor glare effects, such effects would not adversely affect daytime views of surrounding properties, including motorists along adjacent roadways, because the glass proposed for the project would be low-reflective, proposed buildings would be set back from adjacent roadways at a distance, and proposed landscaping would provide a buffer between all proposed glass surfaces and the public right-of-way.

Given the analysis above, the project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area, and impacts would be *less than significant.*

Conclusion

The project would not result in a significant adverse impact to aesthetics; no mitigation measures are required.

II. Agriculture and Forestry Resources

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

Setting

The project site is designated Urban Built-Up Land classification by the Farmland Mapping and Monitoring Program (California Department of Conservation [CDOC] 2018). The project site is not located on land designated as Williamson Act contract land and is not designated or zoned as agricultural land. Additionally, the project site is not located on land designated as forest land or timberland and is not currently used for agricultural purposes.

Environmental Evaluation

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

No Impact. The project site is not within Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, according to the CDOC's Farmland Monitoring and Mapping Program (FMMP) (CDOC 2018). The CDOC's FMMP designates the project site as Urban and Built-Up Land. Examples of Urban and Built-Up Land include commercial, residential, industrial, airports, institutional facilities, golf courses, cemeteries, sewage treatment, water control structures, and sanitary landfills. No conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use would take place within the project site. *No impact* would occur.

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

No Impact. As stated in the response above, the project site is zoned as BP in the JCOZ. The project site is not subject to a Williamson Act contract. As such, the project would not conflict with existing zoning for agricultural use or a Williamson Act contract. *No impact* would occur.

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

No Impact. As stated in the response above, the project site is zoned as BP in the JCOZ. No land is zoned for forest land, timberland, or Timberland Production within or near the project site. Therefore, the project would not conflict with existing zoning, or cause the rezoning of, forest land, timberland, or timberland zoned Timberland Production. *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. The project site is currently undeveloped with vegetated hillsides and previously disturbed areas and does not support any forest land on-site. In addition, there is no forest land within the immediate project vicinity; therefore, the project would not result in the loss of forest land or conversion of forest land to non-forest use. *No impact* would occur.

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

No Impact. The project site is not zoned for agricultural use and no agricultural activities occur on-site or within the project vicinity. Additionally, the project site is not zoned for forest land and there are no forestry operations occurring on-site or within the project vicinity. Therefore, no farmland or forest land would be converted or otherwise affected by the project. *No impact* would occur.

Conclusion

The project would not result in a significant adverse impact to agriculture and forestry resources; no mitigation measures are required.

III. Air Quality

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

The analysis for this section is based on the following document (included as Appendix B): *Golden Valley Industrial Facility Air Quality and Greenhouse Gas Emissions Technical Memorandum* (Dudek 2023a).

Setting

The project site is located within the South Coast Air Basin (SCAB), which includes all of Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality in the SCAB is regulated by the South Coast Air Quality Management District (SCAQMD).

SCAQMD has adopted thresholds to address the significance of air quality impacts resulting from a project. A project would result in a substantial contribution to an existing air quality violation of the National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS) for ozone (O_3), which is a nonattainment pollutant, if the project's construction mass emissions would exceed SCAQMD's volatile organic compound (VOC) or oxides of nitrogen (NO_x) significance thresholds (Table 4). These emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly, and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods. The SCAB is also nonattainment for the state coarse particulate matter (PM_{10}) and federal and state fine particulate matter ($PM_{2.5}$) standards.

Table 4. SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	**Construction (pounds per day)**	**Operation (pounds per day)**
VOCs	75	55
NO_x	100	55
CO	550	550
SO_x	150	150

Criteria Pollutants Mass Daily Thresholds		
Pollutant	**Construction (pounds per day)**	**Operation (pounds per day)**
PM_{10}	150	150
$PM_{2.5}$	55	55
Lead*	3	3
Toxic Air Contaminants and Odor Thresholds		
TACs[†]	Maximum incremental cancer risk ≥ 10 in 1 million Cancer burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic and acute hazard index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Standards for Criteria Pollutants[‡]		
NO_2 1-hour average NO_2 annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.030 ppm (state) and 0.0534 ppm (federal)	
CO 1-hour average CO 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state /federal)	
PM_{10} 24-hour average PM_{10} annual average	10.4 $\mu g/m^3$ (construction)[§] 2.5 $\mu g/m^3$ (operation) 1.0 $\mu g/m^3$	
$PM_{2.5}$ 24-hour average	10.4 $\mu g/m^3$ (construction)[§] 2.5 $\mu g/m^3$ (operation)	

Source: SCAQMD (2019).

Notes:

SCAQMD = South Coast Air Quality Management District; VOCs = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; TAC = toxic air contaminant; NO_2 = nitrogen dioxide; ppm = parts per million; mg/m^3 = micrograms per cubic meter.

Greenhouse gas (GHG) emissions thresholds for industrial projects, as added in the March 2015 revision to the SCAQMD Air Quality Significance Thresholds, were not include included in this table as they are addressed within the GHG emissions analysis and not the air quality study.

* = The phaseout of leaded gasoline started in 1976. Since gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

[†] = TACs include carcinogens and non-carcinogens.

[‡] = Ambient air quality standards for criteria pollutants are based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.

[§] = Ambient air quality threshold is based on SCAQMD Rule 403.

In addition to the emission-based thresholds listed in Table 4, SCAQMD also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the project as a result of construction activities. Such an evaluation is referred to as a localized significance threshold (LST) analysis. The LST analysis focuses on construction equipment and does not include mobile sources. Therefore, the LST analysis only applies to the construction equipment on-site, not the worker vehicles or vendor trucks.

For project sites of 5 acres or less, the SCAQMD LST Methodology (2009) includes lookup tables that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., the emissions would not cause an exceedance of the applicable concentration limits for nitrogen dioxide [NO_2], carbon monoxide [CO], PM_{10}, and $PM_{2.5}$) without performing project-specific dispersion modeling. The project would disturb less than 5 acres per day, so it is appropriate to use the lookup tables for the LST evaluation.

The LST significance thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust). The LST significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. The allowable emission rates depend on the following parameters:

- Source-receptor area (SRA) in which the project is located
- Size of the project site
- Distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals)

The project site is located in SRA 13 (Santa Clarita Valley). LST pollutant screening-level concentration data are currently published for 1-, 2-, and 5-acre sites for varying distances. In accordance with the SCAQMD *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* (2006), the project would disturb a maximum of 2 acres per day during the grading phase. The nearest sensitive-receptor land use (Santa Clarita Aquatics Center) is located approximately 918 feet (280 meters) from the project site boundary; however, the LST receptor distance was assumed to be 656 feet (200 meters). The LST values from the SCAQMD lookup tables for SRA 13 (Santa Clarita Valley) for a 2-acre project site and a receptor distance of 200 meters are shown in Table 5.

Table 5. Localized Significance Thresholds for Source-Receptor Area 13 (Santa Clarita Valley)

Pollutant	Threshold (pounds per day)
Construction	
NO_2	204
CO	3,108
PM_{10}	59
$PM_{2.5}$	20
Operation	
NO_2	204
CO	3,108
PM_{10}	15
$PM_{2.5}$	5

Source: SCAQMD (2009).

Notes:

NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Localized significance thresholds were determined based on the values for a 2-acre site at a distance of 200 meters (656 feet) from the nearest sensitive receptor.

Environmental Evaluation

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

Less than Significant Impact. The project site is located within the SCAB, which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties and all of Orange County, and is within the jurisdictional boundaries of SCAQMD.

SCAQMD administers SCAB's Air Quality Management Plan (AQMP), which is a comprehensive document outlining an air pollution control program for attaining all CAAQS and NAAQS. The most recent adopted AQMP for the SCAB is the 2016 AQMP (SCAQMD 2017), which was adopted by SCAQMD's Governing Board in March 2017. The 2016 AQMP focuses on available, proven, and cost-effective alternatives to traditional strategies while seeking to achieve multiple goals in partnership with other entities seeking to promote reductions in GHGs and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017).

The purpose of a consistency finding with regard to the AQMP is to determine if a project is consistent with the assumptions and objectives of the regional air quality plans, and if it would interfere with the region's ability to comply with federal and state air quality standards. SCAQMD has established criteria for determining consistency with the currently applicable AQMP in Chapter 12, Sections 12.2 and 12.3 of the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993). These criteria are:

- Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP.
- Whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

To address the first criterion, project-generated criteria air pollutant emissions have been estimated and analyzed for significance and are addressed below in the analysis for threshold b). Detailed results of this California Emissions Estimator Model (CalEEMod) 2020.4.0 Emissions Outputs used for this analysis are included in Appendix B. As presented in threshold b), construction and operation of the project would not generate criteria air pollutant emissions that exceed SCAQMD's thresholds.

The second criterion regarding the project's potential to exceed the assumptions in the AQMP or increments based on the year of project buildout and phase is primarily assessed by determining consistency between the project's land use designations and its potential to generate population growth. In general, projects are considered consistent with, and not in conflict with or obstructing implementation of, the AQMP if the growth in socioeconomic factors is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook). SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) for its Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2016). This document, which is based on general plans for cities and counties in the SCAB, is used by SCAQMD to develop the AQMP emissions inventory (SCAQMD 2017). The SCAG 2016 RTP/SCS and the associated Regional Growth Forecast are generally consistent with the local plans; therefore, the 2016 AQMP is generally consistent with local government plans.

The project site is located within the City's Industrial Business Park zone, which specifically authorizes the use of the property as a storage building for distribution. The project is consistent with the existing land use designation and does not propose a change in land use designation. In addition, the implementation of the project would not generate an increase in growth demographics that would conflict with existing projections within the region. Accordingly, the project is consistent with the SCAG RTP/SCS forecasts used in the SCAQMD AQMP development.

In summary, based on the considerations presented for the two criteria, impacts relating to the project's potential to conflict with or obstruct implementation of the applicable AQMP would be *less than significant*.

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

Less than Significant Impact. Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

Construction Emissions

Proposed construction activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity; the specific type of operation; and, for particulate matter, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated.

The CalEEMod Version 2020.4.0 was used to estimate emissions from construction of the project. Internal combustion engines used by construction equipment, trucks, and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions would also be generated by entrained dust, which results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil. The project would be required to comply with SCAQMD Rule 403 to control dust emissions generated during any dust-generating activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active dust areas two times per day, with additional watering depending on weather conditions. The CalEEMod default assumptions were used for estimating fugitive dust emissions from grading on-site. The project would involve application of architectural coating (e.g., paint and other finishes) for painting the interior and exterior of the building as well as parking lot striping. The contractor is required to procure architectural coatings from a supplier that complies with the requirements of SCAQMD's Rule 1113 (Architectural Coatings).

Table 6 presents the estimated maximum daily construction emissions generated during construction of the project. Details of the emission calculations are provided in Appendix B.

Table 6. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	**VOC**	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
	pounds per day					
2023	3.39	34.71	28.81	0.07	10.34	5.77
2024	66.99	17.46	25.17	0.06	3.87	1.48
Maximum	*66.99*	*34.71*	*28.81*	*0.07*	*10.34*	*5.77*
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	No	No	No	No	No	No

As shown in Table 6, project construction would not exceed SCAQMD's daily thresholds. Therefore, construction impacts associated with criteria air pollutant emissions would be *less than significant*.

Operational Emissions

Emissions from the operational phase of the project were estimated using CalEEMod. Operational year 2024 was assumed as it would be the first year following completion of construction. Table 7 presents the emissions during operation.

Table 7. Estimated Maximum Daily Operation Criteria Air Pollutant Emissions

Emissions Source	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Area	3.98	0.00	0.04	0.00	0.00	0.00
Energy	0.00	0.04	0.03	0.00	0.00	0.00
Mobile	0.60	18.36	9.46	0.11	5.64	1.66
Off-road	0.88	10.24	15.50	0.03	0.32	0.30
Stationary	0.11	1.58	1.47	0.00	0.09	0.09
Total	**5.57**	**30.22**	**26.50**	**0.14**	**6.05**	**2.05**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	No	No	No	No	No	No

As shown in Table 7, the project would not exceed SCAQMD's significance thresholds during operations. Therefore, operational impacts associated with criteria air pollutant emissions would be *less than significant*.

Cumulative Impacts

In considering cumulative impacts from the project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SCAB is designated as nonattainment for the CAAQS and NAAQS. If a project's emissions exceed SCAQMD's significance thresholds, it would be considered to have a cumulatively considerable contribution to nonattainment status in the SCAB. If a project does not exceed thresholds and is determined to have less than significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality. The basis for analyzing the project's cumulatively considerable contribution is if the project's contribution accounts for a considerable proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact) and consistency with SCAQMD's 2016 AQMP, which addresses cumulative emissions in the SCAB.

The SCAB has been designated as a federal nonattainment area for O_3 and $PM_{2.5}$ and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from various sources of air pollutants and their precursors within the SCAB, including motor vehicles, off-road equipment, and commercial and industrial facilities. Construction of the project would generate VOC and NOx emissions (which are precursors to O_3) and emissions of PM_{10} and $PM_{2.5}$. As indicated in Tables 6 and 7, project-generated construction and operational emissions would not exceed SCAQMD's emission-based significance thresholds for VOC, NOx, CO, SO_2, PM_{10}, or $PM_{2.5}$.

Cumulative localized impacts would potentially occur if a construction project were to occur concurrently with another off-site project. Construction schedules for potential future projects near the project site are currently unknown; therefore, potential construction impacts associated with two or more simultaneous projects would be speculative. However, future projects would be subject to CEQA and would require an air quality analysis and, where necessary, mitigation if the project would exceed SCAQMD's significance thresholds. Criteria air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by SCAQMD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SCAQMD.

Since criteria pollutant mass emissions impacts shown in Tables 6 and 7 would not be expected to exceed any of the air quality significance thresholds, cumulative air quality impacts would also be expected to be less than significant. SCAQMD cumulative air quality significance thresholds are the same as project-specific air quality significance thresholds. Therefore, potential adverse impacts from implementing the project would not be "cumulatively considerable" as defined by State CEQA Guidelines Section 15064(h)(1) for air quality impacts. Per State CEQA Guidelines Section 15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the project's incremental effects are cumulatively considerable.

The SCAQMD's guidance on addressing cumulative impacts for air quality is as follows: "As Lead Agency, the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR." "Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."[2]

Based on the previous considerations, the project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants, and cumulative impacts would be *less than significant*.

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

Less than Significant Impact. Sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). The nearest sensitive-receptor land use (Santa Clarita Aquatics Center) is located approximately 918 feet from the project site boundary.

To determine project impacts related to the exposure of sensitive receptors to substantial pollutant concentrations, the analysis below evaluates LSTs, CO hotspots, toxic air contaminants, and the health impacts of criteria air pollutants associated with project implementation.

Localized Significance Thresholds

Construction activities associated with the project would result in temporary sources of on-site fugitive dust and construction equipment emissions. During operation, emissions from forklifts, the yard truck, and vehicles would be the primary source of emissions. The passenger vehicle and truck trips during construction and operation were modeled using a 1,000-foot trip distance to capture on-site emissions. The maximum allowable daily emissions that would satisfy the SCAQMD localized significance criteria

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[2] South Coast AQMD Cumulative Impacts Working Group White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution, August 2003, Appendix D, Cumulative Impact Analysis Requirements Pursuant to CEQA, at D-3.

for SRA 13 are presented in Table 8 and compared to the maximum daily on-site construction and operational emissions.

Table 8. Localized Significance Thresholds Analysis for the Project

Pollutant	Project Construction Emissions (pounds per day)	LST Criteria (pounds per day)	Exceeds LST?
Construction			
NO_2	34.58	204	No
CO	28.20	3,108	No
PM_{10}	10.12	59	No
$PM_{2.5}$	5.71	20	No
Operation			
NO_2	13.37	204	No
CO	19.20	3,108	No
PM_{10}	0.47	15	No
$PM_{2.5}$	0.40	5	No

Source: SCAQMD (2009).

Notes: LST = localized significance threshold; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.

See Appendix B for detailed results.

LSTs are shown for 2-acre project sites corresponding to a distance to a sensitive receptor of 200 meters (656 feet) for SRA 13 (Santa Clarita Valley).

These estimates reflect control of fugitive dust required by Rule 403.

The emissions represent worst-case operating scenario during construction.

As shown in Table 8, the project LST would not exceed the established localized significance thresholds.

Carbon Monoxide Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed CO “hotspots.” CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

Title 40 of the Code of Federal Regulations (CFR) Section 93.123(c)(5), Procedures for Determining Localized CO, PM10, and PM2.5 Concentrations (Hot-Spot Analysis), states that “CO, PM10, and PM2.5 hot-spot analyses are not required to consider construction-related activities, which cause temporary increases in emissions. Each site which is affected by construction-related activities shall be considered separately, using established ‘Guideline’ methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site” (40 CFR 93.123). While project construction would involve on-road vehicle trips from trucks and workers during construction, construction activities would last approximately 19 months and would not require a project-level construction hotspot analysis.

In addition, at the time that the SCAQMD Handbook (1993) was published, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO. In 2007, the SCAQMD was designated in attainment for CO under both the CAAQS and NAAQS as a result of the steady decline in CO concentrations in the SCAB due to turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities. Based on CO modeling the SCAQMD conducted for the 2003 AQMP, CO concentrations at congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least over 100,000 vehicles per day (SCAQMD 2003). Because the project is not anticipated to increase daily traffic volumes at any study intersection to more than 100,000 vehicles per day (Translutions, Inc. 2022), a CO hotspot is not anticipated to occur.

Toxic Air Contaminants

A toxic substance released into the air is considered a toxic air contaminant (TAC). Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Project construction would result in emissions of diesel particulate from heavy construction equipment and trucks accessing the site. Diesel particulate is characterized as a TAC by the State of California. The Office of Environmental Health Hazard Assessment (OEHHA) has identified carcinogenic and chronic noncarcinogenic effects from long-term exposure but has not identified health effects due to short-term exposure to diesel exhaust. According to the OEHHA, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, the duration of the proposed construction activities would only constitute a small percentage of the total 30-year exposure period. Due to this relatively short period of exposure (19 months) and minimal particulate emissions on-site (as shown in Table 8), TACs generated by the project would not result in concentrations causing significant health risks. Furthermore, the closest sensitive receptor to the project is over 600 feet away from the project site (Dudek 2023a).

Additionally, the health risk public-notification thresholds adopted by the SCAQMD Board is 10 excess cancer cases in 1 million for cancer risk, and a hazard index of more than one (1.0) for non-cancer risk. The hazard index of more than 1.0 means that predicted levels of a toxic pollutant are greater than the reference exposure level, which is considered the level below which adverse health effects are not expected. Examples of projects that emit toxic pollutants over long-term operations include oil and gas processing, gasoline dispensing, dry cleaning, electronic and parts manufacturing, medical equipment sterilization, freeways, and rail yards (SCAQMD 2017). The project would not emit substantial amounts of TACs during operations (as shown in Table 8) and sensitive receptors are not proximate to the project site; as such, a formal health risk assessment is not required for the project. Accordingly, the project is not anticipated to result in emissions that would exceed the SCAQMD Board-adopted health risk notification thresholds.

Health Impacts of Criteria Air Pollutants

Construction of the project would generate criteria air pollutant emissions; however, the project would not exceed the SCAQMD mass-emission thresholds.

The SCAB is designated as nonattainment for O_3 for the NAAQS and CAAQS. Thus, existing O_3 levels in the SCAB are at unhealthy levels during certain periods. The health effects associated with O_3 generally relate to reduced lung function. Because the project would not involve construction activities that would result in O_3 precursor emissions (VOC or NO_x) that would exceed the SCAQMD thresholds, the project is not anticipated to substantially contribute to regional O_3 concentrations and associated health impacts. Similar to construction, no SCAQMD threshold would be exceeded during operation.

In addition to O_3, NO_x emissions contribute to potential exceedances of the NAAQS and CAAQS for NO_2 (since NO_2 is a constituent of NO_x). Exposure to NO_2 can cause lung irritation, bronchitis, and pneumonia, and lower resistance to respiratory infections. As depicted in Table 8, project construction and operation would not exceed the SCAQMD localized thresholds for NO_2. Thus, construction and operation of the project are not expected to exceed the NO_2 standards or contribute to associated health effects.

CO tends to be a localized impact associated with congested intersections. CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. CO hotspots were discussed previously as a less than significant impact. Thus, the project's CO emissions would not contribute to the health effects associated with this pollutant.

The SCAB is designated as nonattainment for PM_{10} under the CAAQS and nonattainment for $PM_{2.5}$ under the NAAQS and CAAQS. Particulate matter contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing (U.S. Environmental Protection Agency [EPA] 2016). As with O_3 and NO_x, the project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed SCAQMD's LSTs. Accordingly, the project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

Conclusion

Based on the analysis above related to localized significance thresholds (LSTs), CO hotspots, toxic air contaminants, and the health impacts of criteria air pollutants, the project would not result in potentially significant contribution to local or regional concentrations of nonattainment pollutants. Impacts related to the exposure of sensitive receptors to substantial pollutant concentrations would be *less than significant.*

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

Less than Significant Impact. The project could have a significant impact if it would create objectionable odors affecting a substantial number of people. The SCAQMD CEQA Air Quality Handbook (SCAQMD 1993) identifies certain land uses as sources of odors. Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities (SCAQMD 1993).

Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, the nearest sensitive receptor is over approximately 900 feet away and construction-related odors would be short-term in nature and cease upon project completion.

The project would be required to comply with CCR Title 13, Sections 2449(d)(3) and 2485, which requires either shutting off construction equipment when not in use or reducing the idling time to no more than 5 minutes. This would reduce the detectable odors from heavy-duty equipment exhaust. The project would also be required to comply with the SCAQMD Rule 1113–Architectural Coating, which would minimize odor impacts from emissions of reactive organic gases during architectural coating. Any odor impacts to existing adjacent land uses would be short-term and not substantial. Therefore such, the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Impacts would be *less than significant*.

Conclusion

The project would not result in a significant adverse impact to air quality; no mitigation measures are required.

IV. Biological Resources

Environmental Issues	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
Would the project:				
(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
(c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Setting

This section is based on the following documents included in Appendix C:

- *Biological Resources Technical Report*: *26313 Golden Valley Road Project* (Biological Resources Technical Report) prepared for the project by Dudek dated March 23, 2023 (Dudek 2023b).
- *Rare Plant Survey Results Memorandum* prepared by Dudek, dated April 25, 2023 (Dudek 2023c).
- *2023 Focused California Gnatcatcher Survey 45-Day Report for the 26313 Golden Valley Road Project* prepared by Dudek, dated April 4, 2023 (Dudek 2023d).

Refer to Appendix C for full details of existing conditions, applicable regulations, and methodologies. A brief summary is provided below.

The project site is located within the low foothills overlooking the confluence of the upper Santa Clara River (Soledad Canyon) approximately 0.8 mile to the south. The topography of the study area (defined as the project site with a 500-foot buffer) is variable with slopes intervening with graded and/or developed areas. The project site itself contains a small ridge along its northern boundary and within the western portion of the project site, with its highest point at 1,490 feet amsl (Google Earth 2023). The southwest corner and eastern portion of the project site are relatively flat, and much of which has been previously graded, with its lowest point at 1,370 feet amsl (Google Earth 2023).

Four vegetation communities and three land cover types were identified within the study area during the survey: California sagebrush–California buckwheat scrub (*Artemisia californica–Eriogonum fasciculatum* Association), chamise chaparral (*Adenostoma fasciculatum* Association), upland mustards (*Hirschfeldia incana* Association), wild oats grasslands (*Avena barbata–Avena fatua* Association), ornamental plantings, disturbed habitat, and urban/developed land. These vegetation communities and land cover types are described in the Biological Resources Technical Report (see Appendix C).

Thirty-one species of birds were observed during the initial survey and protocol Coastal California gnatcatcher (*Polioptila californica californica*) surveys, and are listed in the Wildlife Compendium, of the Biological Resources Technical Report (see Appendix C). Additional birds may be present as residents or transients during foraging or migration. No amphibian species were observed or are expected. Common side-blotched lizard (*Uta stansburiana*) was the only common reptile observed. Western fence lizard (*Sceloporus occidentalis*) and Pacific rattlesnake (*Crotalus oreganus*) would also be common reptiles expected to occur in the study area. Coyote (*Canis latrans*) sign was observed, though common mammal species that could occur within the study area include California ground squirrel (*Otospermophilus beecheyi*) and desert cottontail (*Sylvilagus audubonii*), with the possibility of bats foraging over the study area.

Twenty-six special-status plant and 44 wildlife species have recorded occurrences in the USGS Newhall 7.5-minute quadrangle and eight surrounding quadrangles (California Department of Fish and Wildlife [CDFW] 2023; California Native Plant Society 2023) or are included in the Information for Planning and Consultation (IPaC) report for the study area (U.S. Fish and Wildlife Service [USFWS] 2023a). Each special-status plant and wildlife species is assessed in the Biological Resources Technical Report (see Appendix C). The project site is not within any designated critical habitat (USFWS 2023a).

Environmental Evaluation

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

Less than Significant with Mitigation Incorporated. Construction of the project would have the potential to result in direct removal of special-status plant species if present within the project site. In addition, construction activities have the potential to result in direct (e.g., take) or indirect (e.g., noise, dust, light pollution) disturbance to special-status wildlife species if present within the project site. Potential impacts to special-status plant and wildlife species and the mitigation measures to reduce the impacts to less than significant are described below.

Direct Impacts

SPECIAL-STATUS PLANTS

One special-status plant species, slender mariposa lily (*Calochortus clavatus* var. *gracilis*), has a moderate potential to occur in the study area (defined as the area included in a 500-foot buffer around the project site) (Dudek 2023c). A focused rare plant survey was conducted to determine presence or absence of the species. A total of 63 species of native or naturalized plants, 43 native (68%) and 20 non-native (32%), were recorded on the site (see Appendix C). No slender mariposa lily or other rare plants were identified during the survey (Dudek 2023c). The slender mariposa lily is currently considered absent from the study area, and implementation of the project would result in *no impact* to special-status plant species.

SPECIAL-STATUS WILDLIFE

Coastal California gnatcatcher (*Polioptila californica californica*) is a CDFW Species of Special Concern and is listed as threatened under the federal Endangered Species Act. Although much of the coastal scrub within the study area (defined as the area included in a 500-foot buffer around the project site) consists of fragmented stands of coastal scrub too disturbed to support this species, some portions of California sagebrush–California buckwheat scrub in the western extent of the project site could provide suitable habitat for this species. Additionally, there is a 2019 record of the species approximately 0.25 mile to the southwest of the project site (CDFW 2023). Protocol surveys were conducted to determine presence or absence of the species. No coastal California gnatcatcher were observed or audibly detected during the nine survey passes, and no sign of nesting or foraging individuals was observed. Coastal California gnatcatcher is currently considered absent from the study area, and it is not expected to occur on the project site (Dudek 2023d).

One reptile species—coastal whiptail (*Cnemidophorus tigris multiscutatus*)—occurs on the project site. Project-related impacts could be considered significant if the impact causes the greater population of the species to drop below self-sustaining levels. The species is vulnerable to mortality or injury during vegetation and ground-disturbing activities associated with construction in the native vegetation communities. It is highly unlikely that short-term construction activities could cause the greater population of these special-status species to drop below self-sustaining levels due to the relatively small area of construction activity and the short-term nature of the construction schedule. However, mortality or injury to individual species is a reasonable possibility, so direct permanent impacts are possible and would be *potentially significant*. Implementation of Mitigation Measures BIO-1 and BIO-2 would include a pre-construction wildlife survey and biological monitoring.

Indirect Impacts

SPECIAL-STATUS PLANTS

Any special-status plants in the areas adjacent to the project site could be inadvertently impacted should construction workers or vehicles stray out of the project footprint. Invasive plant species could be introduced by the project during construction and installing the landscaping that could alter the habitat for special-status plants in the project vicinity. Invasive plants could compete with special-status plants for resources (i.e., water) and space. These indirect impacts could be potentially significant. Implementation of Mitigation Measure BIO-3 would include the demarcation of disturbance limits to avoid and minimize project activities outside of the project footprint. Implementation of Mitigation Measure BIO-4 would include invasive plant species prevention measures to avoid and minimize the introduction of invasive plant species.

SPECIAL-STATUS WILDLIFE

Indirect short-term and long-term impacts to special-status wildlife species may include both habitat degradation and effects on individuals. Indirect construction impacts to wildlife habitat may include fugitive dust; runoff, sedimentation, chemical pollution, and erosion; litter; and accidental clearing, grading, and trampling, as well as attracting predators. Trash and other garbage associated with construction activities can degrade vegetation communities and wildlife habitat and can attract nuisance and pest species that affect several of the wildlife guilds. Trash and debris include discarded construction-related materials, such as packaging materials, which may be dispersed into natural areas by wind. Trash generated by construction personnel, such as food packaging and cigarette butts, also can be dispersed by wind and water into natural areas. Additionally, invasive plant species could be introduced by the project during construction and installing the landscaping that could alter the habitat for special-status wildlife. These indirect impacts could be *potentially significant*. Implementation of Mitigation Measure BIO-3 and Mitigation Measure BIO-4 discussed above would be required to reduce indirect impacts to special-status wildlife.

Summary

With implementation of Mitigation Measures BIO-1 though BIO-4, direct and indirect impacts to special-status plant and wildlife species would be *less than significant with mitigation incorporated*.

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

No Impact. Riparian habitats or sensitive vegetation communities were not identified on the project site, as described in the Biological Resources Technical Report (see Appendix C). *No impact* would occur.

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

Less Than Significant Impact. Jurisdictional wetlands and waters were not identified on the project site (Dudek 2023b). Therefore, there would be no direct impacts to jurisdictional wetlands and waters. Portions of the concrete channel would be removed by the project, but the proposed stormwater system for the project would connect to the channel and water from the impervious portions of the project site would go downstream to the off-site detention basin.

Potential temporary indirect impacts could result from construction activities and would include impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/ jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. These potential impacts could be cumulatively significant.

The project would be subject to Regional Water Quality Control Board (RWQCB) requirements and the City's Municipal Code Chapter 17.90 for preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP),[3] which includes erosion control measures, such as covering exposed soil stockpiles, lining the perimeter of construction areas with sediment barriers, and protecting storm drain inlets. Implementation of the SWPPP and project design features, including water quality treatment basins that would improve water quality before it flows downstream to the off-site detention basin, would reduce impacts to less than significant. Therefore, impacts related to federally protected wetlands would be *less than significant*.

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 with Mitigation Incorporated. The project site does not function as a wildlife corridor or habitat linkage and is not within any designated wildlife corridors of habitat linkages. The project site is located adjacent to a main thoroughfare (i.e., Golden Valley Road), has chain-link fences around the perimeter, and has urban development on most sides of it. As such, it is expected that the project site provides limited connectivity to other undeveloped areas with naturalized habitat. Bat roosting opportunities would be limited to the large trees located in the study area, but trees within the project site do not contain suitable cavities for maternity or overwintering roosts and are exposed to noise disturbance from the adjacent main thoroughfare and industrial businesses. In addition, no diagnostic signs of bird rookeries (e.g., numerous nests, whitewash) or large maternal or overwintering bat roosts (e.g., large concentrations of guano or guano odors) were identified in the study area. Therefore, it is unlikely for the project site to support wildlife nursery sites. The study area does contain vegetation that could provide nesting habitat for birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Sections 3503, 3503.5, and 3513. These include common resident species such as mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), and northern mockingbird (*Mimus polyglottos*). Construction activities could result in impacts to nesting birds.

Implementation of Mitigation Measure BIO-5 would include pre-construction surveys to identify and avoid active nests in compliance with the MBTA and Sections 3503, 3503.5, and 3513 of the California Fish and Game Code by preventing the disturbance of nesting birds during construction activities. This would generally involve clearing a project site of all vegetation outside the nesting season (from September 1 through January 31), or, if construction would commence within the nesting season (which generally runs from February 1 through August 31 and as early as February 1 for raptors), conducting a pre-construction nesting bird survey to determine the presence of nesting birds or active nests at a construction site. Any active nests and nesting birds must be protected from disturbance by construction

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[3] The Biological Resources Technical Report dated March 23, 2023 (see Appendix C), includes a mitigation measure for the preparation and implementation of a project-specific SWPPP. This is a regulation for all projects based on requirements set forth by the RWQCB and per regulation in the City's Municipal Code Chapter 17.90 National Pollutant Discharge Elimination System (NPDES) Compliance. Therefore, it is not included as a separate mitigation measure in this document as it is already considered a requirement of the project.

activities through buffers between nest sites and construction activities. The buffer areas may be removed only after the birds have fledged. Compliance with the MBTA would ensure that the implementation of the project would not interfere with the nesting of any native bird species. Therefore, direct and indirect impacts to nesting birds would be *less than significant with mitigation incorporated*.

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

No Impact. The City of Santa Clarita's Oak Tree Ordinance (Ordinance 88-34) is the only local policy or ordinance that protects biological resources within the city. There are no oaks located on the project site, with only eight non-native Aleppo pine (*Pinus halepensis*) being removed (see Appendix C). Therefore, *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 not within any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (CDFW 2019). The project site is not located within a County of Los Angeles–designated Significant Ecological Area (County of Los Angeles 2023). As such, the project would not 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* would occur.

Conclusion

The project would include implementation of Mitigation Measures BIO-1 through BIO-5. Upon implementation of these project-specific mitigation measures, impacts to biological resources would be *less than significant with mitigation incorporated.*

Mitigation Measures

BIO-1 **Pre-construction Wildlife Survey.** Prior to issuance of a grading permit, a qualified biologist (the Applicant shall submit the qualifications of the biologist to the City for review and approval) shall conduct a survey of the proposed impact areas and a 50-foot buffer within 72 hours of the proposed activities. Any coastal whiptail shall be relocated to a City-approved off-site location in suitable habitat for the species. The results of the survey shall be documented in letter report that will be submitted to the City.

BIO-2 **Biological Monitoring.** Prior to the issuance of a grading permit, the Applicant shall submit the qualifications of the biologist(s) to the City for review and approval.
The Applicant shall fund a City-approved, biological monitor during project construction to monitor construction activities and to ensure compliance with all mitigation measures. The biological monitor shall be present on-site during all native vegetation removal and initial ground-disturbing activities in undeveloped areas. Each day, prior to the commencement of activities, the biological monitor shall be responsible for conducting a pre-construction clearance survey and any wildlife (common or special-status) shall be relocated off-site to a City-approved area.

BIO-3 **Demarcation of Disturbance Limits.** Prior to commencement of grading, the construction limits shall be clearly demarcated using high-visibility construction fence, as recommended by biological monitor. All construction activities including equipment staging and maintenance shall be conducted within the marked disturbance limits to prevent inadvertent disturbance to sensitive vegetation communities outside the limits of work. The fencing shall be maintained throughout construction and any windblown trash generated by the project that collects on the fence shall be regularly removed.

BIO-4 **Invasive Plant Species Prevention.** The project shall not include invasive plant species listed on the California Invasive Plant Council inventory in project landscaping palettes. The City shall review and approve project landscape palettes to ensure that invasive plant species are excluded. In addition, to prevent the spread of invasive plant species during construction and until the establishment of common landscaped areas associated with the project (for a period of up to 5 years):

- All equipment shall be washed prior to entering and prior to leaving the project site in an upland location where any seed material from invasive species will be contained.
- All vegetative material removed from the project impact footprint shall be transported in a covered vehicle and will be disposed of at a certified disposal site.

BIO-5 **Nesting Bird Avoidance.** Project construction shall be conducted in compliance with the conditions set forth in the MBTA and California Fish and Game Code to protect active bird/raptor nests. To the maximum extent feasible, vegetation removal shall occur during the non-breeding season for nesting birds (generally late September to early March) and nesting raptors (generally early July to late January) to avoid impacts to nesting birds and raptors. If the project requires that work be initiated during the breeding season for nesting birds (March 1–September 30) and nesting raptors (February 1–June 30), in order to avoid direct impacts on active nests, a pre-construction survey shall be conducted in the study area (defined as a 500-foot buffer around the project site) by qualified biologists (someone who has more than 3 years of experience conducting nesting bird surveys in the project region) for nesting birds and/or raptors within 3 days prior to project activities. If the biologist does not find any active nests within or immediately adjacent to the impact areas, the vegetation clearing/construction work shall be allowed to proceed.

If the biologist finds an active nest within or immediately adjacent to the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the biologist shall delineate an appropriate buffer zone around the nest, depending on the sensitivity of the species and the nature of the construction activity. To protect any nest site, the following restrictions to construction activities shall be required until nests are no longer active, as determined by a qualified biologist: 1) clearing limits shall be established within a buffer around any occupied nest; and 2) access and surveying shall be restricted within the buffer of any occupied nest, unless otherwise determined by a qualified biologist. The buffer shall be up to 300 feet for non-raptor nesting birds and up to 500 feet for nesting raptors, based upon the biologist's determination of potential effect of project activities on the nest. Construction can proceed into the buffer when the qualified biologist has determined that the nest is no longer active.

V. Cultural Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines Section 15064.5?	☐	☐	☐	☒
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines Section 15064.5?	☐	☒	☐	☐
(c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

The analysis for this section is based on the following document (included as Appendix D): *Phase I Archaeological Survey Report: 26313 Golden Valley Road* (Dudek 2023e). Refer to Appendix D for a detailed discussion of the historic setting for the region and applicable regulations pertaining to cultural resources.

As part of the Phase I Archaeological Survey Report prepared for the project (see Appendix D), an archaeological literature and records search was conducted through the California Historical Resources Information System (CHRIS) at the South Central Coast Information Center (SCCIC), California State University, Fullerton. The search included any previously recorded cultural resources and investigations within a 1-mile radius of the project site. The CHRIS search also included a review of the National Register of Historic Places, the California Register of Historical Resources (CRHR), the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Historic Resources Inventory list. In addition to the CHRIS search, background research—including a literature, archival document, historical map, and aerial photograph review—was conducted, along with review of the geotechnical investigation prepared for the project site (see Appendix A). Lastly, a pedestrian survey of the project site was conducted on February 2 and February 18, 2022, using intensive-level survey methods as described in Appendix D.

Setting

As detailed in the Phase I Archaeological Survey Report, the CHRIS search determined that no cultural resources have been previously identified within the project site (Dudek 2023e). Within 1 mile of the project site, five cultural resources have been previously identified: two built environment resources (extant structural features), the closest of which is 265 feet west of the project site, and three prehistoric archaeological sites, the closest of which is 4,625 feet (0.9 mile) northwest of the project site (see Appendix D). In addition, 29 cultural resource investigations have been undertaken within 1 mile of the project site, two of which addressed the project site. The results of these investigations can be found in Appendix D.

The review of the geotechnical investigation results for the project site indicate that artificial fill soils exist between grade and 24 to 39 feet below grade within the eastern canyon portion of the site, alluvial soils exist between grade and 2.5 to 4 feet below current grade within the northern, western, and southern hillside portions of the project site, and that the entire site is underlain by bedrock of the Saugus Formation.

Ground surface visibility documented in the pedestrian surveys conducted at the project site varied from fair to excellent and special attention was given to barren ground, including at the base of trees, within dirt roads and paths, as well as subsurface soils exposed by burrowing animals. No cultural material was observed within the project site as a result of the pedestrian survey (Dudek 2023e).

Environmental Evaluation

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

No Impact. As stated in State CEQA Guidelines Section 15064.5(b)(1), a project causing a substantial adverse change in the significance of a historical resource is one that could result in the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings, such that the significance of a historical resource would be materially impaired (i.e., altering those physical characteristics that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR as determined by a Lead Agency [the City of Santa Clarita] for purposes of CEQA, or its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC).

The project site does not contain any built environment structures. As such, there are no known structures on-site that would be eligible for the CRHR or a local register that could be considered to be historical resources for the purposes of CEQA (Dudek 2023e). Therefore, no historic resources would be demolished, relocated, removed, or significantly altered with project implementation. *No impact* would occur.

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

Less than Significant with Mitigation Incorporated. The project includes the construction of a two-story, 174,000-square-foot building for industrial use as well as the required utility services, water, sewer, and water quality treatment basins to serve the building and support the project. Proposed ground disturbance includes significant grading and terracing of the hillside areas located in the western portion of the project site, moderate grading and terracing in the northern and southern portions, and fill of the cut soils within the eastern canyon portion of the project site. The ground disturbance is anticipated to extend up to 67 feet below current ground surface within the hillside portions of the project site and since at least 35 feet of fill soil is proposed to be deposited from the hillside portions to the current canyon portion, no ground disturbance within native soils is expected to occur within the portions of the project site proposed for building construction, utility, water quality treatment basin and retaining wall installation, landscaping, and paving. No archaeological resources were identified through the records search or survey (Dudek 2023e). Based on the negative results and the fact that proposed ground disturbance within intact native soils would be limited to areas with greater that 30 percent slopes where intact archaeological deposits are unlikely to exist, the potential for undocumented prehistoric and historic cultural resources to exist and be impacted by the project is considered low. However, due to the overall sensitive nature of the general area surrounding the project site, it is possible that previously unrecorded cultural material and features could be encountered during project construction. Any impacts to archaeological resources would be potentially significant. Implementation of Mitigation Measures CR-1 and CR-2 would include the development of a Cultural Resources Inadvertent Discovery Plan and Worker Environmental Awareness Program (WEAP) training, ensuring impacts of the project would be *less than significant with mitigation incorporated*.

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

Less than Significant Impact. There are no known human remains in the project site (Dudek 2023e). While the discovery of human remains is always a possibility in undisturbed soils, there is no evidence to suggest that there is more than a low potential for discovery. Section 7050.5 of the State of California Health and Safety Code states that in the event that human remains are discovered or suspected, the county coroner must be contacted immediately, and that no further disturbance shall occur until the county coroner has determined the origin and requisite disposition of the remains pursuant to PRC 5097.98. If the human remains are determined to be Native American in origin, the coroner would notify the Native American Heritage Commission (NAHC), which would determine and notify the most likely descendent (MLD). Native American human remains would be treated in accordance with PRC 5097.98. These existing laws and regulations would ensure that in the event of unanticipated discovery, impacts to human remains would be *less than significant*.

Conclusion

The project would include implementation of Mitigation Measures CR-1 and CR-2. Upon implementation of these project-specific mitigation measures, impacts to cultural resources would be *less than significant with mitigation incorporated*.

Mitigation Measures

CR-1 **Cultural Resources Inadvertent Discovery Plan**. The Applicant shall minimize potential impacts to cultural resources through implementation of pre- and post-construction tasks. Tasks pertaining to cultural resources include the development of a cultural resources inadvertent discovery plan (plan). The purpose of the plan is to outline a program of treatment and mitigation in the case of an inadvertent discovery of cultural resources during ground-disturbing phases (including but not limited to preconstruction site mobilization and testing, grubbing, removal of soils for remediation, construction ground disturbance, construction grading, trenching, and landscaping) and to provide for the proper identification, evaluation, treatment, and protection of any cultural resources throughout the duration of the project. This plan should define the process to be followed for the identification and management of cultural resources in the project site during construction. Existence of and importance of adherence to this plan should be stated on all project site plans intended for use by those conducting the ground-disturbing activities.

CR- 2 **Worker Environmental Awareness Program (WEAP) Training**. Prior to the commencement of construction, a qualified archaeologist shall create a separate Worker Environmental Awareness Program pamphlet that will be provided as training to construction personnel to understand regulatory requirements for the protection of cultural resources. This training shall include examples of cultural resources to look for and protocols to follow if discoveries are made. The archaeologist shall develop the training and any supplemental materials necessary to execute said training. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the project and explain the importance of and legal basis for the protection of significant archaeological resources.

Each worker should also be instructed on the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the on-call archaeologist and if appropriate, tribal representative. Necessity of training attendance should be stated on all project site plans intended for use by those conducting the ground-disturbing activities.

VI. Energy

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

Setting

Energy sources include energy in the form of electricity, natural gas, and petroleum-based transportation-related energy (gasoline and diesel). The project receives electricity from Southern California Edison (SCE) and natural gas from the Southern California Gas Company (SoCalGas). Transportation fuels are produced from crude oil, which can be domestically imported from various regions around the world.

As stated in the project's Air Quality and Greenhouse Gas Emissions Technical Memorandum (see Appendix B), CalEEMod default values for energy consumption by land use were applied for the project analysis.

Environmental Evaluation

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

Less than Significant Impact. Construction and operation of the project would require the consumption of energy resources in several forms at the project site and within the project vicinity. The project would consume energy in the form of electricity, natural gas, and petroleum-based transportation-related energy (gasoline and diesel).

Construction

Electricity use from construction would be short-term, limited to working hours, used for necessary construction-related activities, and represent a small fraction of the project's net annual operational electricity. Electrical construction equipment would also comply with CCR Title 24 requirements, which are a set of prescriptive standards establishing mandatory maximum energy consumption levels for buildings. Although Title 24 requirements typically apply to energy usage for buildings, long-term construction lighting (longer than 120 days) providing illumination for the project site would comply with applicable Title 24 limits on the wattage allowed, resulting in the conservation of energy. In addition, construction equipment would comply with energy efficiency requirements contained in the Federal Energy Independence and Security Act or previous Energy Policy Acts for electrical motors and equipment. Therefore, construction of the project would not consume electricity in a wasteful, inefficient, or unnecessary manner.

Construction activities typically do not involve the consumption of natural gas. Therefore, construction of the project would not consume natural gas in a wasteful, inefficient, or unnecessary manner.

Construction of the project would comply with state and federal regulations, such as the anti-idling regulation in accordance with Title 13 CCR Section 2485, and fuel requirements in accordance with Title 17 CCR Section 93115, which would reduce the consumption of petroleum-based transportation fuels from unnecessary idling fuel combustion. While these required regulations are intended to reduce construction emissions, compliance with anti-idling and emissions regulations would also result in reductions in fuel consumption. Project-related trips from on-road vehicles (i.e., delivery trucks, worker vehicles) would also benefit from Low Carbon Fuel Standards which are designed to reduce vehicle GHG emissions, resulting in fuel consumption reductions in addition to compliance with Corporate Average Fuel Economy standards. Therefore, construction of the project would not consume petroleum-based fuel in a wasteful, inefficient, or unnecessary manner. Impacts during project construction would be *less than significant*.

Operation

Building operations and site maintenance activities associated with the project would result in the consumption of natural gas and electricity. Based on the CalEEMod values for the project's energy consumption as provided in Appendix X, project operations would result in the consumption of 701,980 kilowatt-hours (kWh) per year of electrical power and 149,640 kilo-British Thermal Units (kBTU) per year of natural gas power. While there are no numerical thresholds for energy consumption, for comparison, electricity consumption for Los Angeles County in 2021 was approximately 65,375 million kWh per year, while natural gas consumption within Los Angeles County in 2021 was approximately 2,880,000,000 therms[4] per year (California Energy Commission 2023a, 2023b). The project's overall consumption of electricity and natural gas would be negligible in comparison to that of Los Angeles County.

The project provides conventional industrial building use reflecting contemporary energy efficient/energy conserving designs and operational programs. The uses proposed by the project are not inherently energy intensive, and the project energy demands in total would be comparable to, or less than, other industrial projects of similar scale and configuration. Furthermore, the project would be required to comply with Title 24 CCR standards, which would ensure that the project's energy demand would not be considered inefficient, wasteful, or otherwise unnecessary.

The fuel consumption resulting from the project's operational phase would be attributable to employees and visitors traveling to and from the project site. Over the lifetime of the project, the fuel efficiency of vehicles is expected to increase. Thus, the amount of petroleum consumed as a result of vehicular trips to and from the project site during operation is expected to decrease over time. There are numerous regulations in place that require and encourage increased fuel efficiency, such as efforts to accelerate the number of plug-in hybrids and zero-emissions vehicles in California and increasingly stringent emissions standards (California Air Resources Board [CARB] 2020). Therefore, operation of the project is expected to use decreasing amounts of petroleum over time due to advances in fuel economy. Impacts during project operation would be *less than significant*.

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[4] 1 therm = approximately 100 kBTU.

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

Less than Significant Impact. The project would be subject to state regulations for energy efficiency, namely, California's Building Energy Efficiency Standards and California Green Building Standards Code (CALGreen), both of which are set forth in the CCR, Title 24. California's Building Energy Efficiency Standards were established in 1978, and serve to enhance and regulate California's building standards. These standards include regulations for residential and nonresidential buildings constructed in California to reduce energy demand and consumption. The Building Energy Efficiency Standards are updated periodically (every 3 years) to incorporate and consider new energy-efficiency technologies and methodologies. CALGreen institutes mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and State-owned buildings, as well as schools and hospitals. The 2022 CALGreen standards became effective on January 1, 2022. The project would meet Building Energy Efficiency Standards and CALGreen standards to reduce energy demand and increase energy efficiency.

The project would follow applicable energy standards and regulations during construction and operations. In addition, the project would be built and operated in accordance with all existing, applicable regulations at the time of construction. Therefore, the project would not conflict with existing energy standards and regulations. Impacts would be *less than significant*.

Conclusion

The project would not result in a significant adverse impact to energy; no mitigation measures are required.

VII. Geology and Soils

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

The information in this analysis is based on the Geotechnical Plan Review, prepared for the project by RTF&A, July 8, 2021 (see Appendix A). The Geotechnical Plan Review provides project-specific recommendations that must be implemented during site preparation for all construction and earthwork activities, including recommendations for grading, expansive soils, foundation and floor slab support, pavement design, retaining walls, and utility trench backfill.

In addition, the City's Municipal Code Chapter 17.86 provides design criteria and construction standards regarding import and export of earth materials, excavation, grading, earthwork construction, fills, ridgeline and hillside development, and slope setbacks. In Municipal Code Chapter 18.04, the City has adopted the provisions of CBC Chapter 16, Structural Design and CBC Chapter 18, Soils and Foundations, including provisions to address the effects of earthquake ground motions. Compliance with these standards is demonstrated and verified through the City's grading plan review and permit process.

The analysis as it relates to paleontological resources is based on the *Paleontological Resources Technical Memorandum for the Pacific Industrial Warehouse Project* (Paleontological Resources Technical Memorandum), prepared for the project by SWCA Environmental Consultants (SWCA), November 9, 2022, provided as Appendix E.

Setting

The project site is located at the western end of the Soledad basin within the Transverse Ranges geomorphic province of California. The Soledad basin consists of an elongate, northeast-trending basin, measuring approximately 30 miles long and 8 to 12 miles wide. The floor of the basin is irregular, with elevations ranging from 400 feet amsl at its western end to as much as 2,500 amsl feet near the eastern end.

The San Gabriel fault zone, the dominant geologic feature in the Santa Clarita Valley, forms the southwestern boundary of the Soledad basin, and separates the basin from the structurally similar Ventura basin. At its closest point, the fault zone lies approximately 700 feet southwest of the site.

The site is located within the Eastern Hydrologic Subarea of the Upper Santa Clara River watershed of Los Angeles County. The nearest historic high groundwater contour corresponds to a depth of 15 feet below ground surface (bgs). The 15-foot contour lies along the alignment of Soledad Canyon Road, about 0.75 mile north of the project site. The project site is at an elevation that is more than 140 feet above the nearest historic high groundwater contour.

The site is underlain by sedimentary rock units of the Plio-Pleistocene age Saugus Formation (map unit designation “TQs”). As observed on-site, the Saugus Formation is composed of interbedded light brown to reddish brown siltstone and sandstone. This formation is typically moderately to weakly cemented, and poorly indurated. The Saugus Formation is partially mantled by undifferentiated artificial fill materials and alluvial deposits (map unit af/Qal), consisting primarily of silty sand and sandy silt.

Environmental Evaluation

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

a-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.

No Impact. The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) is a California state law that was developed to regulate development near active faults and mitigate the surface fault rupture potential and other hazards. The Alquist-Priolo Act identifies active earthquake fault zones and restricts the construction of habitable structures over known active or potentially active faults. The California Geological Survey designates the fault zones extending approximately 200 to 500 feet from known active faults such as Alquist-Priolo Earthquake Fault Zones (CDOC 2022).

The project site is not located in a designated Alquist-Priolo Earthquake Fault Zone. The nearest significant active fault is the San Gabriel Fault Zone, which is located approximately 700 feet south to southwest from the site (RTF&A 2021). Although this fault is 700 feet from the site, the Alquist-Priolo Earthquake Fault Zone established for the San Gabriel fault ends approximately 2,000 feet southwest of the site. Therefore, there is little probability of surface rupture due to faulting occurring on the site (RTF&A 2021). *No impact* would occur.

a-ii) Strong seismic ground shaking?

Less than Significant Impact. Southern California is a seismically active region with over 100 active faults in Los Angeles County alone. Active faults are those faults that are considered likely to undergo renewed movement within a period of concern to humans. These include faults that are currently slipping, those that display earthquake activity, and those that have historical surface rupture.

Since the project is located in a seismically active region, the project site is likely to be subject to strong seismic ground shaking during a seismic event. However, the risks of structural damage from an earthquake can be minimized through proper engineering design. The project would be designed and constructed in conformance with seismic design criteria (e.g., requirements for lateral force resisting system, building foundations, footings, retaining walls, etc.) set forth in Section 16.13 of the CBC and City-adopted seismic design related measures set forth in the City's Municipal Code, Chapter 18.04, in particular Section 18.04.040 Seismic Design Provisions for Hillside Buildings. In addition, the project would be subject to all recommendations provided in the project-specific Geotechnical Plan Review (see Appendix A). Further, all construction work is subject to building inspection by the City Department of Building and Safety during and after construction to ensure that code specifications are properly constructed. Conformance to these standard engineering practices, design criteria set forth in the City's Municipal Code, and recommendations of the project-specific Geotechnical Plan Review would reduce the effects of seismic ground shaking. Impacts related to seismic ground shaking would be *less than significant.*

a-iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Soil liquefaction occurs when soil material loses strength in response to strong ground shaking. Liquefaction normally occurs under saturated conditions in soils such as sand; however, liquefaction is not exclusively limited to sandy substrate.

The project-specific Geotechnical Plan Review (see Appendix A) evaluated the potential for liquefaction within the project site. According to the State of California Seismic Hazard Map for the Newhall Quadrangle, portions of the project site along existing Golden Valley Road are located within a potential liquefaction area (RTF&A 2021). The Geotechnical Plan Review found that some of the naturally deposited soils beneath the site may be subject to dry settlement in the event of a large earthquake on a nearby fault that produces the design-level ground motions. This would result in seismically induced ground settlement of up to 0.60 inch and has the potential to create liquefaction-induced settlement of the proposed structures at the site (RTF&A 2021).

The City's Building Code, Municipal Code Chapter 18.04, requires mitigation of liquefaction hazards in new development projects, pursuant to findings and recommendations of site-specific geotechnical reports. Potential detrimental effects of liquefaction can be reduced to less than significant through various strategies, including grading/earthwork that removes and replaces potentially liquefiable soils with non-liquefiable fill soils; in situ ground improvement methods that reduce liquefaction potential; designing structural foundations in recognition of potential liquefaction-induced settlement; or a mixture of these strategies. Incorporation of the appropriate measures would be confirmed during the City's plan check process and these measures would be included in construction specifications prior to issuance of grading permits. This standard regulatory compliance process would reduce potential impacts associated with liquefiable soils to *less than significant*.

a-iv) Landslides?

Less than Significant Impact. Landslides occur when the underlying geological support on a hillside can no longer maintain the load of material above it, causing a slope failure. According to the City's Seismic

Hazard Zone Map, portions of the project site are located within an earthquake-induced landslide hazard zone (City of Santa Clarita 2023). However, according to the project-specific Geotechnical Plan Review, no landslides were previously mapped within the site boundaries and no landslides were observed on the site during the exploration. Construction and design of the project would include controls for slope stability and landslide hazard, as required by the CBC and Santa Clarita Building Code. Additionally, design recommendations in compliance with applicable regulations are contained in the Geotechnical Plan Review (see Appendix A). As the project continues to final design, standard site-specific geotechnical investigations would be conducted to inform design in relation to potential geotechnical hazards, including landslides. Provided the design recommendations described in the project-specific Geotechnical Plan Review (see Appendix A) are implemented, the project would not pose a landslide hazard. Impacts would be *less than significant*.

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

Less than Significant Impact. Ground-disturbing activities associated with the project include grading approximately 190,000 cubic yards of cut and approximately 190,000 cubic yards of fill, with the bulk of the hillsides on the western side of the site to be cut while fill would generally be placed in the existing canyon areas in the eastern portion of the site. Cut-fill grading activities would require cuts up to approximately 65 feet bgs, which would be backfilled up to 38 feet bgs, and would include 12-foot-high retaining walls around the northern, western, and southern borders of the project site. These grading and excavation activities would expose soils that could be susceptible to erosion (RTF&A 2021). However, the project would be subject to RWQCB requirements for preparation of a SWPPP, which include erosion control measures, such as covering exposed soil stockpiles, lining the perimeter of construction areas with sediment barriers, and protecting storm drain inlets. In addition, the project-specific Geotechnical Plan Review also includes recommendations to reduce impacts from soil erosion including surface drainage design requirements as well as other erosion protection measures through landscaping. These measures would control and reduce erosion and loss of topsoil to the maximum extent practical. Once construction is complete, exposed soils would be paved over or landscaped and operational impacts related to soil erosion or loss of topsoil would not occur. Therefore, impacts would be *less than significant*.

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

Less than Significant Impact. See Thresholds VII a-iii and VII a-iv for discussions of liquefaction and landslides, respectively. Lateral spreading is a phenomenon in which large blocks of intact, non-liquefied soil move downslope on a liquefied soil layer. Lateral spreading is often a regional event. For lateral spreading to occur, a liquefiable soil zone must be laterally continuous and unconstrained to move along sloping ground. As described in the Geotechnical Plan Review (see Appendix A), lateral spreading is expected to have a low potential to occur on-site.

Land subsidence is a gradual settling or sudden sinking of the earth's surface owing to subsurface movement of earth materials. Subsidence usually occurs as a result of the extraction of subsurface gas, oil, or water, or from hydro-compaction. It is not the result of a landslide or slope failure. According to the Safety Element chapter of the City General Plan, no large-scale problems with ground subsidence have been reported in the city (City of Santa Clarita 2011b). Further, according to the USGS Areas of Land Subsidence Map in California, the project site is not located within a mapped area of subsidence (USGS 2023). Additionally, no groundwater pumping or mineral extraction activities occur within the project site.

Soil collapse occurs when sediment moisture content increases substantially, leading to the densification of the soil, which can lead to structural damage from cracking foundations, walls, and floors. Typical causes of soil collapse include infiltration resulting from poor surface drainage, irrigation water, or leaking pipes into low-density, silty sandy soil in semi-arid and arid climates that are not regularly subjected to saturation. The soils within the project site are generally dense and moist with depth and are moderately compressible under saturated conditions (RTF&A 2021). However, as stated in the Geotechnical Plan Review (see Appendix A), once the site is cleared and excavated as recommended, the exposed soil on-site would be observed for the removal of all unsuitable material. Next, the exposed subgrade soils would be scarified to a depth of at least 6 inches, brought to above optimum moisture content, and rolled with heavy compaction equipment. The upper 6 inches of exposed soils would be compacted to at least 90% of the maximum dry density obtainable. With incorporation of the recommendations from the Geotechnical Plan Review, impacts related to soil collapse would be *less than significant*.

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

Less than Significant Impact. Expansive soils are clay-based and tend to increase in volume due to water absorption and decrease in water volume due to drying. Expansive soils can result in structural damage, particularly if wetting and drying do not occur uniformly throughout the soil. The project-specific Geotechnical Plan Review (see Appendix A) states that on-site alluvial soils have a very low to low potential for expansion while compacted fills generated from bedrock formational materials are expected to have up to a medium potential for expansion. However, as stated in the Geotechnical Plan Review (see Appendix A), samples of the compacted fill would be obtained at the completion of the rough grading operations to be included in the rough grading as-built report and support final foundation design. This would be confirmed by the City during the Development Review approval process for the project. With incorporation of the recommendations from the Geotechnical Plan Review as well as the City's Development Review, 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?

No Impact. The project includes the extension of sewer lines and does not involve construction of septic tanks or alternative wastewater disposal systems. Therefore, *no impact* would occur.

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

Less than Significant with Mitigation Incorporated. The project site consists of surficial sediments including Holocene and late Pleistocene young alluvium, undivided (Qya) and Pleistocene to late Pliocene Saugus Formation, undivided (QTs). Although unmapped, Recent artificial fill is likely also present at the surface of the project site to varying depths (SWCA 2022). Table 9 summarizes the geologic units and paleontological potential underlying the project site.

Table 9. Geologic Units and Paleontological Potential Underlying the Project Site

Geologic Unit Name	Age	Paleontological Potential
Unmapped recent artificial fill	--	Low
Young alluvium, undivided (Qva)	Holocene and late Pleistocene	Low to High (increasing with depth)
Saugus Formation, undivided (QTs)	Pleistocene to late Pliocene	High

Source: SWCA (2022)

Based on the results of Paleontological Resources Technical Memorandum (see Appendix E), ground-disturbing activities in unmapped Recent artificial fill, previously disturbed sediments (regardless of depth), or sediments less than 15 feet bgs in areas mapped as Holocene and late Pleistocene young alluvium, undivided (Qya) are unlikely to result in adverse effects. Conversely, ground-disturbing activities greater than or equal to 15 feet bgs in areas mapped at the surface as young alluvium, undivided may result in adverse effects on significant paleontological resources. Moreover, ground-disturbing activities impacting the Pleistocene to late Pliocene Saugus Formation, undivided (QTs), whether present at the surface where mapped along the hills or present at moderate depth below the alluvial deposits in the low-lying areas, may also result in adverse effects on significant paleontological resources. Should significant fossils be encountered during ground-disturbing activities to depths of approximately 65 feet bgs, they would be at risk for damage or destruction. As such, impacts would be *potentially significant*.

Implementation of Mitigation Measure GEO-1 would include paleontological monitoring during ground-disturbing activities within areas of previously undisturbed sediments of Holocene and late Pleistocene young alluvium, undivided (Qya) at depths greater than or equal to 15 feet bgs, or when ground-disturbing activities impact previously undisturbed sediments of Pleistocene to late Pliocene Saugus Formation, undivided (QTs). Therefore, with implementation of Mitigation Measure GEO-1, impacts would be *less than significant with mitigation incorporated*.

Conclusion

The project would include implementation of Mitigation Measure GEO-1. Upon implementation of this project-specific mitigation measure, impacts to geology and soils would be *less than significant with mitigation incorporated*.

Mitigation Measures

GEO-1 The following measures shall be implemented prior to and during construction by a project paleontologist meeting Society of Vertebrate Paleontology (2010) standards:

a. **Conduct Worker Training:** The project paleontologist shall develop Worker Environmental Awareness Program training to educate the construction crew on the legal requirements for preserving fossil resources, as well as the procedures to follow in the event of a fossil discovery. This training program shall be given to the crew before ground-disturbing work commences and shall include handouts to be given to new workers as needed.

b. **Monitor for Paleontological Resources:** Full-time monitoring shall be required when ground-disturbing activities impact previously undisturbed sediments of Holocene and late Pleistocene young alluvium, undivided (Qya) at depths greater than or equal to 15 feet below ground surface (bgs), or when ground-disturbing activities impact previously undisturbed sediments of Pleistocene to late Pliocene Saugus Formation, undivided (QTs), whether present at the surface or at depth below the young alluvium. Monitoring shall not be required when ground-disturbing activities impact only unmapped Recent artificial fill, previously disturbed sediments (regardless of depth), and sediments of Holocene and late Pleistocene young alluvium, undivided (Qya) at depths less than 15 feet bgs.

   Monitoring shall be conducted by a paleontological monitor who meets the standards of the Society of Vertebrate Paleontology (2010) and shall be supervised by the project paleontologist, who may periodically inspect construction activities to adjust the level of monitoring in response to subsurface conditions. Monitoring efforts can be increased, reduced, or ceased entirely if determined adequate by the project paleontologist. Paleontological monitoring should include inspection of exposed sedimentary units during active excavations within sensitive geologic sediments. The monitor shall have authority to temporarily divert activity away from exposed fossils to evaluate the significance of the find and, should the fossils be determined significant, professionally and efficiently recover the fossil specimens and collect associated data. The monitor shall record pertinent geologic data and collect appropriate sediment samples from any fossil localities. Recovered fossils shall be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological repository (e.g., Natural History Museum of Los Angeles County).

c. **Prepare a Paleontological Resources Monitoring Report:** Upon conclusion of ground-disturbing activities, the project paleontologist overseeing paleontological monitoring shall prepare a final Paleontological Resources Monitoring Report that documents the paleontological monitoring efforts for the project and describes any paleontological resources discoveries observed and/or recorded during the life of the project. If paleontological resources are curated, the final Paleontological Resources Monitoring Report and any associated data pertinent to the curated specimen(s) shall be submitted to the designated repository. A copy of the final Paleontological Resources Monitoring Report shall be filed with the City.

VIII. Greenhouse Gas Emissions

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

The analysis for this section is based on the Air Quality and Greenhouse Gas Emissions Technical Memorandum (Dudek 2023a; see Appendix B). Background information on climate change and GHGs as well as detailed methodology used for this analysis are also provided in Appendix B.

Setting

Greenhouse gases are gases that absorb infrared radiation in the atmosphere. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature. Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect. Principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, and water vapor. Each GHG differs in its mass and ability to trap heat within the atmosphere based on factors such as capacity to directly absorb radiation, length of time in the atmosphere, and chemical transformations that create new

GHGs. Because the warming potential of each GHG differs, GHG emissions are typically expressed in terms of CO_2 equivalents (CO_2e), providing a common expression for the combined volume and warming potential of the GHGs generated by an emitter. Total GHG emissions from individual sources are generally reported in metric tons (MT) and expressed as metric tons of CO_2 equivalents ($MTCO_2e$).

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project in the SCAB, such as the project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (California Air Pollution Control Officers Association [CAPCOA] 2008), GHG emissions impacts must also be evaluated at a project level under CEQA. A detailed discussion of methodologies for performing project-level GHG assessments, including State CEQA Guidelines, Governor's Office of Planning and Research (OPR) guidance, SCAQMD recommendations, and the guidance set forth City of Santa Clarita General Plan, is provided in Appendix B.

State CEQA Guidelines Section 15064.4 recommends that Lead Agencies quantify GHG emissions of projects and consider several other factors that may be used in the determination of significance of GHG emissions from a project, including the extent to which a project may increase or reduce GHG emissions; whether a project exceeds an applicable significance threshold; and the extent to which a project complies with regulations or requirements adopted to implement a plan for the reduction or mitigation of GHG emissions. The State CEQA Guidelines do not establish a threshold of significance. Rather, Lead Agencies, such as the City of Santa Clarita, have the discretion to establish significance thresholds for their respective jurisdictions. In establishing those thresholds, the Lead Agency may appropriately look to thresholds developed by other public agencies or suggested by other experts, as long as any threshold chosen is supported by substantial evidence (State CEQA Guidelines Section 15064.7[c]).

A project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem in the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a water quality control plan (Basin Plan), air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans, and plans or regulations for the reduction of GHG emissions.

Therefore, a lead agency can make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies, and/or other regulatory strategies to reduce GHG emissions. A project would be considered consistent with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions if a qualitative analysis demonstrates that the project meets the general intent in reducing GHG emissions in order to facilitate the achievement of local- and State-adopted goals and does not impede attainment of those goals.

In the absence of any adopted numeric threshold, the significance of a project's GHG emissions is evaluated consistent with State CEQA Guidelines Section 15064.4(b) by considering whether the project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. For this project, as a land use development project, the most directly applicable adopted regulatory plan to reduce GHG emissions is SCAG's 2020-2045 RTP/SCS (Connect SoCal), which is designed to achieve regional GHG reductions from the land use and transportation sectors as required by Senate Bill (SB) 375 and the State's long-term climate goals. This analysis also considers consistency with regulations or requirements adopted by the 2008 Climate Change Scoping Plan (CARB 2008) and subsequent updates, City of Santa Clarita General Plan (2011), and the City of Santa Clarita CAP (2012).

Environmental Evaluation

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

Less than Significant Impact. The City of Santa Clarita has not adopted a numerical significance threshold for assessing impacts related to GHG emissions. Similarly, the SCAQMD, CARB, and all state and regional agencies have not yet adopted numerical significance thresholds for assessing GHG emissions that are applicable to the project. Notwithstanding, the following analysis calculates the amount of GHG emissions that would be attributable to the project using the recommended air quality model, CalEEMod (see Section III. Air Quality). Further, in the absence of any adopted numerical threshold, the significance of project-related GHG emissions is evaluated by considering whether the project is consistent with applicable plans, policies, and regulations that have been established to reduce or mitigate GHG emissions. For the project, the relevant adopted regulatory plans include the CARB 2017 Scoping Plan, the 2020-2045 RTP/SCS, and the City's General Plan (2011).

The CalEEMod Version 2020.4.0 was used to estimate GHG emissions during construction and operation of the project (CAPCOA 2021). Construction and operation of the project would result in the generation of GHG emissions as discussed below.

Construction Emissions

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. The SCAQMD recommends that construction emissions be amortized over a 30-year project lifetime; therefore, the total construction GHG emissions were calculated, amortized over 30 years, and added to the operational emissions.

The CalEEMod Version 2020.4.0 was used to estimate GHG emissions during construction of the project (CAPCOA 2021). Construction of the project is anticipated to last up to 19 months. On-site sources of GHG emissions include off-road equipment and off-site sources include on-road vehicles (vendor trucks and worker vehicles). Table 10 presents construction GHG emissions for the project from on-site and off-site emission sources.

Table 10. Estimated Annual Construction GHG Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	(metric tons)			
2023	291.00	0.09	0.00	293.50
2024	394.33	0.05	0.02	400.84
			Total	**694.34**
			Annualized emissions over 30 years (metric tons per year)	***23.14***

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas.
See Attachment A for complete results.

As shown in Table 10, the estimated total GHG emissions during project construction would be approximately 694 MT CO_2e. Estimated project-generated construction emissions amortized over 30 years would be approximately 23 MT CO_2e per year.

Operational Emissions

CalEEMod was used to estimate potential project-generated operational GHG emissions from energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment. For additional details, see Appendix B for a discussion of operational emission calculation methodology and assumptions. Operational year 2024 was assumed as the first year of operation. Table 11 provides the GHG emissions of the project during operation.

Table 11. Estimated Annual Operation GHG Emissions

Emissions Source	CO_2	CH_4	N_2O	CO_2e
	(metric tons per year)			
Area	0.01	0.00	0.00	0.01
Energy	132.48	0.01	0.00	133.17
Mobile	2,008.90	0.08	0.26	2,088.62
Off-road*	474.78	0.15	0.00	478.55
Stationary	6.66	0.00	0.00	6.69
Waste	33.28	1.97	0.00	82.45
Water	116.20	1.32	0.03	158.74
			Total	**2,948.23**
			Amortized construction emissions	23.14
			Total with amortized construction emissions	**2,971.37**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Appendix B for complete results.
* Includes GHG emissions from electric forklifts calculated outside of CalEEMod.

As shown in Table 11, the estimated total GHG emissions during operation of the project would be approximately 2,971 MT CO_2e per year, including amortized construction emissions.

As previously discussed, there are currently no established thresholds for assessing whether the GHG emissions of a project in the SCAB would result in a significant impact to the environment, and there are currently no mandatory GHG regulations or finalized agency guidelines that would apply to implementation of this project. In the absence of any adopted numeric threshold, the significance of a project's GHG emissions is evaluated consistent with State CEQA Guidelines Section 15064.4(b) by considering whether the project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. This consistency analysis is provided below in Threshold VIII(b). Given the project is consistent with the regulations adopted for reducing GHG emissions, the project's generation of greenhouse gas emissions would be *less than significant*.

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. Tables 12–15 provide analysis of the project's consistency with the following regulations or requirements adopted for reducing GHG emissions: Assembly Bill (AB) 32 regulatory programs; the 2008 Climate Change Scoping Plan and subsequent updates (2014, 2017); the 2020-2045 RTP/SCS; and the City of Santa Clarita General Plan (2011a).

Assembly Bill 32

The project is consistent and compliant with applicable statewide regulatory programs designed to reduce GHG emissions consistent with AB 32, as described in Table 12.

Table 12. Consistency with Assembly Bill 32 Regulatory Programs

Regulatory Program	Project Consistency Analysis
Construction	
CARB In-Use Off-Road Regulation	*Consistent.* Off-road equipment used for construction of the project would use equipment in compliance with CARB ATCMs.
Mobile Sources	
California Assembly Bill 1493 (Pavley Standards)	*Consistent.* This regulatory program applies to vehicle manufacturers, and not directly to land use development. That being said, the vehicles operated by future occupants of and visitors to the project would benefit from and be consistent with this regulatory program in the form of reduced GHG emissions from the vehicle fleet for model years 2017 through 2025.
Advanced Clean Cars Program	*Consistent.* This regulatory program applies to vehicle manufacturers, and not directly to land use development. That being said, the vehicles operated by future occupants of and visitors to the project would benefit from and be consistent with this regulatory program in the form of reduced GHG emissions from the vehicle fleet for model years 2017 through 2025.
Low Carbon Fuel Standard Regulation	*Consistent.* This regulatory program applies to fuel suppliers, and not directly to land use development. That being said, the vehicles operated by future occupants of and visitors to the project would benefit from and be consistent with this regulatory program in the form of reduced GHG emissions from the vehicle fleet.
Heavy-Duty Vehicle GHG Emission Reduction Regulation	*Consistent.* This regulatory program is intended to reduce fuel use and GHG emissions from medium- and heavy-duty vehicles, semi-trucks, pickup trucks and vans, and all types and sizes of work trucks and buses. The project construction and operational analysis includes the benefit of reductions from these programs.
CARB In-Use On-Road Heavy-Duty Diesel Vehicles Regulation	*Consistent.* This regulatory program applies to vehicle manufacturers, and not directly to land use development. That being said, the vehicles operated during project construction and operations would benefit from and be consistent with this regulatory program in the form of reduced GHG emissions from the vehicle fleet.
Energy Use	
California Title 20 Standards Appliance Energy Efficiency Standards	*Consistent.* The project would result in new land use development that would be outfitted with appliances that accord to the CEC's Title 20 standards to the extent required by law.
California Title 24, Part 6 Standards Building Energy Efficiency Standards	*Consistent.* The project would design and construct buildings that accord to the CEC's 2016 Title 24 standards to the extent required by law.
California Title 24, Part 11 Standards Green Building Standards Code	*Consistent.* The development facilitated by the project would comply with CALGreen as a matter of law.

Regulatory Program	Project Consistency Analysis
California Senate Bill X1-2 Renewable Portfolio Standards	*Consistent.* This regulatory program applies to investor-owned utilities, electric service providers, and community choice aggregators, and not directly to land use development. That being said, the project would benefit from and be consistent with this regulatory program in the form of reduced GHG emissions from building energy consumption. The project would purchase electricity from Southern California Edison, which is required to procure 20% and 33% of retail sales from renewable energy resources by 2013 and 2020, respectively.
Water Supply, Treatment and Distribution	
Senate Bill X7-7 Water Use Efficiency Program	*Consistent.* This regulatory program is implemented through the California Department of Water Resources and urban water suppliers, not land use developers. The project would accord to water conservation objectives through use of the latest water-efficiency technologies, including those relating to water-conserving plumbing fixtures, weather-sensitive irrigation controls, drought-tolerant landscaping palettes, and the use of recycled water for irrigation purposes.
Executive Order B-29-15	*Consistent.* Mandatory water reductions are implemented via Executive Order B-29-15 and a regulatory framework developed by the State Water Resources Control Board. These regulatory programs apply to urban water suppliers, not land use developers. The project would accord to water conservation objectives through use of the latest water-efficiency technologies, including those relating to water-conserving plumbing fixtures, weather-sensitive irrigation controls, drought-tolerant landscaping palettes, and the use of recycled water for irrigation purposes.
California Title 24, Part 11 Standards Green Building Standards Code	*Consistent.* The project would comply with CALGreen as a matter of law. The use of water-saving design elements (such as water-efficient toilets/urinals and faucets) would allow the project to comply with required 20% reduction in indoor potable water use.
Solid Waste	
California Assembly Bill 341 Mandatory Commercial Recycling	*Does not apply.* This regulatory program applies to commercial businesses and local land use jurisdictions, not land use developers. That being said, any businesses located in the project would be required to comply with the program to the extent required by law; the project would not hinder implementation of the program.
General	
California Cap-and-Trade Regulation	*Does not apply.* This regulatory program does not classify land use development as a covered entity. That being said, implementation of the regulatory program serves to reduce emissions at sources that are indirectly related to land use development (e.g., transportation fuel refineries).

Notes: CARB = California Air Resources Board; ATCM = Airborne Toxic Control Measure; GHG = greenhouse gas; CEC = California Energy Commission; CALGreen = California Green Building Standards.

CARB's Scoping Plan

The Scoping Plan (approved by CARB in 2008 and updated in 2014 and 2017) provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs (CARB 2008, 2014, 2017). The Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations.[5] It does provide recommendations for lead agencies to develop evidence-based numeric thresholds consistent with the Scoping Plan, the State's long-term GHG goals, and climate change science. Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-global warming

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[5] The Final Statement of Reasons for the amendments to the State CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (California Natural Resources Agency 2009).

potential GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that would be adopted to reduce California's GHG emissions. Table 13 highlights measures that have been, or would be, developed under the Scoping Plan and presents the project's consistency with Scoping Plan measures. The project would comply with all regulations adopted in furtherance of the Scoping Plan to the extent required by law and to the extent that they are applicable to the project.

Table 13. Project Consistency with CARB's Scoping Plan

Scoping Plan Measure	Measure Number	Project Consistency Analysis
Transportation Sector		
Advanced Clean Cars	T-1	*Consistent.* The project's employees and customers would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Low Carbon Fuel Standard	T-2	*Consistent.* Motor vehicles driven by the project's employees and customers would use compliant fuels.
Last-Mile Delivery	N/A	*Consistent.* The location of the project would support this measure with locating distribution closer to the end user.
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction	T-6	*Consistent.* The project would comply with the cargo handling equipment and would not include cold storage.
Heavy-Duty Vehicle GHG Emission Reduction • Tractor-Trailer GHG Regulation • Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	T-7	*Consistent.* The project would include heavy-duty vehicles that are subject to this measure.
Medium and Heavy-Duty GHG Phase 2	N/A	*Consistent.* The project would include heavy-duty vehicles that are subject to this measure.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	*Consistent.* The project would be constructed in accordance with CALGreen and Title 24 building standards.
Energy Efficiency (Natural Gas)	CR-1	*Consistent.* The project would be constructed in accordance with CALGreen and Title 24 building standards.
Renewables Portfolio Standard (33% by 2020)	E-3	*Consistent.* The project would procure electricity from SCE who is in compliance with this measure.
Renewables Portfolio Standard (50% by 2050)	N/A	*Consistent.* The project would procure electricity from SCE who is on trajectory to be compliance with this measure.

Scoping Plan Measure	Measure Number	Project Consistency Analysis
Water Sector		
Water Use Efficiency	W-1	*Consistent.* The project would be constructed in accordance with CALGreen and Title 24 building standards.
Recycling and Waste Management Sector		
Mandatory Commercial Recycling	RW-3	*Consistent.* The project would include recycling during both construction and operation.

Source: CARB (2008, 2014, 2017).

Notes: GHG = greenhouse gas; CARB = California Air Resources Board; VMT = vehicle miles traveled; SB = Senate Bill; N/A = not applicable; SF_6 = sulfur hexafluoride.

Detailed consideration of the CARB Scoping Plan measures, including those not applicable to the project, is provided in Appendix B.

Based on the analysis in Table 13, the project would be consistent with the applicable strategies and measures in the Scoping Plan.

Senate Bill 375 (Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy)

On September 3, 2020, SCAG’s Regional Council unanimously voted to approve and fully adopt Connect SoCal 2020–2045 RTP/SCS (Connect SoCal), and the addendum to the Connect SoCal Program Environmental Impact Report. SCAG’s Connect SoCal is a regional growth-management strategy that targets per-capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region. The SCS integrated land use and transportation strategies that would achieve GHG emissions reduction targets that are forecasted to achieve reduction in GHG emissions to achieve the state’s 2045 GHG reduction goals. The Connect SoCal incorporated local land use projections and circulation networks in city and county general plans. Typically, a project would be consistent with the RTP/SCS if the project does not exceed the underlying growth assumptions within the RTP/SCS. For purposes of this analyses, employment estimates were calculated using average employment density factors reported by SCAG. The SCAG Employment Density Survey (SCAG 2001) reports that in Los Angeles County, for every 1,518 square feet of warehouse use, the median number of jobs supported is one employee.
The project would include approximately 174,000 square feet of warehousing use. Therefore, the estimated number of employees for the project would be approximately 115 persons. The Connect SoCal growth forecast estimated employment of 91,200 jobs in 2016 and 105,200 jobs in 2045, for an annual increase of 483 jobs. As such, the project’s additional 115 jobs would be within the growth forecast of Connect SoCal. Therefore, the project would support the VMT- and GHG-reducing goals of the Connect SoCal.

Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. It charts a path toward a more mobile, sustainable, and prosperous region by making connections between transportation networks, between planning strategies, and between the people whose collaboration can improve the quality of life for Southern Californians. The major goals of the Connect SoCal are outlined in Table 14, along with the project’s consistency with them.

Table 14. Project Consistency with the SCAG Connect SoCal RTP/SCS

RTP/SCS Measure	Project Consistency Analysis
Encourage regional economic prosperity and global competitiveness.	*Consistent.* The project would create up to 115 jobs.
Improve mobility, accessibility, reliability, and travel safety for people and goods.	*Does not apply.* The project would not inhibit SCAG from strengthening the regional transportation network for goods movement.
Enhance the preservation, security, and resilience of the regional transportation system.	*Does not apply.* The project would not inhibit SCAG from enhancing the resilience of the regional transportation system.
Increase person and goods movement and travel choices within the transportation system.	*Consistent.* The project would increase the regional goods movement capacity.
Reduce greenhouse gas emissions and improve air quality.	*Consistent*. The project would result in criteria air pollutant and GHG emissions during construction and operation. However, emissions would not exceed the SCAQMD significance thresholds.
Support healthy and equitable communities.	*Does not apply*. The project would not inhibit SCAG from supporting healthy and equitable communities.
Adapt to a changing climate and support an integrated regional development pattern and transportation network.	*Does not apply*. The project would not inhibit SCAG from adapting to a changing climate.
Leverage new transportation technologies and data-driven solutions that result in more efficient travel.	*Does not apply.* The project would not inhibit SCAG from leveraging technology for the transportation system.
Encourage development of diverse housing types in areas that are supported by multiple transportation options.	*Does not apply.* The project would not inhibit SCAG from encouraging development of diverse housing types.
Promote conservation of natural and agricultural lands and restoration of habitats.	*Consistent*. The project would not impact natural lands during construction or operation. The project site is currently vacant and undeveloped but disturbed.

Source: SCAG (2020a).

Note: SCAG = Southern California Association of Governments; GHG = greenhouse gas; SCAQMD = South Coast Air Quality Management District.

As shown in Table 14, the project would be consistent with all applicable measures within the SCAG Connect SoCal RTP/SCS.

City of Santa Clarita General Plan

The City's General Plan defines a local threshold of significance for GHG emissions for project-level submittals that trigger CEQA review (City of Santa Clarita 2011a). Because goals, objectives, and policies approved under the General Plan are forecast to meet the GHG emission reduction targets mandated by AB 32 and SB 32, development projects that are able to demonstrate consistency with the General Plan would by association demonstrate consistency with AB 32. Table 15 illustrates that the project would be consistent with the City's General Plan.

Table 15. Project Consistency with Applicable Greenhouse Gas Policies of the General Plan

Objective/Policy	Project Consistency Analysis
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.	*Consistent.* The project would be built to meet the state's 2019 Green Building Standards in accordance with Section 25.01.010 of the City's building code.

Objective/Policy	Project Consistency Analysis
Policy CO 8.3.5: Encourage on-site solar generation of electricity in new retail and office commercial buildings and associated parking lots, carports, and garages, in concert with other significant energy conservation efforts.	*Does not apply.* The project is not an office commercial building.
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.	*Consistent.* The project would include trees and landscaping that would provide shade to reduce heating and cooling energy loads.
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.	*Consistent.* The project would include energy efficient appliances, high-efficiency lighting, and solar panels. The project would be built to meet the City's 2019 Green Building Standards.
Policy CO 8.3.9: Limit excessive lighting levels and encourage a reduction of lighting when businesses are closed to a level required for security.	*Consistent.* The project would include high-efficiency lighting and outdoor lighting would be used minimally to illuminate the project site for safety and security.

Source: City of Santa Clarita (2011a)

Summary

As discussed, the project is consistent with the GHG emission reduction measures in the CARB Scoping Plan and would not conflict with the state's trajectory toward future GHG reductions. In addition, since the specific path to compliance for the state in regard to the long-term goals would likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the project would be speculative and cannot be identified at this time.
The project's consistency would assist in meeting the City's contribution to GHG emission reduction targets in California. With respect to future GHG targets under SB 32 and Executive Order S-03-05, CARB has also made clear its legal interpretation is that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet SB 32's 40% reduction target by 2030 and Executive Order S-03-05's 80% reduction target by 2050; this legal interpretation by an expert agency provides evidence that future regulations would be adopted to continue the state on its trajectory toward meeting these future GHG targets. Based on the considerations previously outlined, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, the project's impact associated with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs would be *less than significant*.

Conclusion

The project would not result in a significant adverse impact to greenhouse gas emissions; no mitigation measures are required.

IX. Hazards and Hazardous Materials

Environmental Issues		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
(b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
(c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	☒	☐
(d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
(e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project site?	☐	☐	☐	☒
(f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
(g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

Setting

The project site was formerly occupied by a powder processing and storage facility, in which explosive chemical powders (ordnances) were stored in magazines and various bunkers on-site. The site was previously developed with an approximate 2,150-square-foot operations building in the eastern portion, a gravel-covered access road to the southeast of the operations building, a portion of an unnamed concrete-paved stormwater channel in the northeastern corner, and ordnance bunkers that were located in the northern and western portions. The operations building was divided into ordnance testing rooms in the western portion, a laboratory area in the central portion, and a hazardous materials storage room and two restrooms in the eastern portion (AECOM 2021). The project site is also located just north of the Whittaker-Bermite facility which historically manufactured and tested explosives and is one of the largest perchlorate cleanups in Southern California.

Based on the project site's former use and its proximity to the Whittaker-Bermite facility, a number of documents related to historical environmental assessments and investigations conducted at the site were reviewed and the results summarized in the *Technical Review Memorandum and Summary of Environmental Activities Pacific Industrial Warehouse* (Environmental Activities Technical Memorandum), dated September 23, 2022, prepared by Ninyo and Moore Geotechnical and

Environmental Sciences Consultants (Ninyo and Moore) (Appendix F). The results and recommendations of this review are provided in the following analysis.

Environmental Evaluation

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 with Mitigation Incorporated. Construction activities associated with the project would involve the routine transport, use, or disposal of hazardous materials such as fuels, lubricants, paints, and solvents associated with construction vehicles, equipment, and supplies. The project would require heavy equipment (e.g., dozers, excavators, tractors) operation at the project site during construction. Heavy equipment is typically fueled and maintained by petroleum-based substances such as diesel fuel, gasoline, oil, and hydraulic fluid, which is considered hazardous if improperly stored or handled. Improper use, storage, or transportation of hazardous materials can result in accidental releases or spills, potentially posing health risks to workers, the public, and the environment. This is a standard risk on all construction sites, and there would be no greater risk for improper handling, transportation, or spills associated with the project than would occur on any other similar construction site. Construction contractors would be required to comply with all applicable federal, state, and local laws and regulations regarding the transport, use, and storage of hazardous construction-related materials. Relevant state regulations include the California Occupational Safety and Health Administration (Cal/OSHA), CCR Title 8, which establishes occupational health and safety standards related to employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings. CCR Title 8 also requires the construction contractor to implement a communication program that includes label warnings, safety data sheets, and information and training for workers about the chemicals to which they could be exposed. Relevant local requirements include Section 10.04.070 of the City Municipal Code, which identifies construction stormwater measures that would be implemented prior to and during construction.

Construction activities would also involve the excavation of soil; ground-disturbing activities associated with project construction include grading approximately 190,000 cubic yards of cut and approximately 190,000 cubic yards of fill, with the bulk of the hillsides on the western side of the site to be cut while fill would generally be placed in the existing canyon areas in the eastern portion of the site. Based on previous the environmental assessments and investigations prepared for the project as summarized in the findings of the Environmental Activities Technical Memorandum prepared by Ninyo and Moore (2022), no Recognized Environmental Conditions (RECs), historical RECs, or vapor encroachment conditions were found in connection with the site (Ninyo and Moore 2022). In addition, there were no significantly elevated concentrations of metals, perchlorate, or VOCs in the project soils and no detections of VOCs above laboratory reporting limits in the soil vapor. A Preliminary Endangerment Assessment-Human Health Risk Assessment (PEA) was also conducted, which concluded that the cancer risk from contact with soil was less than the de minimis or insignificant level for residential and commercial use. Furthermore, the PEA showed that soil poses no health risks via ingestion, direct dermal contact, or inhalation, and surface water runoff or groundwater infiltration containing chemicals of potential concerns from soil would not likely be expected to pose any health risks (AECOM 2021). Based on the results of the PEA, the Department of Toxic Substances Control (DTSC) issued a no further action determination for the site on January 20, 2022 and determined that the project site suitable for unrestricted use.

Given the amount of cut and fill required for project site grading and the past uses on the project site, it is possible that contaminated soils would have the potential to create a hazard to workers at the site during construction activities and impacts could be potentially significant. Implementation of Mitigation

Measure HAZ-1 would include the preparation of a Soil Management Plan to identify the protocols for excavation, temporary stockpiling, handling, and disposal of impacted soil that may be encountered at the project site. The Soil Management Plan would also provide guidance for monitoring requirements to be followed during excavation activities, stockpiling procedures, excavated soil waste characterization requirements, soil disposal requirements based on waste characterization, sampling and analyses requirements in the event impacted soil is detected, soil screening levels, and regulatory reporting requirements.

With adherence to applicable federal, state, and local laws and regulations regarding the transport, use, and storage of hazardous construction-related materials as well as implementation of Mitigation Measure HAZ-1, construction-related impacts associated with the routine transport, use, or disposal of hazardous materials would be *less than significant with mitigation incorporated*.

Operation

The future building occupant(s) for the project site are not yet identified; however, the project is designed for warehouse distribution occupants and it is possible that hazardous materials could be used during the course of a future building user's daily operations. State and federal Community-Right-to- Know laws allow the public access to information about the amounts and types of chemicals in use at local businesses. Laws also are in place that requires businesses to plan and prepare for possible chemical emergencies. Any business that occupies a building on the project site and that handles hazardous materials (as defined in Section 25500 of California Health and Safety Code, Division 20, Chapter 6.95) requires a permit from the Los Angeles County Fire Department Health Hazardous Materials Division in order to register the business as a hazardous materials handler. Such businesses also are required to comply with California's Hazardous Materials Release Response Plans and Inventory Law, which requires immediate reporting to the County of Los Angeles Fire Department and the State Office of Emergency Services regarding any release or threatened release of a hazardous material, regardless of the amount handled by the business. In addition, any business handling at any one time, greater than 500 pounds of solid, 55 gallons of liquid, or 200 cubic feet of gaseous hazardous material, is required, under AB 2185, to file a Hazardous Materials Business Emergency Plan. This type of emergency plan is a written set of procedures and information created to help minimize the effects and extent of a release or threatened release of a hazardous material. The intent of the Hazardous Materials Business Emergency Plan is to satisfy federal and state Community Right-To-Know laws and to provide detailed information for use by emergency responders. If businesses that use or store hazardous materials occupy the project, the business owners and operators would be required to comply with all applicable federal, state, and local regulations to ensure proper use, storage, use, emission, and disposal of hazardous substances (as described above).

With mandatory regulatory compliance, the project is not expected to pose a significant hazard to the public or the environment through the routine transport, use, storage, emission, or disposal of hazardous materials, nor would the project increase the potential for accident conditions which could result in the release of hazardous materials into the environment. Operational 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. As discussed above under Threshold IX(a), the transport, use, and handling of hazardous materials on the project site during construction is a standard risk on all construction sites, and there would be no greater risk for upset and accidents than would occur on any other similar construction site. Upon buildout, the project site would operate as a warehouse facility. Based on the operational characteristics of warehouse facilities, it is possible that hazardous materials could be used during the course of a future occupant's daily operations; however, as discussed above under Threshold IX(a), the Applicant would be required to comply with all applicable local, State, and federal regulations related to the transport, handling, and usage of hazardous material. Accordingly, impacts associated with the accidental release of hazardous materials during both construction and long-term operation of the project would be *less than significant*.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Less than Significant Impact. There is one school located within 0.25 mile of the project site. The CalKids Learning Academy is a private school for preschool through sixth grade-aged students and is located approximately 0.20 mile northwest of the project site.

As described above under the analysis for Thresholds IX(a) and (b), the use of, transport of, and handling of hazardous substances or materials to-and-from the project site during construction and long-term operational activities would be required to comply with applicable federal, state, and local regulations that would preclude substantial public safety hazards. Accordingly, there would be no potential for existing or proposed schools to be exposed to substantial safety hazards associated with emission, handling of, or the routine transport of hazardous substances or materials to and from the project site, and impacts would be *less than significant*.

Refer to Section III, Air Quality, for analysis pertaining to human health risks associated with air pollutant emissions associated with the project. As concluded in Section III, the project's toxic air contaminant emissions (and their associated health risks) would be *less than significant*.

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

Less than Significant Impact. The Phase I ESAs prepared for the project site included a search of regulatory databases, including Los Angeles County Fire Department Certified Unified Program Agency (CUPA), DTSC's EnviroStor database (EDR), California EPA's State Water Resources Control Board (SWRCB) GeoTracker database, and the federal EPA's Superfund Enterprise Management System (SEMS), Enforcement and Compliance History Online (ECHO), and Envirofacts databases. The project site is listed as generating hazardous wastes including other inorganic solids, off specification, aged or surplus organics, aqueous solution with total organic residues less than 10%, corrosive waste, reactive waste, lead, methyl ethyl ketone, spent halogenated solvents, and spent non-halogenated solvents for the years 2011 through 2015 (AECOM 2017). In 2013, the subject property was identified as a small quantity handler of hazardous waste with no history of violations. According to the SEMS database, in 2002 the project site was included in a preliminary assessment as part of a larger area of study in Santa Clarita. Results of the preliminary assessment indicated that the project site was low priority for further assessment. The project site was not listed in a contamination-related database (AECOM 2017).

It is noted that the Whittaker-Bermite property located at 22116 Soledad Canyon Road is approximately 1 mile west of the project site. This site is listed in the Calsites Database (CA HIST Cal-Sites), State Response Sites (CA RESPONSE), DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) EnviroStor (CA ENVIROSTOR), Leaking Underground Storage Tank (CA LUST), Hazardous Wastes and Substances Site List (CA Cortese), and CA HAZNET databases (AECOM 2017). The Whittaker-Bermite facility is an approximately 996-acre site that formerly manufactured and tested munitions. This site has undergone numerous investigations and cleanups from the mid-1980s through the present. The site has been divided into seven operable units (OUs), the nearest of which is OU6 Area 317 located approximately 3,700 feet (0.7 mile) south-southwest of the subject property. OU6 Area 317 was a surface impoundment used for byproduct disposal prior to 1983. In 2008, the human exposure pathway was controlled and in 2012, groundwater migration pathway was deemed controlled. Groundwater monitoring at the facility remains ongoing. Based on environmental review and analysis of the site data, this site is not a REC (AECOM 2017).

No additional off-site sources of concern were identified during regulatory research of the surrounding area in 2017 (AECOM 2017). The project site is not included on any other list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Impacts would be *less than significant.*

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project site?

No Impact. The nearest airport is Whiteman Airport, located approximately 11.4 miles to the southeast of the project site. The project site is not located within 2 miles of a public use airport, nor is it located within an airport land use plan. In addition, according to correspondence between the City and the Applicant, the City confirms the proposed building roof elevation would not conflict with the helicopter flight path (Santa Clarita Valley Sheriff's Station 2021). Therefore, the project would not result in a safety hazard or excessive noise related to airports. *No impact* would occur.

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

Less than Significant Impact. The City's General Plan and the County of Los Angeles Operational Area Disaster Route map for the City designate Interstate 5 (I-5), State Route (SR-) 14 and SR-126 as emergency evacuation routes (County Public Works 2010). The project site is not located within the immediate vicinity of these evacuation routes and is not expected to disrupt evacuation procedures along these highways. The County designates Golden Valley Road, which parallels the project site to the east, as a secondary evacuation route (County Public Works 2010).

Construction activities would not block or interfere with access to Golden Valley Road. No equipment or other physical barriers would be placed within or near the right-of-way and no lane or roadway closure would occur during construction. As described in Section XVII, Transportation, project-generated traffic would not substantially adversely affect the performance of nearby roadways, including Golden Valley Road. Therefore, emergency service response times and disaster evacuation routes would not be affected. Prior to operation, the project would receive all required permits and certificates for occupancy and operation, including those issued by the City Department of Building and Safety. Therefore, the project would not substantially interfere with or impair local emergency response or emergency evacuation plans, and impacts would be *less than significant.*

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

Less than Significant Impact. The entire project site is located within a Very High Fire Hazard Severity Zone (FHSZ) (California Department of Forestry and Fire Protection Fire and Resource Assessment Program [FRAP] 2022; City of Santa Clarita 2020). The project would be designed to comply with all fire safety rules and regulations, including the California Fire Code and Public Resources Code. Additionally, the Los Angeles County Fire Department would review the project site plans prior to issuance of building permits. Therefore, impacts would be *less than significant.* For additional wildfire analysis, please refer to Section XX, Wildfire, below.

Conclusion

With implementation of Mitigation Measure HAZ-1, impacts related to Hazards and Hazardous Materials would be *less than significant*.

Mitigation Measures

HAZ-1 **Soil Management Plan**: The developer and/or project contractor shall prepare and implement a Soil Management Plan (SMP) for the removal of any identified contaminated soils and their transportation off-site. The Soil Management Plan shall be prepared in coordination with the City and the Los Angeles County Fire Department (as the Certified Unified Program Agency) and in accordance with all relevant and applicable federal, state, and local laws and regulations that pertain to the transportation and disposal of hazardous materials and waste. The Soil Management Plan shall:

- describe the methodology to identify and manage (reuse or off-site disposal) contaminated soil during soil excavation and/or construction; and
- provide protocols for confirmation sampling, segregation and stockpiling, profiling, backfilling, disposal, guidelines for imported soil, and backfill approval from the DTSC Information Advisory on Clean Imported Fill Material.

The Soil Management Plan shall be implemented during project construction.

X. Hydrology and Water Quality

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

Setting

The State of California fulfills its responsibility for protection of the quality of water resources through the SWRCB and the RWQCBs. The RWQCBs establish requirements prescribing the quality of point sources of waste discharge, including discharges of municipal wastes, individual industrial waste discharges, and solid waste disposal sites. The project site is located within the Eastern Hydrologic Subarea of the Upper Santa Clara River watershed of Los Angeles County and is regulated by the Los Angeles RWQCB. The Los Angeles RWQCB has prepared the Water Quality Control Plan for the Los Angeles Basin (Basin Plan) (Los Angeles RWQCB 2014). The Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. The Basin Plan 1) identifies beneficial uses for surface water and groundwater, 2) includes the narrative and numerical water quality objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy, and 3) describes implementation programs and other actions that are necessary to achieve the water quality objectives established in the Basin Plan.

Groundwater supply in the region is currently drawn from the Santa Clara River Valley East Groundwater Basin (California Department of Water Resources [DWR] 2018). The Santa Clara River Valley East groundwater subbasin is located in the central-western portion of Los Angeles County. The subbasin is bound on the north by the Piru Mountains and on the east and southeast by the San Gabriel Mountains. The Santa Susana Mountains bound the south side of the subbasin. The subbasin is bound on the west by the Modelo Formation and the Saugus Formation. The area overlying the basin is drained by the Santa Clara River, Bouquet Creek, and Castaic Creek. Average annual precipitation ranges from 14 to 16 inches (DWR 2018). According to the Geotechnical Plan Review prepared for the project (see Appendix A), groundwater was not encountered at the project site and is at an elevation that is more than 140 feet above the nearest historic high groundwater contour (RTF&A 2021). The nearest historic high groundwater contour in the vicinity of the project site corresponds to a depth of 15 feet bgs and lies along the alignment of Soledad Canyon Road, about 0.75 mile north of the project site (RFT&A 2021).

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

Less than Significant Impact. The project would be required to comply with Section 402 of the Clean Water Act, which authorizes the National Pollution Discharge Elimination System (NPDES) permit program that covers point sources of pollution discharging to a water body. The NPDES program also requires operators of construction sites 1 acre or larger to prepare a SWPPP and obtain authorization to discharge stormwater under an NPDES construction stormwater permit. The Applicant also would be required to comply with the California Porter-Cologne Water Quality Control Act (Section 13000 et seq., of the California Water Code), which requires that comprehensive water quality control plans be developed for all waters within the state of California. The project site is located within the jurisdiction of the Los Angeles RWQCB.

Construction

Construction of the project would involve clearing, grading, paving, utility installation, building construction, and landscaping activities. Construction activities would result in the generation of potential water quality pollutants such as silt, debris, chemicals, paints, and solvents, and other chemicals with the potential to adversely affect water quality. As such, short-term water quality impacts have the potential to occur during construction of the project in the absence of any protective or avoidance measures.

Pursuant to the requirements of the Los Angeles RWQCB and the City of Santa Clarita (Municipal Code Chapter 17.90), the project would be required to obtain coverage under the State's General Construction Storm Water Permit (NPDES permit). The NPDES permit is required for all projects that include construction activities, such as clearing, soil stockpiling, grading, and/or excavation that disturb at least 1 acre of total land area. In addition, the project would be required to comply with the Los Angeles RWQCB's Basin Plan. Compliance with the NPDES permit and Los Angeles RWQCB's Basin Plan involves the preparation and implementation of a SWPPP for construction-related activities, including grading. The SWPPP specifies the best management practices (BMPs) that the project would be required to implement during construction activities to ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property. Examples of BMPs that may be used during construction include, but are not limited to, sandbag barriers, geotextiles, storm drain inlet protection, sediment traps, rip rap soil stabilizers, and hydro-seeding. Mandatory compliance with the SWPPP would ensure that the project's construction does not violate any water quality standards or waste discharge requirements. Therefore, water quality impacts associated with construction activities would be *less than significant*.

Operation

Following construction, the amount of impervious surface area within the project site would increase substantially. The impervious area would increase the volume and flow rate of stormwater conveyed through the Municipal Separate Storm Sewer System (MS4) and discharged into surface water bodies. Because operation of the project would introduce sources of potential water pollution that are typical of industrial developments (e.g., bacterial indicators, metals, nutrients, pesticides, toxic organic compounds, sediments, trash and debris, and oil and grease), project operations could adversely affect water quality. Stormwater runoff from precipitation events could also potentially carry urban pollutants (e.g., bacterial indicators, metals, nutrients, pesticides, toxic organic compounds, sediments, trash and debris, and oil and grease) into the MS4.

The project site would include a network of storm drain facilities. To minimize potential water quality impacts associated with MS4 discharges, the project would comply with Zoning Code Chapter 17.95, which contains provisions aimed at lessening water quality impacts of development by using smart growth practices and integrating low-impact development (LID) design principles to mimic predevelopment hydrology through infiltration, evapotranspiration and rainfall harvest, and use.
To comply with these provisions, the project includes the installation of two water quality basins designed to temporarily impound runoff to reduce the peak rate of runoff to the MS4. The water quality basin would be designed to meet the County's primary standard of capturing the volume of runoff generated from the 85th percentile storm event, with 1 inch of rainfall. Compliance with applicable regulations and the installation of LID features would reduce operation-related impacts on water quality to *less than significant*.

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

Less than Significant Impact. The project would increase impervious surface area on the site, which could reduce the amount of water percolating down into the underlying groundwater basin at the project site. According to the Geotechnical Plan Review prepared for the project (see Appendix A), groundwater was not encountered at the project site and the project site is at an elevation that is more than 140 feet above the nearest historic high groundwater contour (RTF&A 2021). As noted above, the nearest historic high groundwater contour in the vicinity of the project site corresponds to a depth of 15 feet bgs and lies along the alignment of Soledad Canyon Road, about 0.75 mile north of the project site (RFT&A 2021). Given these findings, groundwater is not expected to be encountered at the project site and project construction would not impact groundwater supplies.

Implementation of the project would result in the installation of LID features, including two proposed water quality detention basins, and landscaping which would capture stormwater runoff to the 85th percentile storm event, resulting in increased infiltration and groundwater recharge. The project site's landscaped areas would also facilitate groundwater recharge. Precipitation in excess of the 85th percentile rain event would be discharged via the MS4 and would ultimately be conveyed into the Santa Clara River, which is composed of sandy/cobbly river bottom sediments and is highly permeable. Therefore, the project would not substantially interfere with groundwater recharge.

Therefore, the project would not substantially decrease groundwater supplies and would not impede sustainable groundwater management of the basin 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 or through the addition of impervious surfaces, in a manner which would:

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

Less than Significant Impact. The project would result grading of the entire project site and construct a 174,000-square-foot warehouse facility, which would change the site's existing ground contours and alter the existing drainage patterns interior to the project site. However, upon buildout of the project, stormwater flow generated on the project site would continue to be conveyed to the existing storm drain of the eastern project site boundary.

Although the project would alter the subject property's internal drainage patterns, such changes would not result in substantial erosion or siltation on- or off-site. Under post-development conditions, a majority of the site would be covered with impervious surfaces and, therefore, the amount of exposed soils on the project site would be minimal. Also, as discussed under Threshold X(a), the project would construct an integrated storm drain system on-site with BMPs to minimize the amount of water-borne pollutants carried from the project site. The BMPs proposed by the project, including two water quality detention basins, are highly effective at removing sediment from stormwater runoff flows. Therefore, stormwater runoff flows leaving the project site would not carry substantial amounts of sediment. Once stormwater runoff leaves the project site, it would be discharged into an existing storm drain located immediately northeast of the site. Because there are no exposed soils at the project's discharge points, there is no potential for the project's stormwater runoff to result in erosion as it leaves the project site. Accordingly, the project would not result in substantial erosion or siltation on- site or off-site, and impacts would be *less than significant*.

c-ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

Less than Significant Impact. As described above under Threshold X(c(i)), proposed grading and earthwork activities on the project site would alter the site's existing drainage patterns but would not substantially alter the drainage pattern of the local area. The project would substantially increase impervious surfaces within the project site, which would increase the rate and volume at which water is discharged through the MS4. However, the project is subject to the City's LID Ordinance and development standards that require stormwater to be managed on-site, without impact to downstream flows. To comply with this ordinance, the project would install two water quality detention basins designed to temporarily impound runoff to reduce the peak rate of runoff to the MS4, along with increasing infiltration of groundwater. The water quality detention basins would be designed to meet the County's primary standard of capturing the volume of runoff generated from the 85th percentile storm event. The project's drainage plan is required to be reviewed and approved by County Public Works, which would assure no increase in runoff. Therefore, implementation of the project would not substantially increase the rate or amount of surface water runoff discharged from the site in a manner that would result in flooding on- or off-site. Impacts would be *less than significant*.

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

Less than Significant Impact. The project would substantially increase impervious surfaces within the project site. Impervious surfaces would increase the rate and volume at which water is discharged through the MS4. However, the project is subject to the City's LID ordinance and development standards that require stormwater to be managed on-site, without impact to downstream flows. To comply with this ordinance, the project includes two water quality detention basins that are designed to temporarily impound runoff to reduce the peak rate of runoff to the MS4, along with increasing infiltration of groundwater. The water quality detention basins would be designed to meet the County's primary standard of capturing the volume of runoff generated from the 85th percentile storm event. Therefore, impacts to surface runoff would be *less than significant*.

c-iv) Impede or redirect flood flows?

No Impact. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06037C0817G, the project site is located within Zone X (FEMA 2021). The Zone X designation represents areas of minimal flood hazard and is not considered a special flood hazard area. Accordingly, the project site is not expected to be inundated by flood flows during the lifetime of the project and the project would not impede flood flows. *No impact* would occur.

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

Less than Significant Impact. The Pacific Ocean is located over 26 miles southwest of the project site; consequently, there is no potential for the project site to be impacted by a tsunami, as tsunamis typically only reach up to a few miles inland. The nearest large body of water to the project site is Upper Van Norman Lake, with the dam located approximately 7.2 miles southeast of the project site. According to City of Santa Clarita General Plan Figure S-4, Special Flood Hazard Areas and Dam Inundation Areas, the project site is not located in an identified inundation area (City of Santa Clarita 2021); therefore, risk of inundation by dam failure or seiche is low. Additionally, there are no levees in the vicinity of the project site. Impacts would be *less than significant*.

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

Less than Significant Impact. Water quality control plans applicable to the project include the Los Angeles Regional Water Quality Control Board (LARWQCB) Water Quality Control Plan (Los Angeles RWQCB 2014), Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan), and the City's Water Quality Report (SVC Water 2022). Adopted by LARWQCB, the Basin Plan designates beneficial uses for surface waters and groundwater, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy, and describes implementation programs to protect all waters in the Los Angeles region. In addition, the Basin Plan incorporates (by reference) all applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. The City's Water Quality Report was developed by the Santa Clarita Valley Water Agency (SCV Water) with the primary mission of providing responsible water stewardship to ensure the Santa Clarita Valley has reliable supplies of high-quality water at a reasonable cost (SVC Water 2022).

As previously discussed, the project would comply with applicable water quality regulatory requirements, including the implementation of a SWPPP, stormwater BMPs, and LID design, which would include the installation of water quality detention and debris basins to minimize potential off-site surface water quality impacts and contribute to a reduction in water quality impacts within the overall Santa Clara River watershed. Compliance with these regulatory requirements and implementation of the LID features would reduce potential water quality impairment of surface waters and would not adversely affect beneficial uses of surface water drainages (including the Santa Clara River) within the Basin Plan area.

With respect to groundwater management, groundwater supply in the region is currently drawn from the Santa Clara River Valley East Groundwater Basin (DWR 2018). In accordance with the California

Groundwater Sustainability Management Act (SGMA), the Santa Clara River Valley Water Agency is the Groundwater Sustainability Agency (GSA) for this groundwater basin. The GSA adopted the Groundwater Sustainability Plan (GSP) which implements strategies to reduce future groundwater demand through development of management strategies such as recycled water programs (SCV GSA 2022). Additionally, the project's induced employment growth is within the projection parameters provided in the 2020 Urban Water Management Plan (UWMP; SCV Water 2021). Therefore, the project would not substantially decrease groundwater supplies and would not impede sustainable groundwater management of the basin. Therefore, impacts would be *less than significant*.

Conclusion

The project would not result in a significant adverse impact to hydrology and water quality; no mitigation measures are required.

XI. Land Use and Planning

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Physically divide an established community?	☐	☐	☐	☒
(b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Setting

As identified in the City's General Plan, the project site's existing land use designation is Business Park (BP) and the existing zoning designation is Business Park Zone with a Jobs Creation Overlay Zone (JCOZ). The BP designation provides for mixed employment districts in areas accessible to transportation and visible from freeways and major arterials and is intended to promote the development of master-planned environments with a high quality of design and construction. Allowable uses in this designation include offices, medical offices, research and development, light assembly and fabrication, warehousing and distribution, and supportive commercial uses with a maximum floor area ratio (FAR) of 2.0. Land use plans, policies, and regulations applicable to the project site and included in the analysis below include the City of Santa Clarita General Plan and Zoning Ordinance.

Environmental Evaluation

a) Would the project physically divide an established community?

No Impact. Development of the project would not physically disrupt or divide the arrangement of an established community. Under existing conditions, the project site is vacant and undeveloped. The project vicinity is generally characterized by urban land uses, although undeveloped hillsides define the area southwest of the project site. Land uses surrounding the project site include Golden Valley Road and an operational National Technical Systems aerospace testing facility to the east, the Los Angeles County Sheriff's Department station including an operational helicopter pad and the Whittaker-Bermite site, and vacant hillside to the south, and business park buildings to the north and west; therefore, the project would serve as an extension of the existing development patterns in the area and would not divide an established community. *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 project site is subject to the goals and policies City's General Plan and regulations set forth in the City's Zoning Ordinance. A policy consistency analysis of the City's General Plan land use goals and polices is provided in Table 16. This is not an exhaustive list of every goal and policy within the General Plan, but rather reviews those land use policies that are most applicable to the project site. The project's consistency with the City's land use and zoning designations for the project site are also discussed following Table 16.

Table 16. Project Land Use Policy Consistency Evaluation for the City of Santa Clarita General Plan

Applicable Goals, Objectives, and Policies	Consistency Determination
Goal LU 1: An interconnected Valley of Villages providing diverse lifestyles, surrounded by a greenbelt of natural open space.	*Consistent*: The project would develop a currently vacant and undeveloped parcel located along a major arterial (Golden Valley Road) adjacent to existing development of similar and compatible uses. The project site does not include protected resources and existing infrastructure is available to serve the project (Section XIX, Utilities and Service Systems).
Objective LU 1.1: Maintain an urban form for the Santa Clarita Valley that preserves an open space greenbelt around the developed portions of the Valley, protects significant resources from development, and directs growth to urbanized areas served with infrastructure.	
Policy LU 1.1.4: Preserve community character by maintaining natural features that act as natural boundaries between developed areas, including significant ridgelines, canyons, rivers and drainage courses, riparian areas, topographical features, habitat preserves, or other similar features, where appropriate.	*Consistent*: The project would alter the grade and topography of the project site; however, it would be developed in accordance with the City's Municipal Code Section 17.50.020 governing hillside development and would require approval through the City's Hillside Development Review process to ensure the protection of nearby ridgelines. There are no rivers, riparian areas, natural drainage courses, or habitat preserves located on or in the vicinity of the project site.
Policy LU 1.1.5: Increase infill development and re-use of underutilized sites within and adjacent to developed urban areas to achieve maximum benefit from existing infrastructure and minimize loss of open space, through redesignation of vacant sites for higher density and mixed use, where appropriate.	*Consistent*: The project would develop a currently vacant and underutilized property to a use consistent with its planned land use designation and compatible with the surrounding land uses.
Objective LU 1.3: Plan for density and intensity of development that respects and is reflective of the natural terrain.	*Consistent:* While protected ridgelines are visible from the project site, the project would not involve activities within the Ridgeline Protection Overlay Zone and would be developed in accordance with the City's Municipal Code Section 17.50.020 governing hillside development and would require approval through the City's Hillside Development Review process. In addition, the project would be developed in accordance with building height regulations for development in the JCOZ and would not block the views of the protected ridgelines visible southwest of the project site as shown in Figure 5.
Policy LU 1.3.2: Substantially retain the integrity and natural grade elevations of significant natural ridgelines and prominent landforms that form the Valley's skyline backdrop.	
Policy LU 3.3.1: Identify areas subject to hazards from seismic activity, unstable soils, excessive noise, unhealthful air quality, or flooding, and avoid designating residential uses in these areas unless adequately mitigated.	*Consistent.* These topics were reviewed in Section III, Air Quality; Section VII, Geology and Soils; Section X, Hydrology and Water Quality; and Section XIII, Noise. Impacts for all these areas were concluded to be less than significant.

Applicable Goals, Objectives, and Policies	**Consistency Determination**
Goal LU 4: A diverse and healthy economy.	*Consistent:* The project would create employment opportunities in an established employment district within the JCOZ, promoting job creation in an accessible area.
Objective LU 4.2: Promote job creation, focusing on employment generators in the technical and professional sectors.	
Policy LU 4.2.3: Encourage businesses to locate in all appropriate areas of the community to encourage job creation in closer proximity to workforce housing.	*Consistent:* The project would create employment opportunities on a site accessible to nearby residential uses located to the east and to the north along Soledad Canyon Road.
Goal LU 6: A scenic and beautiful urban environment that builds on the community's history and natural setting.	*Consistent.* As concluded in Section I, Aesthetics, the project has been designed to preserve long-range views of nearby protected ridgelines. In addition, the project would be developed in accordance with the City's Municipal Code Section 17.50.020 governing hillside development and would require approval through the City's Hillside Development Review process.
Policy LU 6.1.3: Ensure that new development in hillside areas is designed to protect the scenic backdrop of foothills and canyons enjoyed by Santa Clarita Valley communities, through requiring compatible hillside management techniques that may include but are not limited to clustering of development, contouring and landform grading; revegetation with native plants; limited site disturbance; avoidance of tall retaining and build-up walls; use of stepped pads; and other techniques as deemed appropriate.	
Goal LU 7: Environmentally responsible development through site planning, building design, waste reduction, and responsible stewardship of resources.	*Consistent.* The project would be required to undergo the City's Development Review and Architectural Design Review prior to permitting. The project would also be required to comply with the waste reduction and recycling provisions in Section 15.44.250 of the City's Municipal Code as well as Section 17.51.030, which establishes requirements for landscape design, automatic irrigation system design, and water-use efficiency.
Policy LU 7.1.1: Require shade trees within parking lots and adjacent to buildings to reduce the heat island effect, in consideration of Fire Department fuel modification restrictions.	*Consistent.* The project would provide 194,046 square feet of landscape coverage, which accounts for approximately 35% of the project site. Proposed landscaping would be ornamental in nature and would feature trees, shrubs, and drought-tolerant accent plants in addition to a variety of groundcovers. Landscaping would be massed at driveways, around the warehouse building, and in and around automobile parking areas. Trees, shrubs, and groundcover would be concentrated along the project site's frontage with Golden Valley Road and along the project site's northern, western, and southern boundaries.
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.* As discussed in Section VI, Energy, the project would be required to comply with Title 24 standards, which would ensure that the project's energy demand would not be considered inefficient, wasteful, or otherwise unnecessary.
Policy LU 7.2.3: Require that all new development proposals demonstrate a sufficient and sustainable water supply prior to approval.	*Consistent.* As demonstrated in Section XIX, Utilities and Service Systems, the project would have a sufficient and sustainable water supply.
Goal LU 9: Adequate public facilities and services, provided in a timely manner and in appropriate locations to serve existing and future residents and businesses.	*Consistent.* As demonstrated in Section XV. Public Services, and Section XIX, Utilities and Service Systems, the project would be adequately served by existing public services and utilities.
Objective LU 9.1: Coordinate land use planning with provision of adequate public services and facilities to support development.	

As stated previously, the project site has an existing General Plan land use designation of Business Park (BP) with a corresponding zoning designation of BP in the JCOZ. The BP land use designation is intended to support development that provides for mixed employment districts in areas accessible to transportation and visible from freeways and major arterials and is intended to promote the development of master-planned environments with a high quality of design and construction. Allowable uses in this designation include offices; medical offices, research and development; light assembly and fabrication;

warehousing and distribution; and supportive commercial uses. The BP land use designation also sets forth a maximum FAR of 2.0 for development with an allowable lot coverage of the development site by buildings not exceeding 90% (City of Santa Clarita 2011d). The project proposes an industrial warehouse building, and associated on-site improvements would include 25 docking stations along the southern side of the building, landscaping, paving, parking, and exterior lighting. These uses are consistent with allowable uses in the BP land use designation. The project would have a FAR of 0.31,[6] which is well below the allowed FAR for the BP land use designation and would be developed not to exceed 90% lot coverage, as shown in Figure 3.

As stated in City's Municipal Code, Title 17, Zoning, the BP Zone falls within the Commercial and Industrial zoning definition. Development standards and permitted uses for the BP Zone are outlined in Section 17.34.040 of the Municipal Code. The project site is also located within the JCOZ, which as stated in Municipal Code Section 17.38.015, intends to support the General Plan objective of promoting the creation of strong regional and local economies via the implementation of strategic land use planning policies. As stated previously, the project proposes uses consistent with the permitted uses and development standards set forth in Municipal Code Sections 17.34.040 and 17.38.015. In addition, the project's proposed building would have a maximum building height of 52 feet at its tallest point, which is under the allowable maximum building height of 55 feet for industrial buildings as set forth in Municipal Code Section 17.38.015.

Given the analysis above, the uses proposed by the project are consistent with the current land use and zoning designations set forth in the City's General Plan and Zoning Ordinance. The project would also support the applicable goals, objectives, and policies of the General Plan, as described in Table 16. Therefore, the project would not conflict with land use plans and policies applicable to the project site and impacts would be *less than significant*.

Conclusion

The project would not result in a significant adverse impact to land use and planning; no mitigation measures are required.

XII. Mineral Resources

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

Setting

Mining activities in California are regulated by the Surface Mining and Reclamation Act of 1975. This Act provides for the reclamation of mined lands and directs the State Geologist to classify and map

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[6] FAR calculated as total building floor area (in gross square feet [gsf]) divided by the total lot area (in gross square feet). Total building floor area is 174,000 gsf. Total lot area is approximately 560,767 gsf.

mineral resources to show where economically significant mineral deposits occur or are likely to occur. Areas known as Mineral Resource Zones (MRZs) are classified according to the presence or absence of significant deposits. MRZ-2 areas are underlain by mineral deposits where geologic data indicate that significant measured, or indicated, resources are present.

According to the City's General Plan Conservation and Open Space Element, the project site is not within any MRZ and is not known to have mineral deposits on-site. Additionally, the California Department of Conservation Mineral Land Classification Map shows the project site located within MRZ-3 (an area containing mineral deposits the significance of which cannot be evaluated from available data); thus, significant resources are not known to exist on the project site (CDOC 2021).

Environmental Evaluation

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. A significant impact may occur if a project site is located in an area used or available for extraction of a regionally important mineral resource, or if the project would convert an existing or future regionally important mineral extraction use to another use or would affect access to a site used or available for regionally important mineral resource extraction. According to the CDOC Mineral Land Classification Map, the project site is located within MRZ-3, meaning an area containing mineral deposits the significance of which cannot be evaluated from available data; thus, significant resources are not known to exist on the project site (CDOC 2021). The project site is not designated as a locally important mineral resource recovery site as delineated on a local general plan, specific plan, or other land use plan. No mineral resources are known to exist within the project site and additional development would not result in the loss of availability of known mineral resources or a locally important mineral resource recovery site. Therefore, *no impact* associated with the loss of availability of a known mineral resource 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. The City's General Plan Land Use Element has a Mineral Oil Conservation Area (MOCA) overlay zone which designates areas which have a significant mineral aggregate resource and/or oil fields. The City's Municipal Code Section 17.38.030 has corresponding permitted uses and development standards for areas that fall within the MOCA overlay zone. The project site is not located within the MOCA overlay zone mineral (City of Santa Clarita 2023). The nearest MOCA overlay zones are appropriately 1 mile east and 1.25 miles south of the project site. Since the project site is not located within a MOCA overlay zone and project activities would not occur outside the project site, the project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a general plan, specific plan, or other land use plan. Thus, *no impact* would occur.

Conclusion

The project would not result in a significant adverse impact to mineral resources; no mitigation measures are required.

XIII. Noise

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
(b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
(c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project site to excessive noise levels?	☐	☐	☐	☒

The analysis for this section is based on the following document (included as Appendix G): *Golden Valley Industrial Facility Noise and Vibration Technical Memorandum* (Dudek 2023f; Noise and Vibration Technical Memorandum).

Setting

The project site is located in the city of Santa Clarita and is therefore subject to the noise requirements outlined in the City of Santa Clarita General Plan Noise Element and the City of Santa Clarita Municipal Code. The Noise Element identifies noise-generating uses and activities within city limits, the most dominant of which include major freeways and highways such as I-5, SR 14, and Sierra Highway; arterial streets; railroads; and attractions including Magic Mountain and the former Saugus Speedway (which currently is used for swap meets and special events). The City's Noise Element also identifies future growth and development within city limits as a major contributor to future noise increases, particularly with regard to increases in traffic, and mixed-use development.

Given the nature of the area surrounding the project site, existing ambient noise levels are expected to be in the range of 60 to 65 A-weighted decibels (dBA) day-night average sound level (Ldn)/Community Noise Equivalent Level (CNEL) (Dudek 2023f). The primary noise source in the project vicinity is local and distant traffic noise.

Sensitive receptors near the project site are relatively limited. The nearest noise-sensitive land use is an educational facility (CalKids Learning Academy) located approximately 550 feet from the project site and separated by existing commercial/industrial uses. Additional sensitive receptors are located farther from the project site (such as the City of Santa Clarita Youth Sports Facility and Aquatics Center, located approximately 1,000 feet away) in the surrounding community and would be less impacted by noise and vibration levels than the above-listed sensitive receptor. Other, non-sensitive land uses in the project vicinity include commercial uses to the east, north and west, and the Santa Clarita Sheriff's Station to the south.

Environmental Evaluation

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact. Noise generated by the project would include short-term, on-site construction noise; off-site traffic noise along local roadways in the project site; and long-term on-site operational noise upon project completion. These noise sources are discussed below.

Construction

Construction noise and vibration are temporary phenomena. Construction noise and vibration levels vary from hour to hour and day to day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor. Equipment that would be in use during construction would include, in part, graders, backhoes, concrete saws, rubber-tired dozers, loaders, cranes, forklifts, cement mixers, pavers, rollers, and air compressors. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are provided in Appendix G.

The maximum noise levels at 50 feet for typical construction equipment would be 88 dBA for the equipment typically used for this type of development project, although the hourly noise levels would vary (Dudek 2023f). Construction noise in a well-defined area typically attenuates at approximately 6 decibels (dB) per doubling of distance. Project construction would take place both near and far from adjacent, existing noise-sensitive uses. For example, construction near the western project boundary would take place within approximately 550 feet of a private school (CalKids Learning Academy, the nearest noise-sensitive use) to the west, but during construction of other project components, construction would be as far as 1,200 feet from the school (Dudek 2023f). Most construction activities associated with the project would occur at distances of approximately 850 feet or more from the school, which represents activities both near and far from any one receiver, as is typical for construction projects.

A spreadsheet-based version of the Federal Highway Administration's Roadway Construction Noise Model (2008) was used to estimate construction noise levels at the nearest occupied noise-sensitive land use. Detailed information regarding methodologies used to estimate construction noise levels for the project is provided in Appendix G.

As described in detail in the Noise and Vibration Technical Memorandum (see Appendix G), typical construction noise levels at the nearest noise-sensitive land uses (the private school to the west) are estimated to range from approximately 43 dBA on an 8-hour hourly average (Leq 8-hr) during the architectural coating phase to approximately 57 dBA Leq 8-hr during the demolition phase. As detailed on the worksheets in Attachment A of Appendix G, this 14-dB range of predicted construction noise levels is due to the intensity of construction activity and expected quantities and types of involved construction equipment. Attachment A of Appendix G worksheets also show construction noise level predictions at distances between the noise-sensitive receptor position and the anticipated nearest boundary associated with a construction phase, which are thus shorter than those with respect to the acoustic centroid for the same phase; however, these scenarios assume that equipment would be operating at a range of distances (because not all equipment for a phase would be operating at the same distance simultaneously) and result in levels that would range from approximately 47 dBA Leq 8-hr during the architectural coating phase to approximately 60 dBA Leq 8-hr during the demolition phase (Dudek 2023f). The project's predicted 8-hour Leq values for construction noise level scenarios are well below the Federal Transit Administration (FTA) guidance threshold of 80 dBA. Noise levels at other noise-sensitive receivers in the project vicinity would be lower because these receivers are substantially farther away from the project site.

City Municipal Code Section 11.44.080 does not permit construction work within 300 feet of a residential-zoned property between the hours of 7:00 p.m. and 7:00 a.m., 6:00 p.m. and 8:00 a.m. on Saturdays, at any time on Sundays or on designated public holidays. The project would not conduct noisy construction activities between the specified hours or days, and the estimated noise levels would not exceed the FTA's advisory noise standard of 80 dBA Leq 8-hr. Therefore, the project would not result in generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Short-term noise-related impacts would be *less than significant*.

Off-site Construction Activities

The project would result in local, short-term increases in roadway noise as a result of construction traffic. Based on information developed as part of the project's air quality analysis, project-related traffic would include workers commuting to and from the project site as well as vendor and haul trucks bringing or removing materials. The highest number of average daily worker trips would be 236 trips, occurring during the building construction phase. The highest number of average daily vendor truck trips would be 92 trips, also occurring during the building construction phase. The highest number of total haul truck trips would be 20 trips, occurring during the demolition phase.

Based upon available data provided as part of the project's transportation analysis, Golden Valley Road carries approximately 30,000 daily trips in the project vicinity, and Sierra Highway carries approximately 34,000 daily trips in this area (Dudek 2023f). Comparing the maximum number of daily construction-related trips (236 worker trips and 92 vendor trips) to the average daily traffic volume of the lowest-volume street (30,000 daily trips on Golden Valley Road), the additional vehicle trips would amount to an increase of approximately 1%. Based upon the fundamentals of acoustics, a doubling (i.e., a 100% increase) would be needed to result in a 3-dB increase in noise levels, which is the level corresponding to an audible change to the typical human listener. An increase in traffic volumes on the order of 1% (all other things being equal) would amount to an increase of approximately 0.05 dB.

Therefore, traffic related to construction activities would not result in a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Impacts from project-related construction traffic noise would be *less than significant*.

Operation

Long-term operational noise associated with the project includes on-site operational noise from outdoor mechanical equipment, parking lot activity, and truck yard activity at the proposed loading docks. Project-generated traffic noise off-site is also considered long-term operational noise. Each operational noise source is addressed below.

On-site Operational Noise

OUTDOOR OPERATIONAL EQUIPMENT

The proposed warehouse spaces overall would not be served by heating, ventilation, or air conditioning (HVAC) equipment. However, the floor plans include approximately 9,000 square feet of office and 4,000 square feet of mezzanine space at the project's southeast corner which would be served by HVAC equipment. For the analysis of noise from HVAC equipment operation, a York Model ZF-048 package

HVAC unit was used as a reference (Dudek 2023f). Based upon the square footage of the office and mezzanine spaces (13,000 square feet total), it was assumed that three such units would be required for each of the office areas. The York Model ZF-048 package HVAC unit has a sound power rating of 80 dBA (Johnson Controls 2015). Based on the warehouse roof design information provided, there would be a minimum 3-foot-high parapet extending along the perimeter of the roof, which would minimize sound from the HVAC unit at nearby noise-sensitive land uses. The combined noise levels from the HVAC equipment at the project property lines, the nearest adjacent land uses, and the nearest noise-sensitive land use (the private school) were calculated for the project.

As described in detail in the Noise and Vibration Technical Memorandum (see Appendix G), the maximum hourly noise level (assuming the equipment would run continuously) for the HVAC equipment operating at each examined location would range from approximately 32 dBA Leq at the private school to the west and the northern property boundary of the project site to 39 dBA Leq at the project's southern property boundary. These levels are well below the City's Municipal Code noise standards and are also less than the typical ambient noise levels in the project site. The results of the mechanical equipment operations noise analysis indicate that the project would comply with the City of Santa Clarita Municipal Code noise ordinance. Mechanical equipment operation would result in noise at the project site property boundaries/nearest noise-sensitive receiver boundaries that are less than the applicable noise standards.

Thus, noise from outdoor operational equipment noise would be *less than significant*.

PARKING LOT ACTIVITY

A comprehensive study of noise levels associated with surface parking lots was published in the *Journal of Environmental Engineering and Landscape Management* (Baltrënas et al. 2004). The study found that average noise levels during the peak period of use of the parking lot (generally in the morning with arrival of commuters, and in the evening with the departure of commuters), was 47 dBA at 1 meter (3.3 feet) from the outside boundary of the parking lot. The parking area would function as an area source for noise, which means that noise would attenuate at a rate of 3 dBA with each doubling of distance (Dudek 2023f). Parking lot activity noise levels at each of the four property boundary locations are summarized in Appendix G. The closest employee parking lot to the nearest noise-sensitive receivers (the private school to the west) is proposed to be situated on the north side of the proposed building, no closer than 570 feet from the center of drive-aisle to the private school. At a distance of 570 feet, parking lot noise levels would be approximately 25 dBA Leq, not accounting for shielding from the intervening buildings. Accounting for the acoustical shielding, the parking lot noise level would be approximately 15 dBA. Therefore, the parking lot activity noise would be very low and well below applicable noise standards. Thus, noise from project-associated parking lot noise would be *less than significant*.

TRUCK LOADING DOCK / TRUCK YARD ACTIVITY

The parking lot study (Baltrënas et al. 2004) also examined noise levels associated with cargo truck delivery activity. The study concluded that average noise levels from truck loading/unloading areas was 96 dBA at 1 meter (3.3 feet) from the boundary of the truck activity area. Truck loading docks would be located on the south side of the warehouse building no closer than 780 feet from the nearest noise-sensitive receiver (the private school to the west). Using the outdoor attenuation rate of 6 dBA with each doubling of distance, truck loading activity at the private school would produce noise levels of approximately 49 dBA Leq. However, the proposed design of the warehouse building would provide a substantial amount of noise reduction by blocking the noise path (i.e., the direct line-of-sight) between the truck loading dock area and the private school. Accounting for this acoustical shielding, the truck loading dock noise at the nearest noise-sensitive land use is estimated to be approximately 26 dBA Leq. A perimeter noise barrier 12 feet in height would also be constructed along the southern, southeastern, and southwestern loading dock area as part of the project design.

Based upon the project site plan (see Figure 3), trucks would enter and exit onto Golden Valley Drive from driveways located on the north and south sides of the warehouse building. Noise from a typical truck pass-by associated with arrival and departure is approximately 68 dBA at a distance of 30 feet (Charles M. Salter Associates, Inc. 2014). This noise level at any one location near the project site would be very brief because the truck would be in motion as it is en route to or from the loading dock area. Assuming that the trucks enter the warehouse from the northern driveway (the nearest driveway to the private school), and assuming a travel speed of 5 miles per hour for a "within earshot" driveway distance of 500 feet, a truck would create a 68-dBA noise level for approximately 1 minute. At the nearest noise-sensitive receiver approximately 550 feet from the driveway, the resulting noise level would be 43 dBA for approximately 1 minute. Accounting for acoustical shielding from the intervening buildings, the resulting noise level would be approximately 36 dBA for a brief period of approximately 1 minute. Because (as detailed in the Off-site Operational Noise discussion below), only four truck trips in the a.m. and five truck trips in the p.m. would be created by the project, the brief 36-dBA noise levels would be negligible on an hourly average (Leq) basis (Dudek 2023f).

Another noise source associated with warehouse activities is noise from trucks' backup alarm. Noise level from a backup alarm is approximately 79 dBA at a distance of 30 feet (Charles M. Salter Associates, Inc. 2014). The intent of backup alarm noise is to alert those nearby of a potential hazard, and the noise from backup alarms is typically brief, only occurring while the truck is traveling in reverse, within the loading dock area. At the nearest noise-sensitive receiver (the private school located to the west) approximately 780 feet from the loading dock area, the resulting noise level would be approximately 50 dBA. Accounting for acoustical shielding from the warehouse building, the resulting noise level would be approximately 27 dBA for a brief period (typically, 1 minute or less). Because (as detailed in the Off-site Operational Noise discussion below), only four truck trips in the a.m. and five truck trips in the p.m. would be created by the project, the brief 27-dBA noise levels would be negligible on an hourly average (Leq) basis. Truck loading dock activity noise levels are summarized in Appendix G and combined with the other on-site noise sources. The combined on-site activities noise at the nearest noise-sensitive land use and at the four property boundaries would be well below the applicable City of Santa Clarita noise exposure limits and would be *less than significant*.

Off-site Operational Noise

The project would result in the creation of additional vehicle trips on local roadways. Based upon data from the project's traffic analysis (Translutions, Inc. 2022), the project is expected to generate 298 new daily trips to the roadway system; in terms of passenger car equivalent (PCE), which accounts for truck percentages, the project would generate 457 new daily PCE trips. On an hourly basis, the project would result in a total of 30 a.m. and 31 p.m. net new peak-hour trips, consisting of 26 passenger vehicles and four trucks (ranging in size from 2-axle trucks to 4+-axle trucks) in the a.m. peak hour and 26 passenger vehicles and five trucks in the p.m. peak hour. In terms of PCE, the project would result in a total of 36 a.m. and 39 p.m. new PCE peak-hour trips. Vehicles entering and exiting the project site would use Golden Valley Road, which has average daily traffic (ADT) volumes of approximately 30,000 ADT.

The project would not result in a doubling of trips on any particular road segment—the 457 new (PCE) vehicle trips on Golden Valley Road would amount to a percentage increase over the approximately 30,000 ADT of 1.5% (Dudek 2023f). Typically, a doubling of the energy of a noise source, such as a doubling of traffic volume (a 100% increase), would increase noise levels by 3 dBA. Given that it would result in only a modest increase in traffic on local and regional roadways, the project is expected to result in a traffic noise increase of well under 1 dBA on roadways in the study area. The change in noise level due to the project would not be audible. Therefore, impacts associated with off-site project-generated traffic noise would be *less than significant*.

Conclusion

As detailed in the analysis above, the project would not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established standards set forth in applicable FTA guidance as well as the guidelines for noise levels established in the City of Santa Clarita General Plan and associated Noise Ordinance. Impacts would be *less than significant*.

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

Less than Significant Impact. Construction activities may expose persons to excessive groundborne vibration or groundborne noise, causing a potentially significant impact. Caltrans has collected groundborne vibration information related to construction activities (Caltrans 2020). Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inch/second begin to cause annoyance. Heavier pieces of construction equipment, such as bulldozers, have peak particle velocities of approximately 0.089 inch/second or less at a distance of 25 feet (FTA 2018).

Groundborne vibration typically attenuates over short distances. At the distance from the nearest noise or vibration sensitive land use (the private school to the west) of approximately 550 feet and with the anticipated construction equipment, the peak particle velocity would be approximately 0.001 inch/second. At the closest sensitive receptors, vibration levels would be well below the vibration threshold of potential annoyance of 0.1 inch/second.

Construction can also affect nearby buildings by inflicting damage from vibration. However, construction vibration associated with this project would not result in structural building damage. Building damage typically occurs at vibration levels of 0.5 inch/second or greater for buildings of reinforced-concrete, steel, or timber construction. The heavier pieces of construction equipment used for this project would include backhoes, front-end loaders, and flatbed trucks. Pile driving, blasting, or other special construction techniques would not be used for construction of the project; therefore, excessive groundborne vibration and groundborne noise with the potential to adversely affect nearby buildings would not be generated. Once operational, the project would not generate groundborne vibration.

Therefore, no building damage would be expected to occur as a result of project-related vibration during construction or operation and impacts would be *less than significant*.

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

No Impact. There are no private airstrips located in the project vicinity. The nearest airport is Whiteman Airport, located approximately 11.4 miles southeast of the project site. The project site is not located within 2 miles of any public airport, nor is it located within the boundaries of any airport land use plans. Therefore, the project would not expose or result in excessive noise for people residing or working in the project site. *No impact* would occur.

Conclusion

The project would not result in a significant adverse impact to noise; no mitigation measures are required.

XIV. Population and Housing

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

Setting

The project site is located on undeveloped land that does not contain residential uses and people do not reside on-site. The project site has a land use designation of BP and is located within the City's JCOZ, which is intended to encourage future development that supports employment growth within the city.

The SCAG 2020-2045 Connect SoCal RTP/SCS forecasts for population, households, and employment growth from 2016 through 2045 for the city of Santa Clarita (Table 17).

Table 17. Population and Employment Growth Forecast for the City of Santa Clarita

Year	Population	Households	Employment
2016	218,200	71,800	91,200
2045	258,800	95,200	105,200
Net Change	**40,600**	**23,400**	**14,000**

Source: SCAG (2020b)

Environmental Evaluation

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. Construction of the project would result in temporary employment increases. Employment increases have the potential to cause population growth, as they may draw additional people and their households to the city. However, given the relatively common nature of the project (i.e., does not involve highly specialized construction skills), construction personnel would likely be sourced from the local region, and the project would not require the relocation of construction personnel.

It is anticipated that the employment base for both the construction and operational phases of the project would come from the existing population in the city of Santa Clarita. According to the Bureau of Labor Statistics, the City of Santa Clarita civilian labor force contains approximately 111,000 persons with approximately 106,200 people employed and an unemployment rate of approximately 4.3% (approximately 4,800 persons) (EDD 2022). Accordingly, the project region already contains an ample supply of potential employees under existing conditions and the project's labor demand is not expected to draw substantial numbers of new residents to the area. Furthermore, approximately 75% of City of Santa Clarita residents commute outside of the city for work (SCAG 2019); therefore, the project would provide job opportunities closer to home for existing and future Santa Clarita residents.

Upon project completion, development of the project site in the BP land use designation would add employment opportunities in a designated JCOZ. As stated in the VMT analysis memorandum prepared for the project by Translutions, Inc. (2022), the project is anticipated to result in an increase of 71 employees. While it is possible the new employment opportunities created by the project would attract new residents to the area, this increase in employment represents less than 1% increase in the overall employment growth anticipated to occur in the city the year 2045 (see Table 17) (SCAG 2020b). Further, the project would be consistent with the City's land use designation for the project site, as the growth associated with development of the property was anticipated in the population and employment forecast developed by SCAG for the City of Santa Clarita.

With regard to indirect population growth, the project would not have the potential to induce growth via infrastructure development or expansion. The project site would be served by existing transportation and utility infrastructure and these connections would support the project only. Thus, the project would not result in the extension of infrastructure or roads such that additional, unplanned growth would be facilitated.

Given the analysis above, the project would not result in substantial direct or indirect population growth that would cause a significant direct or indirect impact to the environment. Impacts would be *less than significant*.

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

No Impact. The project site does not contain any residential structures and no people live on the site under existing conditions. Accordingly, implementation of the project would not displace substantial numbers or existing housing or people and would not necessitate the construction of replacement housing elsewhere. *No impact* would occur.

Conclusion

The project would not result in a significant adverse impact to population and housing; no mitigation measures are required.

XV. Public Services

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

Setting

Fire protection services for project site are provided by the Los Angeles County Fire Department (LACoFD), with the nearest fire station being LACoFD Station No. 104, located at 26901 Golden Valley Road, approximately 1.4 miles north of the project site. The Los Angeles County Sheriff Department provides police protection services to the project site and the Santa Clarita Sheriff's Station, located at 26201 Golden Valley Road in Santa Clarita, which is adjacent to the project site to the south. The project site is located within the William S. Hart Union High School District and Saugus Union School District with nearest school to the project site being Bowman High School located 0.85 mile northwest of the project site. The nearest park and recreational facilities include the Santa Clarita Sports Complex located approximately 0.35 mile northeast of the project site, Golden Valley Park located approximately 1.8 miles northeast. The nearest library to the project site is the Canyon Country Jo Anne Darcy Library located at 18601 Soledad Canyon Road located approximately 3.4 miles east of the project site.

Environmental Evaluation

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

Fire protection?

Less than Significant Impact. Urban and wildland fire protection services for the City of Santa Clarita are provided by Los Angeles County Fire Department (LACoFD), as well as the Fire Services mutual aid system, the California Division of Forestry, and the United States Forest Service. There are approximately 11 fire stations within Santa Clarita. The project site would be served primarily by Station No. 104, located at 26901 Golden Valley Road, approximately 1.4 miles north of the project site.

The City's Safety Element describes the LACoFD standards to strive to maintain a 5-minute response time from fire stations to all urban areas within the city and to maintain an 8-minute response time from fire stations to suburban areas and a 12-minute response time from fire stations to rural areas. The Safety Element identifies the 2020 average response time for the Santa Clarita Valley as approximately 5 minutes within city limits and 8 minutes within unincorporated areas, which is within the LACoFD standards (City of Santa Clarita 2011b).

Based on the project site's proximity to the existing fire station, the project would be adequately served by fire protection services, and no new or expanded unplanned facilities would be required. Additionally, the project would be subject to current LACoFD requirements for sprinkler systems, fire alarm systems, and equipment and firefighter access. LACoFD stations would provide a sufficient level of fire protection service to the project site, and this service level would not be adversely affected by the project. Due to the limited increase in demand that would be attributable to the project, the availability of fire services within proximity to the project site, and required compliance with fire code standards, the construction or expansion of existing fire facilities is not expected to be required as a result of the project. Therefore, substantial adverse physical impacts associated with the provision of new or physically altered facilities would not occur. Impacts would be *less than significant*.

Police protection?

Less than Significant Impact. The Los Angeles County Sheriff Department provides police protection in the vicinity of the project site. The Santa Clarita Sheriff's Station, located at 26201 Golden Valley Road, is located on the adjacent parcel south of the project site.

The project would require an addition of 71 employees and could place a modest increase in demand on police protection services. However, the project would not result in the construction or expansion of police facilities, as the current staffing and facilities are expected to be sufficient to serve the project. Thus, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities. Therefore, impacts would be *less than significant.*

Schools?

Less than Significant Impact. Implementation of the project would not create a direct demand for public school services, as the project site would contain non-residential uses and would not directly generate any school-aged children requiring public education. The project is not expected to draw a substantial number of new residents to the region and would therefore not indirectly generate school-aged students requiring public education. Because the project would not directly generate students and is not expected to indirectly draw students to the area, the project would not cause or contribute to a need to construct new or physically altered public school facilities. In addition, the Applicant would be required to contribute development impact fees to the William S. Hart Union High School District and Saugus Union School District in compliance with SB 50 (Greene), which allows school districts to collect fees from new developments to offset the costs associated with increasing school capacity needs. Mandatory payment of school fees would be required prior to the issuance of building permits. Therefore, impacts to public schools would be *less than significant*.

Parks?

No Impact. As discussed under Thresholds XVI(a) and (b) below, the project would not create a demand for public park facilities and would not result in the need to modify existing or construct new park facilities. Accordingly, implementation of the project would not adversely affect any park facility. Thus, *no impact* would occur.

Other public facilities?

No Impact. A significant impact could occur if the project results in substantial adverse physical impacts associated with other physically altered governmental facilities, or the need for new or physically altered governmental facilities (such as libraires) that would create significant environmental impacts. The City of Santa Clarita provides library facilities and services within the city. The nearest library to the project site is the Canyon Country Jo Anne Darcy Library located at 18601 Soledad Canyon Road. Given the project consists of a 174,000-square-foot warehouse facility intended for industrial uses and does not include residential uses, the project would not generate a volume of demand on existing library services or other public services that would necessitate the construction of new or physically expanded facilities. *No impact* would occur.

Conclusion

The project would not result in a significant adverse physical impact associated with the provision of public services; no mitigation measures are required.

XVI. Recreation

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
(b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Setting

The project site does not include any park or recreational facilities. The nearest park and recreational facilities include the Santa Clarita Sports Complex located approximately 0.35 mile northeast of the project site, Golden Valley Park located approximately 1.8 miles northeast, and Duane R. Harte Park located approximately 2 miles northwest of the project site.

Environmental Evaluation

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?*

No Impact. The project would develop the subject property with business park land use. The project does not propose any type of residential use or other land use that may generate a population that would increase the use of existing neighborhood and regional parks or other recreational facilities. Accordingly, implementation of the project would not result in the increased use or substantial physical deterioration of an existing neighborhood or regional park. *No impact* would occur.

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

No Impact. The project does not propose to construct any new on- or off-site recreation facilities. Additionally, the project would not include or necessitate the expansion any existing off-site recreational facilities. *No impact* would occur.

Conclusion

The project would not result in a significant adverse impact to recreation; no mitigation measures are required.

XVII. Transportation

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

The VMT analysis provided in this section is based on the *Local Transportation Assessment, 26316 Golden Valley Road Warehouse,* prepared for the project by Translutions, Inc., March 4, 2022, provided as Appendix H.

Setting

The project site is located adjacent and to the west of Golden Valley Road and south of Centre Pointe Parkway. According to the City of Santa Clarita General Plan Circulation Element, the segment of Golden Valley Road from Newhall Ranch Road to SR-14 freeway, which includes the project site, has a roadway classification defined as Major Highway (City of Santa Clarita 2011c). Major highways are arterials with at least six travel lanes for high mobility, designed with limited vehicular access to driveways and cross streets. The typical road section includes a raised landscaped median with left-turn pockets at intersections. Major highways can accommodate approximately 54,000 vehicles per day (City of Santa Clarita 2011c). Street sections may include striped, on-street bike lanes, or separated bike paths.

Two bus transit line routes are provided adjacent to or close to the project site (Santa Clarita Transit 2023). The two transit lines, City of Santa Clarita Transit Routes 5: Stevenson Ranch/Vasquez Canyon and Route 6: Stevenson Ranch/Shadow Pines, provide local services for an average of roughly seven buses (both directions) during the weekday a.m. peak hour and seven buses during the weekday p.m. peak hour (Santa Clarita Transit 2023). Additionally, they provide bus transit connectivity to McBean Regional Transit Center and Santa Clarita Metrolink Station.

The project site is in close proximity to pedestrian trails and bicycle paths including the Chuck Pontius Commuter Trail located to the north of the project site along Centre Pointe Parkway and the Golden Valley Road Class 1 Trail that parallels Golden Valley Road. Pedestrian access to the project site would be provided via existing sidewalks into the project's two proposed driveways along Golden Valley Road.

Background and Analysis Methodology

SB 743, which was codified in PRC Section 21099, was signed by the Governor in 2013 and directed the OPR to identify alternative metrics for evaluating transportation impacts under CEQA. Pursuant to Section 21099, the criteria for determining the significance of transportation impacts must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." Recently adopted changes to the State CEQA Guidelines in response to Section 21099 include a new section (Section 15064.3) that specifies that VMT is the most appropriate measure of transportation impacts. The primary purpose of SB 743 is eliminating LOS as a measure of vehicular capacity and traffic congestion as a basis for determining significant transportation impacts under CEQA. Rather, SB 743 requires Lead Agencies to shift the focus from evaluating traffic impacts based on metrics that only consider vehicle travel time and delay (i.e., impacts to drivers) to metrics that capture the State's goals of improved air quality, reduced greenhouse gas emissions, and improved public health (i.e., impacts of driving). In response to SB 743, the OPR selected VMT as the new transportation impact metric for which Lead Agencies are required to define methodologies, thresholds, and mitigation consistent with their respective General Plan goals. A separate Technical Advisory issued by OPR provides additional technical details on calculating VMT and assessing transportation impacts for various types of projects.

The City of Santa Clarita has prepared and adopted the *Transportation Analysis Updates in Santa Clarita* (Guidelines) in June 2020 to address changes to CEQA pursuant to SB 743 to include VMT analysis methodology, screening tools, and VMT thresholds.

Environmental Evaluation

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

Less than Significant: The project proposes to construct an industrial warehouse building on a currently undeveloped parcel along Golden Valley Road, which is classified as a Major Highway in the City's General Plan Circulation Element (City of Santa Clarita 2011c). The City's General Plan Circulation Element contains goals, objectives, and policies related to the City's multi-modal circulation network, including street and highway system, vehicle trip reduction, bus and rail transit, bikeways, and pedestrian circulation. The Circulation Element plans for increased transportation efficiency through the coordination of land use planning with transportation planning by promoting concentrated development within the city near transit facilities. Based on the circulation planning needs identified for the Santa Clarita Valley, the following goals and policies were developed and included in the Circulation Element:

- Goal C 1: An inter-connected network of circulation facilities that integrates all travel modes, provides viable alternatives to automobile use, and conforms with regional plans (Policy C1.1.1 through C 1.3.10).

- Goal C 2: A unified and well-maintained network of streets and highways which provides safe and efficient movement of people and goods between neighborhoods, districts, and regional centers, while maintaining community character (Policy C 2.1.1 through C 2.7.3).
- Goal C 3: Reduction of vehicle trips and emissions through effective management of travel demand, transportation systems, and parking (Policy C 3.1.1 through C 3.3.8).
- Goal C 4: Rail service to meet regional and inter-regional needs for convenient, cost-effective travel alternatives, which are fully integrated into the Valley's circulation systems and land use patterns (Policy C 4.1.1 through C 4.2.3).
- Goal C 5: Establish transit impact fee rates that are based on the actual impacts of new development on the transit system, and regularly monitor and adjust these fees as needed to ensure adequate mitigation (Policy C 5.1.1 through C 5.4.3).
- Goal C 6: A unified and well-maintained bikeway system with safe and convenient routes for commuting, recreational use and utilitarian travel, connecting communities and the region (Policy C 6.1.1 through C 6.2.3).
- Goal C 7: Walkable communities, in which interconnected walkways provide a safe, comfortable and viable alternative to driving for local destinations (Policy C 7.1.1 through C 7.1.10).

If a project does not implement a particular program, plan, or policy related to the above-mentioned goals, it would not necessarily result in a conflict, because some of these programs must be implemented by the City or other related agencies over time and over a broad area. Rather, a project would result in a conflict if it would preclude the City from implementing adopted transportation-related programs, plans, or policies. The project would support the goals and policies of the General Plan's Circulation Element by creating employment opportunities in an established employment district along a Major Highway and near transit facilities. Further, the Circulation Element includes policies that strive to reduce VMT and emission through effective management of travel demand, transportation systems, and parking. A VMT analysis was prepared for the project pursuant to SB 743 (see Appendix H) and the results are provided below in Threshold XVII(b). As described, the project would reduce VMT within the city and would go further to incorporate VMT reduction measures and would be consistent with the Circulation Element's goals and policies related to VMT.

The project would not conflict with any plans or policies regarding existing or proposed bicycle or pedestrian facilities in the study area and would be consistent with the City's Non-Motorized Transportation Plan Update (City of Santa Clarita 2020a). The existing bicycle network in the city consists primarily of Class I off-street paths and Class II on-street bike lanes (City of Santa Clarita 2020). The project site is already served by the Golden Valley Road Class 1 bicycle path that parallels Golden Valley Road and no additional bicycle facilities are planned in the project vicinity. Santa Clarita's existing pedestrian network is composed of sidewalks, crosswalks, paseos, and multipurpose trails. Golden Valley Road is constructed with a paved sidewalk along both sides of the roadway. Pedestrian access to the project site would be provided by the existing sidewalk along Golden Valley Road. The sidewalk would connect to the proposed driveways, which lead to the warehouse building. The project would not involve or require roadway, pedestrian, or bicycle improvements along Golden Valley Road or within the project vicinity and would not preclude the City from implementing adopted transportation-related programs, plans, or policies.

The project would not interfere with plans or policies related to transit service. Santa Clarita Transit provides bus transit service in the Santa Clarita Valley and surrounding cities and destinations. Santa Clarita Transit provides local service in the Santa Clarita Valley and commuter express service to

Los Angeles and San Fernando Valley. The nearest bus stops to the project site are located to the north along Centre Point Parkway.

As discussed above, the project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and impacts would be *less than significant*.

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

Less than Significant Impact. The VMT analysis prepared for the project was conducted based on the City's adopted Guidelines and discussions with City staff using the SCAG 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) trip-based model (Translutions, Inc. 2022). While SCAG recently adopted the 2020–2045 RTP/SCS Connect SoCal, significant changes were made to the travel demand modeling platform used in this plan. Therefore, since the travel demand forecasting model used to establish the City's VMT metrics relied on the 2016 RTP/SCS trip-based model, this version of the SCAG model was also applied to the proposed project. Based on the planned growth and transportation improvements envisioned in the latest RTP/SCS, the VMT trends reported from the 2016 RTP/SCS model are expected to be similar to those in the new 2020 model.

Pursuant to SB 743 and the City's adopted Guidelines, the City has the discretion to select the appropriate VMT analysis methodology and impact threshold based on the land use type. For the project's proposed warehouse uses, the City determined that the "other land use type" was most appropriate for the project. The VMT analysis was then completed as follows:

- VMT was estimated using the SCAG 2016 RTP/SCS trip-based model. The SCAG model is a travel demand forecasting model with socioeconomic data and transportation network inputs, such as population, employment, and the regional and local roadway network.
  The socioeconomic data was updated to reflect Year 2020 conditions based on regional data provided by SCAG. The SCAG model was then run to estimate the baseline VMT in the city without the project.
- The project's socioeconomic data was added to the traffic analysis zone (TAZ) that contained the project site in the SCAG model. The project is estimated to generate 71 new employees for the warehouse uses. The "plus project" version of the SCAG model was then run to estimate the VMT in the city with the project.
- The total home-based work VMT and total home-based VMT in the city was estimated with and without the project. In addition, both VMT metrics were considered in relation to the employment changes in the city with the proposed project. Any increase in total home-based work VMT, home-based work VMT per employee, total home-based VMT, or home-based VMT per service population (employment plus population) was considered to be a significant impact.

The VMT analysis results prepared for the project are summarized below in Table 18. As shown, both home-based work VMT and home-based VMT are expected to decrease in the city with the project.
The home-based work VMT would decrease from 1,692,308 to 1,582,782 (which is a 6.5% decrease), and the home-based VMT would decrease from 6,978,984 to 6,923,623 (which is less than a 1% decrease). When considering these VMT metrics on a per-employee or per–service population basis, the VMT in the city would also decline.

Table 18. VMT Analysis Results for Project

VMT Metrics	City of Santa Clarita Year 2020 VMT Estimates			VMT Impact?
	Baseline (No Project)	Plus Project	Change with Project	
Total Employment	84,969	85,040	+71	
Home-Based Work VMT	1,692,308	1,582,782	-109,526	No
Home-Based Work VMT per Employee	19.9	18.6	-1.3	No
Total Service Population (Employment + Population)	319,960	320,031	+71	
Home-Based VMT	6,978,984	6,923,623	-55,361	No
Home-Based VMT per Service Population (Employment + Population)	21.8	21.6	-0.2	No

Source: Translutions, Inc. (2022)

Several VMT reduction measures are being incorporated into the project design to minimize the amount of VMT generated by the project and assist the City in achieving longer term VMT reduction.
The following design elements would be implemented as part of the project:

- End-of-Trip Bicycle Facilities, such as bike parking, bike lockers, showers, and personal lockers.
- Commute Trip Reduction Marketing, including information sharing and marketing to educate employees about their travel options such as carpooling, transit, walking, or biking.
- Preferential Parking Permit Program, to provide enhanced parking options for those that commute by carpool, vanpool, or sustainably fueled/powered vehicles.
- Bike Parking, to provide short-term and long-term bike parking options on the project site.

Based on the VMT analysis results, the project would not conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision. Therefore, impacts 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. A significant impact may occur if a project includes new roadway design or introduces a new land use or features into an area with specific transportation requirements and characteristics that have not been previously experienced in that area, or if project site access or other features are designed in such a way that creates hazard conditions.

Vehicular access to the project site would be provided via two new driveways along the project site's frontage with Golden Valley Road. The new driveways would be constructed to City of Santa Clarita design standards[7] and would be similar to existing access routes for land uses in the project vicinity. Therefore, the project would not introduce any hazardous geometric design features that would create significant hazards to the surrounding roadways. Furthermore, the project site would be accessed by vehicles and trucks that normally travel on City streets and the project would not introduce any incompatible uses that would create significant hazards to the surrounding roadways. Therefore, project

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[7] Santa Clarita design standards are based on California Building Codes, City of Santa Clarita Amendments, City of Santa Clarita Municipal Code, and Local Design Criteria.

roadway improvements would not substantially increase hazards due to a design feature. Impacts would be *less than significant*.

d) Would the project result in inadequate emergency access?

No Impact. A significant impact may occur if the project design would not provide emergency access that meets the requirements of the Los Angeles County Sheriff Department or the LACoFD or threatened the ability of emergency vehicles to access and serve the project site or adjacent uses. Vehicular access to the project site would be provided via two proposed driveways, located along Golden Valley Road. These driveways would be constructed to City of Santa Clarita design standards, which would allow for access of emergency vehicles. The driveways would provide direct access to the surface parking areas and proposed warehouse building. Therefore, there would be *no impact* related to emergency access.

Conclusion

The project would not result in a significant adverse impact to transportation; no mitigation measures are required.

XVIII. Tribal Cultural Resources

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

The analysis for this section is based on confidential information provided during tribal consultation, a search of the Sacred Lands File (SLF) through the Native American Heritage Commission (NAHC), and the following document (included as Appendix D): *Phase I Archaeological Survey Report: 26313 Golden Valley Road* (Dudek 2023e). Refer to Appendix D for a detailed discussion of the prehistoric and ethnographic settings for the region and applicable regulations pertaining to tribal cultural resources.

Setting

The search of the SLF at the NAHC, provided by letter to the City dated March 17, 2023, was positive, and the NAHC indicated that the City should contact the Fernandeño Tataviam Band of Mission Indians

(FTBMI). As reported in the phase I archaeological survey report prepared for the project (see Appendix D), a CHRIS search was conducted for the project through the SCCIC. No resources were found within the project site, though three prehistoric archaeological sites are recorded within 1 mile of the project site. A pedestrian survey of the project site by an archaeologist did not discover tribal cultural resources or potential tribal cultural resources. Furthermore, based on the presence of artificial fill throughout much of the project site, and steep slopes elsewhere, the report concludes that the potential for buried archaeological resources, including those that could be identified as tribal cultural resources, is low.

Finally, the City, in compliance with the requirements of PRC 21080.3.1, mailed a letter on August 30, 2022 to the FTBMI, who is the sole tribe in the City of Santa Clarita that has requested to receive notifications pursuant to AB 52. On March 15, 2023, the City received an email reply from Sarah Brunzell with the FTBMI's Tribal Historic and Cultural Preservation Department. In the email, Ms. Brunzell indicated that the project is considered to have medium sensitivity, and FTBMI requested that a consultation meeting be scheduled. The City and FTBMI held a video conference on April 6, 2023. During the meeting, Ms. Brunzell noted the project site is in the vicinity of areas of known significance to the Tribe.

A summary of the topics discussed in the meeting and three mitigation measures were provided to the City by FTBMI via email on April 18, 2023 (FTBMI 2023).

Environmental Evaluation

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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-i) Listed in or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k)?

Less than Significant with Mitigation Incorporated: No previously identified tribal cultural resources have been identified within the project site. The available evidence suggests there is unlikely to be an as-yet-unidentified tribal cultural resource preserved below the surface within the project site that would be encountered during construction for the project. However, the location of buried tribal cultural resources is unpredictable in nature and the project site is near areas of known significance to the FTBMI; therefore, while it is unlikely, the possibility of buried tribal cultural resources being within the project site cannot be ruled out. To ensure tribal cultural resources inadvertently discovered during construction are properly evaluated and treated in accordance with State regulations, the City shall include the Mitigation Measures TCR-1 through TCR-3 as recommended by the FTBMI. Implementation of the proposed mitigation measures would ensure impacts of the project would be *less than significant with mitigation incorporated*.

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

Less than Significant with Mitigation Incorporated: No previously identified tribal cultural resources have been identified and the available evidence suggests there is unlikely to be an as-yet-unidentified tribal cultural resource preserved below the surface within the project site that would be encountered during construction for the proposed project. However, the location of buried tribal cultural resources is unpredictable in nature and the project site is near areas of known significance to the FTBMI; therefore, while it is unlikely, the possibility of buried tribal cultural resources within the project site cannot be ruled out. To ensure that tribal cultural resources inadvertently discovered during construction are properly evaluated and treated in accordance with State regulations, the City shall include the Mitigation Measures TCR-1 through TCR-3 as recommended by the FTBMI. Implementation of the proposed mitigation measures would ensure impacts of the project would be *less than significant with mitigation incorporated*.

Conclusion

The project would include implementation of Mitigation Measures TCR-1 through TCR-3. Upon implementation of these project-specific mitigation measures, impacts to tribal cultural resources would be *less than significant with mitigation incorporated*.

Mitigation Measures

TCR-1 The Applicant shall retain a professional Native American monitor procured by the Fernandeño Tataviam Band of Mission Indians to observe the first 5 days of scheduled activities which include clearing, grubbing, and grading operations. If cultural resources are encountered, the Native American monitor will have the authority to request ground disturbing activities cease within 60-feet of the discovery to assess and document potential finds in real time. A qualified archaeologist meeting Secretary of Interior standards shall also assess the find.

Should the find be deemed significant, as defined by CEQA (as amended, 2015), the Applicant shall retain a professional Native American monitor procured by the Fernandeño Tataviam Band of Mission Indians to observe all remaining ground-disturbing activities including, but not limited to, excavating, digging, trenching, plowing, drilling, grading, leveling, clearing, driving posts, auguring, stripping topsoil or similar activity, and archaeological work.

TCR-2 The City 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.

TCR-3 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.

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.

XIX. Utilities and Service Systems

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

Setting

The project site is currently undeveloped and would require the construction of new utility infrastructure to connect to existing lines and mains along Golden Valley Road. The SCV Water is the water purveyor serving the project site. Wastewater facilities are operated and maintained by the Los Angeles County Sanitation Districts and the project site is located within the jurisdictional boundaries of the Santa Clarita Valley Sanitation District (District). Storm drain facilities in the project site vicinity are within the Los Angeles County Storm Drain System, operated by the County Public Works. The project receives electricity from SCE and natural gas from SoCalGas.

Environmental Evaluation

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

Water Facilities

Less than Significant Impact. The project would include the installation of a new water line that would connect to an existing water line within Golden Valley Road. Construction of the new waterline would be limited to on-site water distribution and minor off-site work associated with connections to the public main along Golden Valley Road. Prior to ground disturbance, the project construction contractor would notify SCV Water of proposed ground disturbance activities to avoid water lines and disruption of water service. The environmental impacts of construction and installation of new infrastructure associated with the project within the project site boundaries have been considered in the other resource-specific topical sections of this IS/MND (e.g., biological resources, cultural resources); mitigation measures identified in this IS/MND apply not only to the development of the warehouse facility structure, but they are also applicable to the associated infrastructure within the project site boundaries. No additional physical impacts related to the construction of new water facilities beyond physical disturbance of the project site itself are anticipated. Impacts would be *less than significant*.

Wastewater Facilities

Less than Significant Impact. The project site is within the jurisdictional boundaries of the District. The project's wastewater would discharge to a local sewer line, which is not maintained by the District, for conveyance to the District's Soledad Canyon Trunk Sewer Section 3, located in Soledad Canyon Road just east of Oak Avenue. The District's 15-inch diameter trunk sewer has a capacity for 3.7 million gallons per day (mgd) and conveyed a peak flow of 2 mgd when last measured in 2018 (Los Angeles County Sanitation Districts 2021).

The District operates two wastewater reclamation plants (WRPs) that provide wastewater treatment in the Santa Clarita Valley: Saugus WRP and Valencia WRP. These facilities are interconnected to form a regional treatment system known as the Santa Clarita Valley Joint Sewerage System (SCVJSS). The SCVJSS has capacity of 28.1 mgd and currently processes an average flow of 19.9 mgd (Los Angeles County Sanitation Districts 2021). Based on the project's will-serve letter provided from District dated June 29, 2021, the project would result in an average wastewater flow of 4,350 gallons per day. Given that the project is consistent with the City's land use designation for the project site, it is not anticipated that the project would require the construction of new wastewater treatment facilities, as the WRPs have sufficient capacity to accommodate additional growth. This is affirmed by the will-serve letter received from the Los Angeles County Sanitation District (Los Angeles County Sanitation Districts 2021). Therefore, the project would not result in the need to construct new or expanded wastewater treatment (reclamation) plants.

The project would require construction of a new on-site sewer to serve the new building. Impacts associated with wastewater infrastructure would primarily be confined to trenching for miscellaneous utility lines and connections to public infrastructure. Installation of wastewater infrastructure would be limited to on-site wastewater distribution, and minor off-site work associated with connections to the public main under Golden Valley Road. All off-site work would be performed in consultation and under the approval of the County Sanitation Districts of Los Angeles County, which operates the District. The environmental impacts of construction and installation of new infrastructure associated with the project within the project site boundaries have been considered in the other resource-specific topical sections of this IS/MND (e.g., biological resources, cultural resources); mitigation measures identified in this IS/MND apply not only to the development of the warehouse facility structure, but they are also applicable to the associated infrastructure within the project site boundaries. No additional physical impacts related to the construction of new wastewater facilities beyond physical disturbance of the project site itself are anticipated. Impacts related to the construction of new wastewater facilities would be *less than significant*.

Stormwater Drainage Facilities

Less than Significant Impact. Refer to Section X, Hydrology and Water Quality, above, for an analysis of stormwater drainage facilities. As discussed therein, BMPs would be required to control stormwater runoff designed to capture stormwater runoff to the 85th percentile storm event. As such, stormwater runoff from the project site would not be expected to exceed the capacity of the existing or planned stormwater drainage systems and would not be expected to require the construction of new facilities. Therefore, impacts related to the construction of new stormwater facilities would be *less than significant*.

Energy Infrastructure

Less than Significant Impact. SCE would supply the project electricity from the existing electrical system. All electrical facility installation and connection to the existing system would be completed in coordination and under the approval of the SCE. The environmental impacts of construction and installation of new infrastructure associated with the project within the project site boundaries have been considered in the other resource-specific topical sections of this IS/MND (e.g., biological resources, cultural resources); mitigation measures identified in this IS/MND apply not only to the development of the warehouse facility structure, but they are also applicable to the associated infrastructure within the project site boundaries. No additional physical impacts related to the construction of new energy facilities beyond physical disturbance of the project site itself are anticipated. Impacts would be *less than significant*.

Telecommunication Facilities

Less than Significant Impact. Construction-related activities, including grading and excavation, could encroach on telecommunication facilities. However, before construction begins, the Applicant would be required to coordinate with applicable regulatory agencies and telecommunication providers to locate and avoid or implement the orderly relocation of telecommunication facilities that would be affected.
The relocation of new telecommunication facilities, if any, would not result in significant environmental effects. Accordingly, impacts would be *less than significant*.

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

Less than Significant Impact. Water supply for the Santa Clarita Valley is provided by SCV Water, which was created on January 1, 2018, through the merger of the three water agencies in the Santa Clarita Valley. SCV Water serves 273,000 customers through 70,000 retail water connections, in an area approximately 195 square miles in size (SCV Water 2022). SCV Water receives water from four sources: groundwater, recycled water, imported water, and banked water. According to Table 4-1 of the SCV Water 2020 Urban Water Management Plan (UWMP), in 2020, SCV Water received approximately 26% of its water supply from groundwater, 0.7% from recycled water, 38.9% from imported water, and 34.4% from banked water. SCV Water groundwater supply in this region is pumped from the Santa Clara River Valley East Groundwater Basin (SCV Water 2021).

The SCV Water 2020 UWMP has planned growth within the Santa Clarita Valley service area over the next 30 years. SCV Water has made an allowance for future water demand estimates. Future demand services are based on historical growth rates in the service area. As discussed in the SCV Water 2020 UWMP, adequate water supplies are projected to be available to meet SCV Water's estimated water demand through 2045 under normal, single-dry, and multiple-dry year conditions (SCV Water 2021). SVC Water forecasts for projected water demand are based on the population projections of SCAG, which rely on the adopted land use designations contained within the general plans that cover the geographic area within SVC Water's service. The water use projections used in the 2020 SVC Water UWMP were based on the site's existing Business Park land use designation on the City of Santa Clarita Land Use Map. The project would develop the site with a warehouse facility, which is consistent with the Business Park land use designation. Therefore, the project is in line with the population estimates of the 2020 SCV Water UWMP. As a result, SCV Water incorporated the water demands of the project site into future water demand projections in order to ensure a reliable supply of water for the project and future anticipated projects.

Furthermore, as long-term water supply is a significant concern in California, SCV Water can increase supply to meet future demands by 1) increasing the use of groundwater banking programs to ensure reliable water supply from wet to dry years; 2) increasing imported water purchases if available and if there is sufficient storage capacity; and 3) purchasing additional recycled water, if available. Collectively, these additional measures would ensure a reliable source of water for SCV Water and the project, currently and into the future. As such, impacts would be *less than significant*.

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

Less than Significant Impact. As stated under Threshold XIX(a), above, the sewage flow from operation of the project would ultimately be conveyed to Santa Clarita Valley Sanitation District (operated by Los Angeles County Sanitation Districts). A will-serve letter received from the Los Angeles County Sanitation District states that there is sufficient capacity for the project (Los Angeles County Sanitation Districts 2021). Therefore, impacts would be *less than significant.*

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

Less than Significant Impact. Implementation of the project would generate an incremental increase in solid waste volumes requiring off-site disposal during short-term construction and long-term operational activities. Solid waste generated by the project would be disposed at the Chiquita Canyon Landfill, the Antelope Valley Landfill, and/or the Sunshine Canyon Landfill.

Construction

The Chiquita Canyon Landfill, located approximately 10.2 miles to the northwest of the project site, has a maximum permitted throughput of 12,000 tons per day, has a cease operation date of January 1, 2047, and has a remaining capacity of approximately 54,420,179 tons, when last measured in 2020. The Antelope Valley Landfill is located approximately 33.9 miles to the northeast of the project site, has a maximum permitted throughput of 5,548 tons per day, has a cease operation date of April 1, 2044, and has a remaining capacity of 10,178,644 tons, when last measured in 2020. The Sunshine Canyon Landfill is located approximately 8.0 miles to the south of the project site, has a maximum permitted throughput of 12,100 tons per day, has a cease operation date of October 31, 2037, and has a remaining capacity of 54,079,158 tons when last measured in 2020 (County Public Works 2021).

Construction of the project would result in the generation of solid waste such as scrap lumber, concrete, residual wastes, packing materials, and plastics. Per CALGreen, 65% of construction and demolition waste must be diverted from landfills. As such, at least 65% of all construction and demolition debris from the site would be diverted. Additionally, CALGreen requires 100% of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing to be reused or recycled. Any hazardous wastes that are generated during demolition and construction activities would be managed and disposed of in compliance with all applicable federal, state, and local laws. The remaining 35% of construction and demolition materials that are not required to be recycled would either be disposed of or voluntarily recycled at a solid waste facility with available capacity. The project would also be required to comply with the City's Construction and Demolition Materials Management Ordinance (Municipal Code Chapter 15.46). Per the requirements of this ordinance, a Construction and Demolition Materials

Management Plan would be prepared for the project and submitted for approval to the City's Environmental Services Division. This plan must be approved before grading or building permits are issued for the project. The City's Construction and Demolition Materials Ordinance also requires a minimum of 65% of the entire project's inert waste (dirt rock, bricks, etc.) and 65% of the remaining construction waste to be recycled or reused.

Construction waste is typically disposed of at inert landfills, which are facilities that accept materials such as soil, concrete, asphalt, and other construction and demolition debris. As of 2019, the Azusa Land Reclamation Landfill, located approximately 40 miles to the southeast of the project site, is the only permitted inert landfill within Los Angeles County. The landfill has a remaining capacity of 55,705,480 tons and is expected to remain open for approximately 26 years, as of 2019 (County Public Works 2021).

There are other facilities that process other construction and demolition waste in the County. Collectively, these facilities have a remaining capacity of approximately 148.4 million tons. The closest facility to the project site is the East Valley Diversion (formerly Looney Bins), located at 11616 Sheldon Street in Sun Valley. This facility is approximately 13.5 miles to the southeast of the project site and has a permitted capacity of 750 tons of waste per day. This facility has a mixed construction and demolition waste recycling rate of 75% (County Public Works 2021). As such, any construction and demolition debris requiring disposal at an inert landfill would be sufficiently accommodated by existing landfills.

For reasons stated above, project construction would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals (e.g., CALGreen standards).

Non-recyclable construction waste generated by the project would be disposed at the Chiquita Canyon Landfill, the Antelope Valley Landfill, and/or the Sunshine Canyon Landfill. As described above, these landfills receive well below their maximum permitted daily disposal volume; thus, the construction waste generated by the project is not anticipated to cause the landfills to exceed their maximum permitted daily disposal volume. Furthermore, the Chiquita Canyon Landfill, the Antelope Valley Landfill, and/or the Sunshine Canyon Landfill are not expected to reach its total maximum permitted disposal capacities during the project's construction period, which will end in 2025. The Chiquita Canyon Landfill, the Antelope Valley Landfill, and/or the Sunshine Canyon Landfill have sufficient daily capacity to accept solid waste generated by the project's construction phase; therefore, impacts to landfill capacity associated with the project's near-term construction activities would be *less than significant*.

Operational

Based on a daily waste generation factor of 1.42 pounds of waste per 100 square feet of industrial building area obtained from CalRecycle, long-term, ongoing operation of the project would generate approximately 1.24 tons of solid waste per day ([174,000 square feet ÷ 100 square feet] × 1.42] ÷ 2,000 pounds = 1.24 tons per day) (CalRecycle 2019). Pursuant to AB 939, at least 50% of the project's solid waste is required to be diverted from landfills; therefore, the project would generate approximately 0.62 tons of solid waste per day requiring landfilling (1.24 tons per day × 50% = 0.62 tons per day).

Non-recyclable solid waste generated during long-term operation of the project would be disposed at the Chiquita Canyon Landfill, the Antelope Valley Landfill, and/or the Sunshine Canyon Landfill.
As described above, these landfills receive well below their maximum permitted daily disposal volume; thus, waste generated by the project's operation is not anticipated to cause the landfills to exceed their maximum permitted daily disposal volume. Because the project would generate a relatively small amount of solid waste per day as compared to the permitted daily capacities at the receiving landfills, impacts to

the Chiquita Canyon Landfill, the Antelope Valley Landfill, and/or the Sunshine Canyon Landfill facilities during the project's long-term operational activities would be *less than significant*.

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

Less than Significant Impact. Solid waste generated by the project site would be collected by Waste Management, then transferred to a transfer station where the waste would be sorted, processed, and sorted. From there, the waste would be taken to either the Chiquita Canyon Landfill, the Antelope Valley Landfill, or the Sunshine Canyon Landfill. These facilities are regulated under federal, state, and local laws. Additionally, the City is required to comply with relevant solid waste reduction and diversion requirements, including AB 939, AB 341, and AB 1327. Collectively, these regulations set statewide waste diversion goals as well as established solid waste and recycling governing standards for local agencies.

In addition, waste diversion and reduction during project construction and operations would be completed in accordance with CALGreen standards and City diversion requirements. As a result, the project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. Impacts would be *less than significant*.

Conclusion

The project would not result in a significant adverse impact to utilities and service systems; no mitigation measures are required.

XX. Wildfire

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
(a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
(b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
(c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
(d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Setting

The City of Santa Clarita and the project site are susceptible to wildland fires due to steep and varied terrain, vegetative fuel composition, and the region's weather patterns. The shrub-dominated plant communities that are on a portion of the project site and occurring throughout the region are highly flammable. Adaptations to the local dry, Mediterranean climate include specialized roots, stems, and leaves. The latter two become available fuels of importance and contribute to wildfire intensity and spread. The project site predominantly consists of disturbed habitat, California sagebrush–California buckwheat scrub (*Artemisia californica–Eriogonum fasciculatum* Association), chamise chaparral (*Adenostoma fasciculatum* Association), upland mustards (*Hirschfeldia incana* Association), and wild oats grasslands (*Avena barbata–Avena fatua* Association). In addition, the project site has slopes ranging from 0 to 90 percent, with most of the project site having slopes between 0 and 45 percent (9.2 acres) and the average slope for the project site being 31 percent.

Vegetation is often classified by fuel models; Scott and Burgan Fuel Models represent distinct distributions of surface fuel loadings and other fuel bed inputs which are used in a fire spread model to predict fire behavior (Scott and Burgan 2005). The fuel models represent a mix of developed and vegetated land within a 2-mile radius of the project site. Fuels are predominantly nonburnable urban development (fuel model NB1 45%), grass and shrub (fuel model GS2 28%), and shrub (fuel model GS1 14%) (Figure 7). The GS2 fuel model represents taller shrubs (1–3 feet) with a moderate grass load and the GS1 fuel model represents shorter shrubs (up to 1 foot) with a low grass load. GS2 has a higher rate of spread and flame length than GS1, indicating the potential for more fire behavior and larger fire spread.

FHSZ are defined as a mapped area that designates zones (based on factors such as fuel, slope, and fire weather) with varying degrees of fire hazard (i.e., moderate, high, and very high). FHSZ maps analyze wildfire hazards and identify where wildfire hazards could be more severe and cause the greatest concern. The California Department of Forestry and Fire Protection (CAL FIRE) is legally responsible to provide fire protection on all State Responsibility Area lands. State Responsibility Area lands "are defined based on land ownership, population density and land use" and include over 31 million acres across the state of California to which CAL FIRE provides a basic level of wildland fire protection and prevention services. As shown in Figure 8, there are Very High FHSZs in State Responsibility Areas located approximately 2 miles to the north and to the southeast of the project as designated by CAL FIRE (FRAP 2022). In addition, the project site is located within a Very High FHSZ in a Local Responsibility Area (LRA), which means the local government is responsible for providing wildfire protection and suppression services.

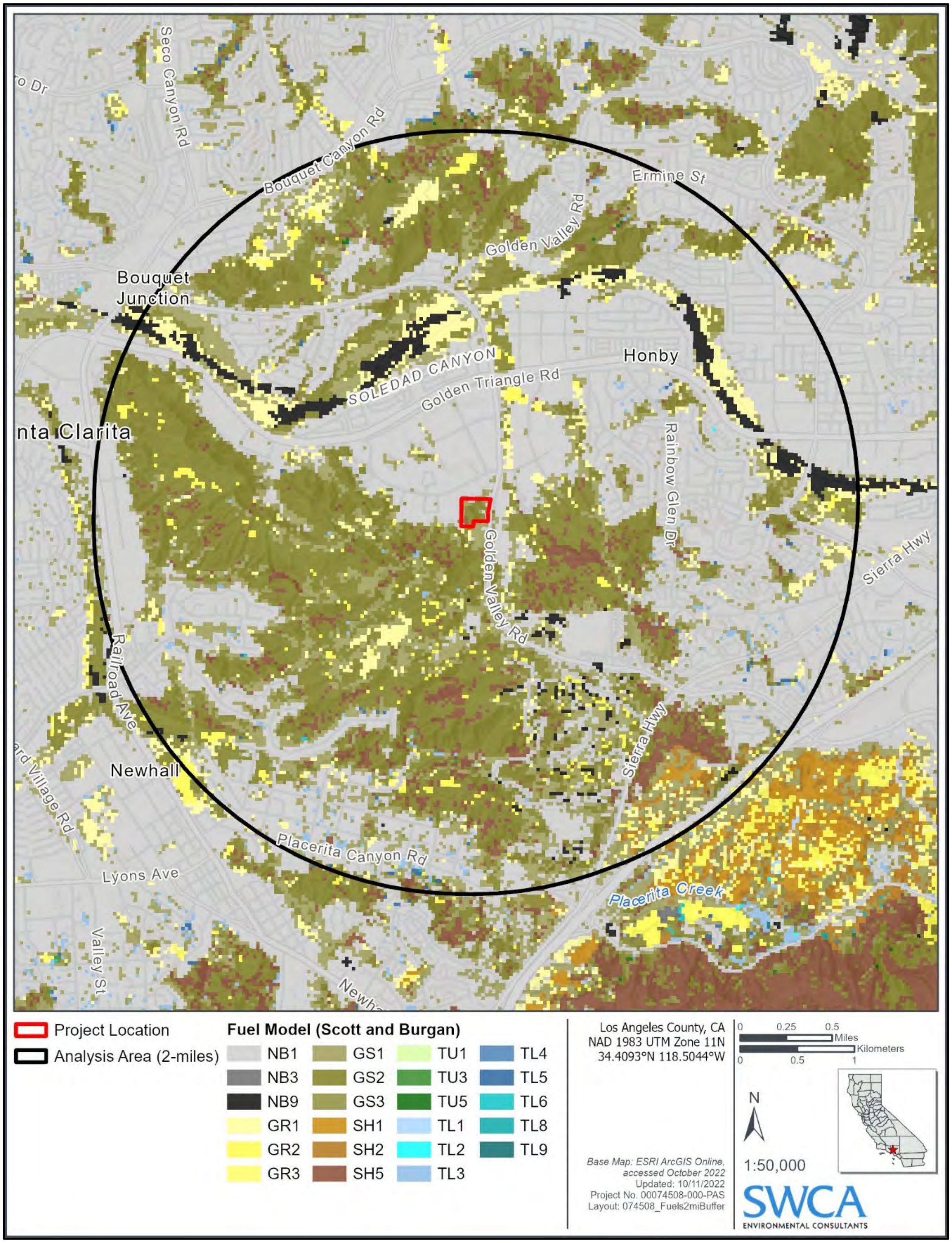

Figure 7. Scott and Burgan Fuel Models within a 2-mile radius from the project.

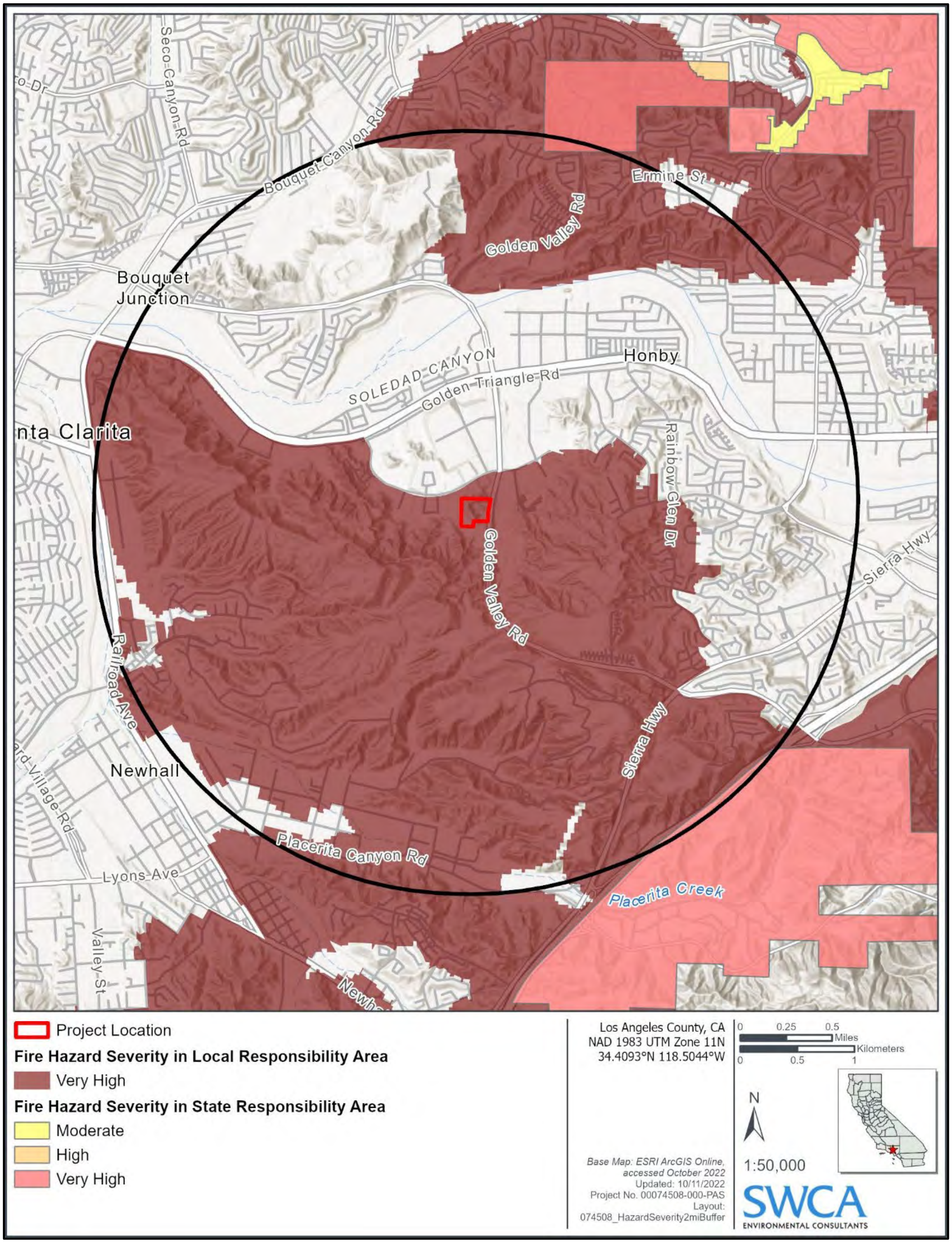

Figure 8. CAL FIRE Fire Hazard Severity Zones.

Environmental Evaluation

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?

Less than Significant Impact. The City has identified that the terrain and layout of the Santa Clarita Valley can affect evacuation during a wildfire event (City of Santa Clarita 2021). The City ensures that impacts to evacuation are addressed through collaboration with Los Angeles County Fire and Sheriff's Departments and through implementation of the Hazard Mitigation Plan which outlines several mitigation actions intended to facilitate emergency evacuation, including coordinating with the Los Angeles County Fire and Sheriff's Departments to coordinate the Public Alert and Warning Notification System, coordinating with the Los Angeles County Fire Department to enhance emergency services to increase the efficiency of wildfire response and recovery activities, and incorporating mass notification procedures (e.g., text, social media) into evacuation notification efforts (City of Santa Clarita 2021). The Hazard Mitigation Plan also includes a goal of identifying safe evacuation routes in high-risk natural disaster areas and coordinating with Los Angeles County to identify emergency transportation routes.

The City's General Plan and the County of Los Angeles Operational Area Disaster Route map for the City designate I-5, SR-14, and SR-126 as emergency evacuation routes (County Public Works 2010). The project site is not located within the immediate vicinity of these evacuation routes and is not expected to disrupt evacuation procedures along these highways. The County designates Golden Valley Road, which is borders the project site to the east, as a secondary evacuation route (County Public Works 2010).

Construction activities would not block or interfere with access to Golden Valley Road. No equipment or other physical barriers would be placed within or near the right-of-way and no lane or roadway closure would occur during construction. As described in Section XVII, Transportation, project-generated traffic would not substantially adversely affect the performance of nearby roadways, including Golden Valley Road. Therefore, emergency service response times and disaster evacuation routes would not be affected. Prior to operation, the project would receive all required permits and certificates for occupancy and operation, including those issued by the City Department of Building and Safety. Therefore, the project would not substantially interfere with or impair local emergency response or emergency evacuation plans, and impacts would be *less than significant*.

b) Due to slope, prevailing winds, and other factors, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less than Significant Impact. The project is located within a Very High FHSZ. Topography of the project and surrounding area can increase fire behavior due to the hills and steep slopes. The region is subject to continual strong winds and seasonal Santa Ana winds, a local weather phenomenon that produces very dry, strong winds that historically spread wildfires. Fuels in the project and surrounding area are flashier fuels (grass and pyric shrubs fuel models), which can have faster rates of spread, particularly on steeper terrain and when winds align with topography. The project would also increase the potential for ignitions during construction and maintenance. Increased ignition sources may include mechanized equipment, vehicles, heavy equipment, cigarettes, and additional electrical infrastructure (powerlines if overhead). However, there is a large component of nonburnable substrate surrounding the project; these areas would serve as breaks in fuel continuity, slowing or potentially stopping further wildfire spread. Nonburnable areas help minimize wildfire size and allow first responders to take effective suppression actions.

The 2019 California Fire Code has been adopted by the County of Los Angeles and is referred to as Title 32 of the Los Angeles County Code, also known as the County of Los Angeles Fire Code. The City has adopted this code in Chapter 22.01 of the City's Municipal Code, which is known as the Santa Clarita Fire Code that regulates and governs the safeguarding of life and property from fire and explosion hazards arising from the storage, handling and use of hazardous substances, materials, and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises in the City of Santa Clarita. The project would be designed to comply with the Santa Clarita Fire Code as to not exacerbate fire risk or fire spread. In addition, the project would be subject to the 2020 City of Santa Clarita Building Code pertaining to permits, building design and exterior materials, fire suppression systems, and backfilling and erosion control on slopes and in a Very High FHSZ (City of Santa Clarita 2020b). This includes local fire department approval of heavy equipment for grading activities and dust control compliance, which would include a water supply on-site. Therefore, the project would not exacerbate wildfire risks and expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Impacts would be *less than significant*.

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. The project would have minimal associated infrastructure beyond what exists for adjacent development. As presented in the Section XIX, Utilities and Service Systems, the project would use or connect to existing water lines, sewer drainages, energy lines, and improved roads. The project would be compliant with the Los Angeles County Fire Code (Title 32 of the Los Angeles County Municipal Code) pertaining to removal of vegetation a minimum of 30 feet from any structure and vegetation maintenance around any electrical equipment, resulting in minimal exacerbation of fire risk for the life of the project and minimal impacts to the environment. Therefore, impacts would be *less than significant*.

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. The project site has an average cross-slope of greater than 15 percent and is downslope from naturally vegetated hillsides but is not located in a designated flood risk zone, as discussed in Section X, Hydrology and Water Quality. Also discussed in the project description, runoff from the project site would flow to one of the two proposed water quality basins located in the northwest corner and northeast corner of the project site, respectively, for water quality treatment. Flows would then be conveyed to an existing drainage ditch located at the northeast corner of the site, and then off-site to an existing storm drain beneath Golden Valley Road. Stormwater runoff generated by the project would adhere to LID requirements which reduce drainage across the site. Compliance with applicable regulatory requirements would not expose people or structures to significant downslope or downstream flooding or landslide risks resulting from runoff, postfire slope instability, or drainage changes. Therefore, impacts would be *less than significant*.

Conclusion

The project would not result in a significant adverse impact to wildfires; no mitigation measures are required.

XXI. Mandatory Findings of Significance

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
(b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
(c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Environmental Evaluation

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

Less than Significant Impact with Mitigation Incorporated. As discussed in Section IV, Biological Resources, the project site supports suitable habitat one species-status animal species (coastal whiptail) which has moderate potential to occur. If this species is present within the project site during construction, the project construction could result in a significant impact on these species. However, Mitigation Measures BIO-1 through BIO-2 have been identified to reduce potentially significant impacts to less than significant levels. These mitigation measures would require preconstruction surveys, avoidance of species if identified on-site, consultation with the appropriate wildlife agencies (if avoidance is not feasible), the development of a relocation plan, and biological monitoring. In addition, Mitigation Measures BIO-3 and BIO-4 have been identified to indirect impacts to special-status plant and wildlife species.

The project site does not support riparian habitat or other sensitive natural communities. However, to reduce potential indirect impacts to federally protected wetland due to impaired water quality downstream and the degradation of adjacent habitats, implementation of the SWPPP and project design features, including water quality treatment basins that would improve water quality before it flows downstream to the off-site detention basin, would reduce impacts to less than significant. Lastly, the project site is also located in the vicinity of suitable nesting bird habitat. Construction conducted during this period could result in adverse impacts to nesting birds. This potential impact would be reduced to less than significant levels with pre-construction surveys to identify and avoid active nests, per Mitigation Measure BIO-5. As described in Section V, Cultural Resources, the project site does not support any known important examples of major periods in California history or prehistory. However, as discussed in Section XVIII, Tribal Cultural Resources, the project site is near areas of known significance to the FTBMI and there is potential for the inadvertent discovery of previously unknown tribal cultural resources. The City consulted with the FTBMI and has included Mitigation Measures TCR-1through TCR-3, as recommended by the FTBMI, in this IS/MND. These identified mitigation measures would reduce potential impacts to tribal cultural resources to a less than significant level.

Impacts would therefore be *less than significant with mitigation incorporated*.

b) Would 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 with Mitigation Incorporated. The project would result in potentially significant project-level impacts involving biological resources, cultural resources, geology and soils, hazards and hazardous materials, and tribal cultural resources. However, mitigation measures have been identified that would reduce these impacts to less than significant levels. Furthermore, the air quality, GHG, and transportation and traffic analyses presented in Section III, Section VIII, and Section XVII, respectively, of this IS/MND consider cumulative impacts and have determined that cumulative air, GHG, and traffic impacts would less than significant. All reasonably foreseeable future development in the city would be subject to the same land use and environmental regulations that have been described throughout this document. Furthermore, all development projects are guided by the policies identified in the City’s General Plan and by the regulations established in the City’s Municipal Code. Compliance with applicable land use and environmental regulations would ensure that environmental effects associated with the proposed project would not combine with effects from reasonably foreseeable future development in the city to cause cumulatively considerable significant impacts. Cumulative impacts would therefore be *less than significant with mitigation incorporated*.

c) Would 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 detailed throughout this IS/MND, the proposed project would not exceed any significance thresholds or result in significant impacts in the environmental categories typically associated with indirect or direct effects on human beings, such as aesthetics, air quality, hazards and hazardous materials, public services, or transportation. As discussed in Section X, project could result in potentially significant impacts in the category of hazards and hazardous materials. However, the project would implement Mitigation Measure HAZ-1 to reduce impacts to less than significant levels. Therefore, impacts would be *less than significant with mitigation incorporated*.

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5 MITIGATION MONITORING AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the Pacific Industrial Warehouse Project (project) based on the findings of the Initial Study/Mitigation Negative Declaration (IS/MND) prepared for the project.

5.1 Statutory Requirements

When a Lead Agency makes findings on significant environmental effects identified in an Mitigated Negative Declaration (MND), the agency must also adopt a "reporting or monitoring program for the changes to the project which it has adopted or made a condition of approval in order to mitigate or avoid significant effects on the environment" (Public Resources Code [PRC] Section 21081.6(a) and California Environmental Quality Act [CEQA] Guidelines Sections 15091(d) and 15097). The MMRP is implemented to ensure that the mitigation measures and project revisions identified in the IS/MND are implemented. Therefore, the MMRP must include all changes in the project either adopted by the project proponent or made conditions of approval by the Lead or Responsible Agency.

5.2 Administration of the Mitigation Monitoring and Reporting Program

The City of Santa Clarita (City) is the Lead Agency responsible for the adoption of the MMRP. Pacific Industrial (Applicant), is responsible for implementation of the MMRP, in coordination with the City and other identified entities. According to State CEQA Guidelines Section 15097(a), a public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity that accepts the delegation. The City may delegate responsibility for verifying and documenting compliance with the MMRP to the Applicant as coordinator of the project and its construction, and the Applicant will be responsible for compliance. However, until mitigation measures have been completed, the City, as the Lead Agency, remains responsible for ensuring that the implementation of the measures occurs in accordance with the program.

5.3 Mitigation Measures

The MMRP table below is structured to enable quick reference to mitigation measures and the associated monitoring program based on the environmental resource. The numbering of mitigation measures correlates with numbering of measures found in the corresponding environmental analysis provided in the project's IS/MND. The table also describes the timing for mitigation measure implementation (e.g., when the measure shall be implemented) and the responsible parties—such as the Construction Contractor, Applicant, and/or City of Santa Clarita—that are responsible for ensuring implementation of all aspects of each measure.

Table 19. Mitigation and Monitoring Program

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Parties
Biological Resources				
BIO-1	**Pre-construction Wildlife Survey.** Prior to issuance of a grading permit, a qualified biologist (the Applicant shall submit the qualifications of the biologist to the City for review and approval) shall conduct a survey of the proposed impact areas and a 50-foot buffer within 72 hours of the proposed activities. Any coastal whiptail shall be relocated to a City-approved off-site location in suitable habitat for the species. The results of the survey shall be documented in letter report that will be submitted to the City.	Retain a City-approved project biologist to ensure compliance with biological resource mitigation measures	Prior to issuance of grading permits	**Implementation:** Applicant **Verification:** City of Santa Clarita
BIO-2	**Biological Monitoring.** Prior to the issuance of a grading permit, the Applicant shall submit the qualifications of the biologist(s) to the City for review and approval. The Applicant shall fund a City-approved, biological monitor during project construction to monitor construction activities and to ensure compliance with all mitigation measures. The biological monitor shall be present on-site during all native vegetation removal and initial ground-disturbing activities in undeveloped areas. Each day, prior to the commencement of activities, the biological monitor shall be responsible for conducting a pre-construction clearance survey and any wildlife (common or special-status) shall be relocated off-site to a City-approved area.	Retain a City-approved project biologist to ensure compliance with biological resource mitigation measures	Prior to issuance of grading permits	**Implementation:** Applicant **Verification:** City of Santa Clarita
BIO-3	**Demarcation of Disturbance Limits.** Prior to commencement of grading, the construction limits shall be clearly demarcated using high-visibility construction fence, as recommended by biological monitor. All construction activities including equipment staging and maintenance shall be conducted within the marked disturbance limits to prevent inadvertent disturbance to sensitive vegetation communities outside the limits of work. The fencing shall be maintained throughout construction and any windblown trash generated by the project that collects on the fence shall be regularly removed.	Retain a City-approved project biologist to ensure compliance with biological resource mitigation measures	Prior to commencement of grading	**Implementation:** Applicant and Construction Contractor **Verification:** City of Santa Clarita
BIO-4	**Invasive Plant Species Prevention.** The project shall not include invasive plant species listed on the California Invasive Plant Council inventory in project landscaping palettes. The City shall review and approve project landscape palettes to ensure that invasive plant species are excluded. In addition, to prevent the spread of invasive plant species during construction and until the establishment of common landscaped areas associated with the project (for a period of up to 5 years): • All equipment shall be washed prior to entering and prior to leaving the project site in an upland location where any seed material from invasive species will be contained. • All vegetative material removed from the project impact footprint shall be transported in a covered vehicle and will be disposed of at a certified disposal site.	Prevent spread of invasive plant species compliance with biological resource mitigation measures	Prior to issuance of grading permits, during construction	**Implementation:** Applicant and Construction Contractor **Verification:** City of Santa Clarita

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Parties
BIO-5	**Nesting Bird Avoidance.** Project construction shall be conducted in compliance with the conditions set forth in the MBTA and California Fish and Game Code to protect active bird/raptor nests. To the maximum extent feasible, vegetation removal shall occur during the non-breeding season for nesting birds (generally late September to early March) and nesting raptors (generally early July to late January) to avoid impacts to nesting birds and raptors. If the project requires that work be initiated during the breeding season for nesting birds (March 1–September 30) and nesting raptors (February 1–June 30), in order to avoid direct impacts on active nests, a pre-construction survey shall be conducted in the study area (defined as a 500-foot buffer around the project site) by qualified biologists (someone who has more than 3 years of experience conducting nesting bird surveys in the project region) for nesting birds and/or raptors within 3 days prior to project activities. If the biologist does not find any active nests within or immediately adjacent to the impact areas, the vegetation clearing/construction work shall be allowed to proceed. If the biologist finds an active nest within or immediately adjacent to the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the biologist shall delineate an appropriate buffer zone around the nest, depending on the sensitivity of the species and the nature of the construction activity. To protect any nest site, the following restrictions to construction activities shall be required until nests are no longer active, as determined by a qualified biologist: 1) clearing limits shall be established within a buffer around any occupied nest; and 2) access and surveying shall be restricted within the buffer of any occupied nest, unless otherwise determined by a qualified biologist. The buffer shall be up to 300 feet for non-raptor nesting birds and up to 500 feet for nesting raptors, based upon the biologist's determination of potential effect of project activities on the nest. Construction can proceed into the buffer when the qualified biologist has determined that the nest is no longer active.	Conduct vegetation removal and site distance between September 30 and January 31. If this is not possible, conduct preconstruction nesting bird and raptor surveys.	During construction activities on the project site, between February 1 and September 30.	**Implementation:** Applicant **Verification:** City of Santa Clarita
Cultural Resources				
CR-1	**Cultural Resources Inadvertent Discovery Plan.** The Applicant shall minimize potential impacts to cultural resources through implementation of pre- and post- construction tasks. Tasks pertaining to cultural resources include the development of a cultural resources inadvertent discovery plan (plan). The purpose of the plan is to outline a program of treatment and mitigation in the case of an inadvertent discovery of cultural resources during ground-disturbing phases (including but not limited to preconstruction site mobilization and testing, grubbing, removal of soils for remediation, construction ground disturbance, construction grading, trenching, and landscaping) and to provide for the proper identification, evaluation, treatment, and protection of any cultural resources throughout the duration of the project. This plan should define the process to be followed for the identification and management of cultural resources in the project site during construction. Existence of and importance of adherence to this plan should be stated on all project site plans intended for use by those conducting the ground-disturbing activities.	Immediately cease work in the vicinity of an archaeological resource find and retain a qualified archaeologist to assess the find.	During ground disturbing and construction activities on the project site	**Implementation:** Applicant **Verification:** City of Santa Clarita

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Parties
CR- 2	**Worker Environmental Awareness Program (WEAP) Training**. Prior to the commencement of construction, a qualified archaeologist shall create a separate Worker Environmental Awareness Program pamphlet that will be provided as training to construction personnel to understand regulatory requirements for the protection of cultural resources. This training shall include examples of cultural resources to look for and protocols to follow if discoveries are made. The archaeologist shall develop the training and any supplemental materials necessary to execute said training. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker should also be instructed on the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the on-call archaeologist and if appropriate, tribal representative. Necessity of training attendance should be stated on all project site plans intended for use by those conducting the ground-disturbing activities.	Retain a qualified archaeologist to create a Worker Environmental Awareness Program	Prior to commencement of construction	**Implementation:** Applicant **Verification:** City of Santa Clarita
Geology and Soils				
GEO-1	**Paleontological Resources Monitoring.** The following measures shall be implemented prior to and during construction by a project paleontologist meeting Society of Vertebrate Paleontology (2010) standards: a. Conduct Worker Training: The project paleontologist shall develop Worker Environmental Awareness Program training to educate the construction crew on the legal requirements for preserving fossil resources, as well as the procedures to follow in the event of a fossil discovery. This training program shall be given to the crew before ground-disturbing work commences and shall include handouts to be given to new workers as needed. b. Monitor for Paleontological Resources: Full-time monitoring shall be required when ground-disturbing activities impact previously undisturbed sediments of Holocene and late Pleistocene young alluvium, undivided (Qya) at depths greater than or equal to 15 feet below ground surface (bgs), or when ground-disturbing activities impact previously undisturbed sediments of Pleistocene to late Pliocene Saugus Formation, undivided (QTs), whether present at the surface or at depth below the young alluvium. Monitoring shall not be required when ground-disturbing activities impact only unmapped Recent artificial fill, previously disturbed sediments (regardless of depth), and sediments of Holocene and late Pleistocene young alluvium, undivided (Qya) at depths less than 15 feet bgs.	Prepare and implement a Paleontological Resources Monitoring and Mitigation Plan and a Worker's Environmental Awareness Program	Prior to and during of construction activities	**Implementation:** Applicant **Verification:** City of Santa Clarita

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Parties
	Monitoring shall be conducted by a paleontological monitor who meets the standards of the Society of Vertebrate Paleontology (2010) and shall be supervised by the project paleontologist, who may periodically inspect construction activities to adjust the level of monitoring in response to subsurface conditions. Monitoring efforts can be increased, reduced, or ceased entirely if determined adequate by the project paleontologist. Paleontological monitoring should include inspection of exposed sedimentary units during active excavations within sensitive geologic sediments. The monitor shall have authority to temporarily divert activity away from exposed fossils to evaluate the significance of the find and, should the fossils be determined significant, professionally and efficiently recover the fossil specimens and collect associated data. The monitor shall record pertinent geologic data and collect appropriate sediment samples from any fossil localities. Recovered fossils shall be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological repository (e.g., Natural History Museum of Los Angeles County). c. Prepare a Paleontological Resources Monitoring Report: Upon conclusion of ground-disturbing activities, the project paleontologist overseeing paleontological monitoring shall prepare a final Paleontological Resources Monitoring Report that documents the paleontological monitoring efforts for the project and describes any paleontological resources discoveries observed and/or recorded during the life of the project. If paleontological resources are curated, the final Paleontological Resources Monitoring Report and any associated data pertinent to the curated specimen(s) shall be submitted to the designated repository. A copy of the final Paleontological Resources Monitoring Report shall be filed with the City.			
Hazards and Hazardous Materials				
HAZ-1	**Soil Management.** The developer and/or project contractor shall prepare and implement a Soil Management Plan (SMP) for the removal of any identified contaminated soils and their transportation off-site. The Soil Management Plan shall be prepared in coordination with the City and the Los Angeles County Fire Department (as the Certified Unified Program Agency) and in accordance with all relevant and applicable federal, state, and local laws and regulations that pertain to the transportation and disposal of hazardous materials and waste. The Soil Management Plan shall: • describe the methodology to identify and manage (reuse or off-site disposal) contaminated soil during soil excavation and/or construction; and • provide protocols for confirmation sampling, segregation and stockpiling, profiling, backfilling, disposal, guidelines for imported soil, and backfill approval from the DTSC Information Advisory on Clean Imported Fill Material. The Soil Management Plan shall be implemented during project construction.	Prepare and implement a Soil Management Plan	Prior to and during construction	**Implementation:** Applicant and Construction Contractor **Verification:** City of Santa Clarita

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Parties
Tribal Cultural Resources				
TCR-1	**Native American Monitor.** The Applicant shall retain a professional Native American monitor procured by the Fernandeño Tataviam Band of Mission Indians to observe the first 5 days of scheduled activities which include clearing, grubbing, and grading operations. If cultural resources are encountered, the Native American monitor will have the authority to request ground disturbing activities cease within 60-feet of the discovery to assess and document potential finds in real time. A qualified archaeologist meeting Secretary of Interior standards shall also assess the find. Should the find be deemed significant, as defined by CEQA (as amended, 2015), the Applicant shall retain a professional Native American monitor procured by the Fernandeño Tataviam Band of Mission Indians to observe all remaining ground-disturbing activities including, but not limited to, excavating, digging, trenching, plowing, drilling, grading, leveling, clearing, driving posts, auguring, stripping topsoil or similar activity, and archaeological work.	Retain a professional Native American monitor procured by the Fernandeño Tataviam Band of Mission Indians Indians to observe ground-disturbing activities	Prior to and during construction	**Implementation:** Applicant **Verification:** City of Santa Clarita
TCR-2	**Native American Consultation**. The City 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.	Consult with the Fernandeño Tataviam Band of Mission Indians should tribal cultural resources be encountered	During ground-disturbing activities	**Implementation:** Applicant **Verification:** City of Santa Clarita
TCR-3	**Discovery of 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. 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.	Cease work in the event of discovery and contact the County Coroner	During ground-disturbing activities	**Implementation:** Applicant **Verification:** City of Santa Clarita

APPENDIX A

Report of Updated Geotechnical Plan Review Pacific Golden Valley

RTF&A
GEOTECHNICAL ENGINEERING & ENGINEERING GEOLOGY

July 8, 2021

PI Development , LLC
6272 Pacific Coast Highway, Suite E
Long Beach, CA 90803

Job No. 2020-003-001

Attention: Mr. Charley O'Desky

Subject: Report of Updated Geotechnical Plan Review
Pacific Golden Valley
26313 Golden Valley Road
Santa Clarita, California

Ladies/Gentlemen:

This report presents the findings of R. T. Frankian & Associates' (RTF&A) Updated Geotechnical Plan Review performed for the subject site in Santa Clarita, California. We previously prepared our referenced "Report of Limited Geotechnical Investigation" (R. T. Frankian & Associates [RTF&A], 2020) to determine subsurface conditions at the site relative to the proposed development at the subject site. Additional field work and laboratory testing was not performed as part of the current scope of work. The scope of work for our services was developed in coordination with Mr. Charley O'Desky, as outlined in our Work Authorization dated June 28, 2021 (Proposal No. P018(R)-2021).

SITE DESCRIPTION

The subject site is located at 26313 Golden Valley Road, in Santa Clarita, CA, on the western side of the road. The site generally consists of a hillside property located immediately west of and accessed via a paved access road off Golden Valley Road. Vegetated natural slopes lie to the north and west of this area. The Santa Clarita Sheriff Station is currently under construction to the south. One prefab structure, a storage bin, and associated fencing and gates are present on

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the site. This report only addresses geotechnical issues at the site. It is our understanding that other consultants have been retained to evaluate environmental issues at the site.

PROPOSED DEVELOPMENT

A Site Development Plan prepared by Alliance Land Planning & Engineering Inc., dated 5/24/21, was used as the base map for our Geotechnical Map, Figure 1. The plan indicates that the bulk of the surrounding ridges on the western side of the site will be cut while fill will generally be placed in the existing canyon areas in the eastern portion of the site. The grading will include cuts and fills of up to approximately 65 feet and 38 feet, respectively, to produce a level building pad bounded by descending and ascending 2:1 slopes. In addition, retaining walls up to about 12 feet in height are proposed as indicated on the Geotechnical Map, Figure 1.

SUBSURFACE EXPLORATIONS

Previous exploration of the site by RTF&A consisted of drilling two hollow-stem auger borings, supplemented by four test pits. The borings were drilled to depths of between 33 and 50 feet below current grade. Personnel from our office observed the drilling of the borings. Each boring was logged as it was drilled, and a set of drive samples and Standard Penetration Test (SPT) samples were obtained for laboratory examination and testing. Test pits were excavated using a track hoe to depths of 6 to 7.5 feet below existing grade. A staff member from our office observed the excavations and logged the pits after excavations were complete. Bulk samples were obtained for further visual classification and future laboratory testing, as deemed necessary. The boring and test pits logs (HS-1 to HS-2 and TP-1 to TP-4) were originally presented in our Limited Investigation report (RTF&A, 2020), but are also included in Appendix A of this report. The approximate locations of the excavations are shown on the Geotechnical Map, Figure 1.

SUBSURFACE CONDITIONS

Observations of the borings indicate that the level areas to the eastern side of the subject site consist of certified fill soils placed during previous grading operations for Golden Valley Road (RTF&A, 2003) and, at depth, alluvium. The fill soils generally consist of silty sand and sandy silt and are generally dense and moist with depth. The alluvial soils are underlain by Saugus Formation bedrock, consisting of siltstone and silty sandstone. Bedding planes observed in the bedrock generally dip westerly at approximately 10 degrees. The slopes in the northern, western, and southern portions of the site are likewise composed primarily of bedrock.

LABORATORY ANALYSIS

Laboratory tests were performed on the samples acquired from the borings and test pits to aid in the classification of the soils, for use in liquefaction analysis, and to determine the engineering properties of the foundation soils. The results of the analyses are presented in Appendix B. The following tests were performed:

- Moisture content and dry density determination
- Consolidation tests
- Direct shears tests
- Maximum density determination
- Expansion tests
- Sieve analysis
- Plasticity analysis
- Hydrometer analysis

SHEAR STRENGTH PARAMETERS

Presented below are the selected bedding plane shear strengths, as well as the cross-bedding and compacted fill shear strengths. As part of the evaluation of shear strength parameters to be used in slope stability calculations, the referenced reports concerning the nearby vicinity of the site were reviewed. The shear strengths were determined from laboratory tests performed on representative samples of the earth materials encountered within borings and review of previously approved City of Santa Clarita shear strength parameters presented in the referenced reports for the adjacent site and supplemented with additional direct shear testing as presented in our limited investigations report (RTF&A, 2020).

MATERIAL	COHESION (psf)	ANGLE OF SHEARING RESISTANCE (degrees)
Bedding Plane	200	18
Bedding Plane for Seismic Analysis	300	18
Saugus Cross Bedding	900	30
Compacted Fill	350	30
Alluvium	200	28

GEOLOGY

REGIONAL GEOLOGY

The subject site is located at the western end of the Soledad basin within the Transverse Ranges geomorphic province of California. The Soledad basin consists of an elongate, northeast trending basin, measuring approximately 30 miles long and 8 to 12 miles wide. The floor of the basin is irregular, with elevations ranging from 400 feet msl at its western end to as much as 2,500 msl feet near the eastern end.

The basin is bounded on the north, east, and south by ridges and mountain masses of relatively old crystalline rocks that, along with ancestral highland masses, have contributed large quantities of Cenozoic age sediments to the basin (Jahns and Muehlberger, 1954). More than 20,000 feet of stratified rocks were deposited into the elongate lowland area of the basin, with an additional 4,500± feet of volcanic rocks accumulated locally (Jahns and Muehlberger, 1954).

Structurally, the Soledad basin is a westerly plunging open syncline with locally wrinkled flanks (Bailey and Jahns, 1954). The basin appears to have been defined as a trough of deposition mainly by faults, receiving its sedimentary fill in a manner that was very irregular in detail. Repeated episodes of primarily early Tertiary deformation, both within and along the margins of the basin, is indicated by numerous faults, folds, and unconformities, as well as by the distribution and lithology of the sedimentary rocks (Jahns and Muehlberger, 1954). The early Miocene and younger strata of the basin, although maintaining the broadly synclinal structure, have been considerably less deformed (Bailey and Jahns, 1954). These deposits blanket many of the older faults of the basin, but are themselves offset by other faults, such as the nearby San Gabriel fault zone.

The San Gabriel fault zone, the dominant geologic feature in the Santa Clarita Valley, forms the southwestern boundary of the Soledad basin, and separates the basin from the structurally similar Ventura basin. At its closest point, the fault lies approximately 700 feet south-southwest of the site.

SITE GEOLOGY

The site is underlain by sedimentary rock units of the Plio-Pleistocene age Saugus Formation (map unit designation “TQs”). As observed on site, the Saugus Formation is composed of interbedded light brown to reddish-brown siltstone and sandstone. This formation is typically moderately to weakly cemented, and poorly indurated. The Saugus Formation is partially mantled by undifferentiated artificial fill materials and alluvial deposits, (Map unit “af/Qal”) consisting primarily of silty sand and sandy silt.

GROUNDWATER

The site is located in of Township 4 North, Range 14 West, Section 25, within the Eastern Hydrologic Subarea of the Upper Santa Clara River watershed of Los Angeles County. The closest known water well was a well that has be inactive since 1975. The well, designated by the LACDPW as Well No. 7098A, was located approximately 0.5 mile north of the site. LACDPW water level measurement records for this well cover a six-year period from October 1969 to April 1975. The highest observed water level in the well during that period was 16.1 feet below ground surface, measured on April 6, 1971. The last recorded water level from the well was 29.5 feet on April 30, 1975. The nearest active well (Well No. 7078F) is located approximately 1¾ miles to the northwest. Due to the distance from the site, the active well is not a good indicator of water levels, particularly historic high-water levels, within the vicinity of the site.

Groundwater was not encountered during our current 2020 explorations of the site. Based on review of the historic high groundwater contours presented on Plate 1.2 of the Seismic Hazard Zone report of the Newhall Quadrangle (California Division of Mines and Geology [CDMG], 1997), the nearest historic high groundwater contour corresponds to a depth of 15 feet below ground surface. The 15-foot contour lies along the alignment of Soledad Canyon Road, about ¾-

mile north of the site. The subject site is at an elevation that is more than 140 feet above the nearest historic high groundwater contour. Due to the distance from the site and elevation differential, the historic high groundwater map is not a good indicator of water levels, particularly historic high-water levels, within the vicinity of the site. Groundwater is not expected to be encountered during future grading operations.

ENGINEERING GEOLOGY

GENERAL

Potential geologic and geotechnical hazards include, but are not limited to, primary earthquake hazards (ground shaking and ground rupture), secondary earthquake hazards from earthquake ground shaking (such as liquefaction, tsunamis, and seiches), and landslides/slope instability. Earthquakes have the potential to inflict the greatest loss of life and property damage. Consequently, the location of a site to active or potentially active faults is a key element in assessing the potential for earthquake damage.

The major cause of damage from earthquakes is generally the result of strong ground shaking from movement along a fault or fault zone. Ground shaking could occur not only immediately adjacent to the earthquake epicenter, but within areas for many miles in all directions. Damage due to actual fault displacement or ground rupture beneath a structure may also occur; however, fault ground rupture is much less common, and typically confined to areas along, or immediately adjacent to, the surface trace of the fault.

Landslides are common hazards in southern California, particularly in hillside areas underlain by sedimentary rock units. Landslides can occur in terrain ranging from vertical cliffs to slopes as gentle as one or two degrees. Materials on slopes that are subject to landsliding include rock, soil, artificial fill, or combinations of these.

FAULTS

The numerous faults in California include both active and potentially active faults. In accordance with criteria established by the CGS for the Alquist-Priolo Earthquake Fault Zoning program (Hart and Bryant, 1997), a fault can be considered active if it has demonstrated movement within the Holocene epoch, or approximately the last 11,000 years. Faults that have demonstrated Quaternary movement (last 1.6 million years), but lack strong evidence of Holocene movement, are classified as potentially active. Faults that have not moved since the beginning of the Quaternary period are deemed inactive.

No known active or potentially active faults underlie the site, and the site is not within an Alquist-Priolo Earthquake Fault Zone, as established by CGS. The closest active (and zoned) fault to the site is the San Gabriel fault, located approximately 700 feet to the south-southwest. Although this fault is 700 feet from the site, the Alquist-Priolo Earthquake Fault Zone established for the San Gabriel fault ends approximately 2,000 feet southwest of the site. In our opinion, there is little probability of surface rupture due to faulting occurring on site. A discussion of nearby active and potentially active faults is presented in the following sections.

Active Faults: The nearest active fault to the site is the San Gabriel fault. The San Gabriel fault extends approximately 90 miles through the Transverse Ranges of southern California. The fault strikes southeasterly from near Frazier Mountain, forming the boundary between the dissected hills of the Ridge basin region on the northeast, and the Piru Mountains on the southwest. Between Castaic and the San Gabriel Mountains, the fault crosses beneath the Santa Clara River and the low hills of the Santa Clarita Valley, separating the Ventura basin on the west from the Soledad basin on the east. Southeast of the Santa Clarita Valley, the fault trends through the San Gabriel Mountains where the south branch merges with the Sierra Madre fault zone, and a northerly branch terminates near San Antonio Canyon (Weber, 1979).

The San Gabriel fault consists of a zone of imbricate steeply north-dipping faults. Throughout most of its extent, the fault has strong geomorphic expression, with the faults comprising the zone characterized by displaced geologic units, deflected drainages, strike valleys, notched ridges, subparallel faulting, fracturing, and folding (Oakeshott, 1958; Wentworth and Yerkes, 1971). According to Oakeshott (1958), no single fault plane in the fault zone can be traced for more than two to three miles before displacement appears to die out, to be taken over by movement along another plane subparallel to the first. The result is a zone of faulting ranging in width from a single plane, with no more than a few inches of gouge, to a half-mile-wide area of several fault planes, zones of brecciation, and very complex steep-limbed folds.

Within the Santa Clarita Valley, from Castaic Creek to the San Gabriel Mountains, the fault crosses the Castaic lowlands and the Santa Clara River where its course is marked by a belt of braided small faults and steep dips in Pliocene and Pleistocene beds. Since most of the displacement within the fault zone took place before deposition of these geologically young beds, the fault's trend through this area is not nearly as conspicuous as within the rocks along the southwestern margin of the Ridge basin or in the basement rocks of the San Gabriel Mountains (Crowell, 1982). The location of the fault, however, is somewhat defined by the steeply dipping and folded beds of the Plio-Pleistocene Saugus Formation, and the fault is exposed in cut slopes, roadcuts, and trenches.

Prior to 1979, most geologists studying the San Gabriel fault acknowledged that late Pleistocene (approximately the past 100,000 years) activity along the fault zone was probable, but evidence for possible Holocene activity was judged to be very questionable (Kahle, 1986). However, after completing a geologic and geomorphic investigation of the San Gabriel fault, Weber (1979) concluded that some evidence strongly suggested Holocene activity. Subsequently, Cotton and Seward (1984) conducted exploratory trenching along segments of the fault zone in the Santa Clarita Valley. Although no surface evidence of faulting was recognized, at least two trenches revealed displacement of Holocene age alluvial deposits. Radiocarbon analyses of detrital charcoal from faulted alluvial materials in a trench excavated in Rye Canyon yielded an age of 3,500,250 years before present. Alluvium dated as 1,550,190 years before present was shown to be unfaulted in the same trench, establishing limits of latest movement on the Castaic-Bouquet Junction segment of the San Gabriel fault.

Based on the findings of Weber (1979), Cotton and Seward (1984), and the recommendations of Kahle (1986) for a CDMG Fault Evaluation Report for the fault, the State Geologist established an Alquist-Priolo Earthquake Fault Zone for the San Gabriel fault in 1987 within the Newhall Quadrangle. The zone trends northwest-southeast across the Santa Clarita Valley from just north of Rye Canyon to the upper reaches of Oakdale Canyon, southeast of Bouquet Junction.

Other more distant, but significant active faults include the San Fernando fault zone, located approximately 6 miles south of the site, and the San Andreas fault zone, located approximately 18 miles to the northeast.

Potentially Active Faults: The potentially active Holser fault is situated approximately six miles west of the site. The Holser fault consists of a south-dipping, sharply folded reverse fault (Winterer and Durham, 1962) that trends east-southeast from near Piru Creek to at least Castaic Junction. The fault was probably first mapped in the late 1920's and later defined during development of the Ramona and Del Valle oil fields, located northwest of Castaic Junction. In the vicinity of these oil fields the Holser fault follows a somewhat sinuous surface trace generally paralleling the regional east-west structural alignment of the folded sedimentary rocks. The fault is traceable as far west as Piru Creek area where it merges with the Del Valle and San Cayetano faults (Yeats et al., 1994). East of the Del Valle oil field, the fault trace bends to the south and follows a course parallel to the southern portion of Hasley Canyon.

Near the mouth of Hasley Canyon, the Holser fault is inferred to pass beneath alluvium and, consequently, southeasterly into the Santa Clarita Valley. Within the valley, the Holser fault has been mapped as far east as Bouquet Junction (Winterer and Durham, 1962), although the fault's existence to the east and exact fault location becomes a matter of differing interpretation. Winterer and Durham (1962) and Weber (1979) suggest that this fault intersects the San Gabriel fault beneath the alluvium of Santa Clara River, but differ in depicting the intersection of the two faults. Winterer and Durham (1962) show the Holser fault/San Gabriel fault intersection at a point approximately ¾-mile southeast of Bouquet Junction. Weber (1979) depicts the intersection of the Holser "structural zone" with the San Gabriel fault near the mouth of San Francisquito Canyon, about 2¼ miles northwest of the Winterer and Durham location.

More recent findings by Stitt (1986), however, suggest that the Holser fault cannot be found in a subsurface cross section southwest of, and parallel to, the San Gabriel fault. Referencing Stitt's 1986 data, Yeats et al. (1994) show the easterly termination of the Holser fault at about Castaic Junction.

The Holser fault post-dates deposition of the Pico Formation and is believed to be a "backthrust" of a subsurface thrust fault that represents the intersection of the San Cayetano and Santa Susana faults at depth (Yeats et al., 1994). Weber (1979) states that there is no clear evidence of Holocene activity along the Holser fault, but "plentiful evidence" that activity has occurred in the past 100,000 years. Consequently, the fault is considered potentially active.

Other nearby potentially active faults include the Santa Susana fault, Northridge fault, and the Sierra Madre fault, located approximately 6 miles south-southwest, 11 miles south-southwest, and 16 miles east- southeast, respectively, of the site.

Blind-Thrust Faults: A growing body of geologic and seismologic data, supplemented by regional structural interpretations, suggests Pliocene to modern deformation in the Los Angeles basin is partly accommodated by developing basement-involved fold and thrust belts (Davis et al., 1989; Hauksson, 1990; Shaw and Suppe, 1996). The fold and thrust belts are expressed at the ground surface by elongate low-lying anticlinal ridges. At the core of these anticlinal ridges are low angle, blind-thrust faults rising off a basal detachment surface. Recognized blind-thrust faults in the Los Angeles and Ventura basins include the Elysian Park, Compton-Los Alamitos, Oakridge, and Northridge blind-thrust faults.

The closest known blind-thrust to the site is the Northridge blind-thrust fault. The site, however, is not underlain by any known blind-thrust fault.

LANDSLIDES

No landslides were previously mapped within the site boundaries, and no landslides were observed on the site during our exploration.

DEBRIS FLOW AND ROCKFALL HAZARD

In general, areas most susceptible to potential debris flow or rockfall are those located directly below and adjacent to natural slopes, or graded slopes lacking adequate drainage devices, such as benches or terrace drains. Within the subject site, due to the proposed grading and construction of proposed cut slopes with benches and terrace drains the potential for debris flow and rockfall hazard will be mitigated.

PROPOSED CUT SLOPES

Cut slopes ranging from about 30 to 40 feet in height are proposed for site as indicated on the Geotechnical Map, Figure 1 and Geologic Sections A-A' and B-B'. All slopes are proposed at gradients of no steeper than 2:1 (horizontal to vertical). The west facing cut slope depicted on Section B-B', Figure 2 indicates that bedding underlying the proposed cut slope (designated cut slope CS-2) dips 10 degrees to the west and is daylighted with respect to the west-facing cut slope. Slope stability calculation for the daylighted bedding condition illustrated in Geologic Section B-B’ is presented in Appendix E and meets generally factor of safety of 1.5 for static conditions and 1.1 for pseudostatic conditions, respectively.

SEISMIC DESIGN PARAMETERS

As with virtually all property in southern California, the site may be subjected to strong ground shaking during earthquakes on nearby or distant faults and the improvements should be designed to resist such shaking in accordance with current codes. The seismic data and liquefaction calculation are presented in Appendix C. If requested and authorized, we would be pleased to provide additional parameters utilizing other standards. The use of an appropriate seismic design parameter is referred to the Structural Engineer.

The following coefficients and factors apply to seismic force design of structures at the site. The parameters were determined using the Applied Technology Council (ATC) Seismic Design Maps website, based upon American Society Civil Engineers (ASCE) document ASCE 7-16. Since S1 is greater than 0.2, null was reported for Sm1 and Sd1 and it will be necessary for the Project Structural Engineer to determine Cs (Seismic Response Coefficient) with the exception for Site Class D presented in Section 11.4.8 of ASCE 7-16.

Latitude	34.408746
Longitude	-118.503783
Site Class	D
S_S	2.30
S_1	0.83
S_{MS}	2.30
S_{M1}	Null*
S_{DS}	1.54
S_{D1}	Null*
PGA_M	1.07

** See Section 11.4.8 of ASCE 7-16

LIQUEFACTION

Liquefaction may occur when saturated, loose to medium dense, cohesionless soils are densified by ground vibrations. The densification results in increased pore water pressures if the soils are not sufficiently permeable to dissipate these pressures during and immediately following an earthquake. When the pore water pressure is equal to or exceeds the overburden pressure, liquefaction of the affected soil layers occurs. For liquefaction to occur, three conditions are required:

- ground shaking of sufficient magnitude and duration;
- soils that are susceptible to liquefaction; and
- a groundwater level at or above the level of the susceptible soils during the ground shaking.

For a site to be considered susceptible to liquefaction using the criteria and methodology initially developed by Seed and Idriss (1982), liquefaction of underlying soil layers must result in an observed surface effect such as sand boils, mud-spouts, surface water seepage, ground cracking, or quicksand-like conditions.

Lateral spreading can result in ground cracking, and may occur when a site is sloped or is near a free-face and there is a sufficiently continuous liquefiable layer on which the overlying soils can move laterally.

Ground settlement may occur during seismic shaking of an area. The settlement can be caused by liquefaction of loose granular soils and by compaction of loose, but not necessarily liquefiable, soils.

The State of California Seismic Hazard Map for the Newhall Quadrangle indicates the alluvial areas of the subject site along existing Golden Valley Road are located within a potential liquefaction area. The locations of the hollow-stem auger borings that were drilled for the subject investigation are indicated on the attached Geotechnical Map, Figure 1. As previously mentioned, the logs for the borings are presented in Appendix A and the results of our laboratory tests are presented in Appendix B of this report. The results of our liquefaction calculations are presented in Appendix D.

Ground Shaking: Ground shaking of sufficient magnitude and duration to cause liquefaction can occur virtually anywhere within Southern California. The seismic parameters determined for the subject site resulted in a PGAm of 1.07g. The deaggregation obtained from the USGS website indicates the mean contribution to acceleration is a 6.77 magnitude earthquake located 8.4 kilometers from the site. The seismic data and liquefaction calculation are presented in Appendix C.

Conclusions: Based on the results of our analyses, some of the naturally deposited soils beneath the site may be subject to dry settlement in the event of a large earthquake on a nearby fault that produces the design-level ground motions. This will result in seismically induced ground settlement of up to 0.60 inches at HS-1 and 0.36 inches at HS-2. The recommended liquefaction mitigation at this site consists of structural mitigation to withstand the anticipated ground shaking and static and seismic induced settlement. The project Structural Engineer should also be consulted regarding the design of structural components of the buildings to reduce adverse impacts associated with liquefaction-induced settlement of the proposed structures at the site.

INFILTRATION

At the completion of the proposed grading operations, the surface of the subject site is expected to consist of either relatively shallow certified compacted fill cap overlying bedrock in the existing cut areas or deeper fill soils greater than 25 feet overlying alluvial soils. All the alluvial soils at the site are underlain by bedrock. In addition, the alluvial soils at the site are designated by the State of California as having the potential of being subject to liquefaction when saturated. Accordingly, the only appropriate potential for on-site infiltration is within the existing near-surface compacted fill soils.

Since the proposed grading has not yet been performed, it was not possible to perform field infiltration testing of existing compacted fill. However, infiltration tests were performed in accordance with the Boring Percolation Test Procedure method presented in the LACDPW "Guidelines for Design, Investigation, and Reporting Low Impact Development Stormwater Infiltration" (Form GS200.1, dated December 31, 2014) on the existing compacted fill at the adjacent Sheriff Station by R. T. Frankian & Associates (RTF&A) as presented in our geotechnical investigation report (RTF&A, 2017), Infiltration testing at four locations of the existing compacted fill building pad at a depth of about 3 feet were previously performed and resulted in an average corrected infiltration rate of 0.15 inches per hour with a maximum infiltration rate of .018 inches per hour.

The compacted fill soils on the adjacent Sheriff Station are expected to be representative of the future compacted fill soils at the subject site as they will be generated from similar geologic materials. The results of infiltration testing of representative compacted fill indicate that the future compacted fill soils will not meet the minimum County LID infiltration rate of 0.3 in/hr. It is recommended that infiltration into the subsurface compacted fill soils not occur at the subject site and that stormwater mitigation requirements be achieved by methods other than on-site infiltration.

SUMMARY OF GEOTECHNICAL RECOMMENDATIONS

This portion of the submittal has been prepared to summarize our geotechnical recommendations pertaining to grading of the site of the proposed warehouse and office space structure. The recommended bearing material for the proposed structures within the subject development is compacted fill soil, to be placed as part of site grading.

GRADING

General: The following sections present recommendations for site grading. The applicability of the preliminary recommendations given in the following sections for foundation and retaining wall design should be confirmed at the completion of grading. Paving studies and additional soil corrosivity tests should be performed at the completion of rough grading to develop detailed recommendations for protection of utilities, structures, and for construction of the proposed roads.

Site Preparation: Prior to performing earthwork, the existing vegetation and any deleterious debris should be removed from the site. Existing utility lines should be relocated or properly protected in place. All unsuitable soils and uncertified fills in the areas of grading receiving new fill should be removed to competent earth materials and replaced with engineered fill. Any fill required to raise the site grades should be properly compacted.

All existing uncertified fill soils and upper unsuitable alluvial soils should be removed and recompacted prior to placement of additional fill. After excavation to the recommended removal depth, further excavation should be performed, if necessary, to remove any additional unsuitable material.

Removal Depths: The required depth of removal and recompaction of the existing compacted fill or natural soils prior to the placement of compacted fill are indicated on the Geotechnical Map (Figure 1). Deeper removals will be required if disturbed or unsuitable soils are encountered. The Geotechnical Consultant of Record may require that additional shallow excavations be made periodically in the exposed bottom to determine that sufficient removals have been made prior to recompacting the soil in place. Deeper removals may be recommended by RTF&A based on observed field conditions during grading. During grading operations, the removal depths should be observed by a representative of RTF&A and surveyed by the Project Civil Engineer for conformance with the recommended removal depths shown on the grading plan.

Expansive Bedrock Requirements: It is anticipated that bedrock materials exposed at pad grade may contain expansive claystone beds that could cause differential expansion. Therefore, within building areas at locations where expansive bedrock units are exposed at pad grade, it is recommended that the bedrock be removed and recompacted to a depth at least 8 feet below the proposed final pad elevations or 3 feet below the bottom of proposed footings, whichever is greater. It is also recommended that in exposed bedrock areas receiving pavement or hardscape improvements, the bedrock be removed and recompacted to a depth at least 3 feet below proposed soil subgrade. The soils generated by these over-excavations should be mixed with non-expansive soils to yield a relatively non-expansive mixture. Should the resulting fill soil still be expansive, special construction techniques, such as pad subgrade saturation or post-tensioned slabs, may be required to reduce the potential for expansive soil–related distress.

Transition Lot Requirements: Proposed building pads located in a cut and fill transition zone may experience cracking and movement of the footings and slab due to differing compressibility of the fill, as compared to the bedrock material. To reduce the potential for cracking and differential settlement, the portion of the lot in cut bedrock or terrace deposits should be over-excavated to a depth at least 5 feet below the proposed finished pad elevation or 3 feet below the bottom of proposed footings, whichever is greater. The over-excavation should extend at least 5 feet laterally beyond the building limits, or 1 foot laterally for each 1 foot over-excavated below proposed finished pad elevation, whichever is greater. Where removal and recompaction for potentially expansive soils or bedrock is also required, it is recommended that the 8 foot removals be performed as described in the "Expansive Bedrock" section of this report.

Expansive Soil Requirements: The on-site alluvial soils are expected to have a very low to low potential for expansion. Compacted fills generated from bedrock formational materials are expected to have up to a medium potential for expansion. The compacted fills generated by the onsite materials are expected to be classified as having a very low to medium potential for expansion. Samples of the compacted fill should be obtained at the completion of the rough grading operations to be included in the rough grading as-built report and support final foundation design.

Material for Fill: The on-site soils, less any debris or organic matter, may be used in the required fills. Rocks or hard fragments larger than 12 inches may not be placed in the fill without special treatment. Rocks or hard fragments larger than four inches shall not be clustered or compose more than 25 percent by weight of any portion of the fill or a lift. Soils containing more than 25 percent rock, or hard fragments larger than four inches must be removed or crushed with successive passes (i.e., with a sheepsfoot roller) until rock or hard fragments larger than four inches constitute less than 25 percent of the fill or lift.

Oversized Material: Rocks or material greater than 12 inches in diameter, but not exceeding four feet in largest dimension, shall be considered oversized rock. The oversize rocks can be incorporated into deep fills where designated by the Geotechnical Consultant of Record. Rocks should be placed in the lower portions of the fill and should not be placed within the upper ten feet of compacted fill, or nearer than 15 feet to the surface of any fill slope. Windrows should be excluded from areas of proposed utilities, pools, and other types of future underground improvements. Additional costs and construction difficulties should be anticipated if future improvements are located in areas where there will be conflicts with existing windrows. Rocks between 12 inches and four feet in diameter shall be placed in windrows or shallow trenches located so that equipment can build up and compact fill on both sides. The width of the windrows shall not exceed four feet. The windrows should be staggered vertically so that one windrow is not placed directly above the windrow immediately below. Rocks greater than one foot in diameter shall not exceed 30 percent of the volume of the windrows. Granular fill shall be placed on the windrow and enough water should be applied so that soil can be flooded into the voids. Fill should be placed along the sides of the windrows and compacted as thoroughly as possible. After the fill has been brought to the top of the rock windrow, additional granular fill should be placed and flooded into the voids. Flooding is not permitted in fill soils placed more than one foot above the top of the windrowed rocks.

Where utility lines or pipelines are to be located at depths greater than 15 feet, rock shall be excluded in that area. Excess rock that cannot be included in the fill, or that exceeds four feet in diameter, should be stockpiled for export or used for landscaping purposes.

Environmental Concerns: The geotechnical investigations included subsurface explorations to develop data specific to addressing the geologic and geotechnical aspects of the site. Assessing and/or characterizing the environmental conditions within the site or determining the effects of environmental conditions on the proposed development was not part of our geotechnical investigation. It is recommended that allowances and contingencies be in place if trash and/or other materials of environmental concern are encountered.

Import Material: Import material should consist of relatively non-expansive soils with an expansion index less than 30. The imported materials should contain sufficient fines (binder material) so as to be relatively impermeable and result in a stable subgrade when compacted. The import material should be free of organic materials, debris, and rocks larger than 12 inches. A bulk sample of potential import material, weighing at least 25 pounds, should be submitted to the Geotechnical Consultant of Record at least 48 hours in advance of fill operations. All proposed import materials should be approved by the Geotechnical Consultant of Record prior to being placed at the site.

Compaction: After the site is cleared and excavated as recommended, the exposed soils should be carefully observed for the removal of all unsuitable material. Next, the exposed subgrade soils should be scarified to a depth of at least six inches, brought to above optimum moisture content, and rolled with heavy compaction equipment. The upper six inches of exposed soils should be compacted to at least 90 percent of the maximum dry density obtainable by the ASTM D 1557-91 Method of Compaction.

After compacting the exposed subgrade soils, all required fills should be placed in loose lifts, not more than eight inches in thickness, and compacted to at least 90 percent of their maximum density. For fills placed at depths greater than 40 feet below proposed finish grade, a minimum compaction of 93 percent of the maximum dry density is required. The moisture content of the fill soils at the time of compaction should be above the optimum moisture content. Compacted fill should not be allowed to dry out before subsequent lifts are placed.

Rough grades should be sloped so as not to direct water flow over slope faces. Finished exterior grades should be sloped to drain away from building areas to prevent ponding of water adjacent to foundations.

Shrinkage and Bulking: Shrinkage of about 12 to 15 percent is estimated for the on-site natural alluvial soils when removed and placed as compacted fill. A bulking value of about 3 to 6 percent is estimated for materials generated from Saugus Formation bedrock cut areas for use as compacted fill. The actual shrinkage and bulking will depend upon the relative compaction obtained by the contractor during grading operations and would be expected to change on a daily basis.

Permanent Slopes: Permanent cut and fill slopes may be inclined at 2:1, or flatter. The current rough grading plan indicates that the steepest slope to be constructed at the site during grading will be 2:1.

Proposed Cut Slopes: Cut slopes proposed for the rough grading of the site are no greater than 30 feet in height and are shown on the Geotechnical Map. The underlying geologic structure is stable relative to proposed cut slopes. All cut slopes should be constructed at a gradient of 2:1 or flatter. All grading should conform to the minimum recommendations presented in this report. If these slopes are modified from those that are discussed in this report, the modifications should be reviewed by RTF&A to ascertain the applicability of our recommendations.

Temporary Slopes: For purposes of construction, the soils encountered at the site should not be expected to stand vertically for any significant length of time in cuts four feet or higher. Where the necessary space is available, temporary unsurcharged embankments may be sloped back at a 1:1 gradient without shoring, up to a height of 40 feet in competent bedrock with favorable bedding. Where any cut slope exceeds a height of 40 feet within competent bedrock, a bench at least 10 feet wide should be located at mid-height. Within alluvial or compacted fill material, temporary excavations may be made at a 1:1 cut to a height of 15 feet. If the temporary construction embankments are to be maintained during the rainy season, berms are recommended along the tops of the slopes, where necessary, to prevent run-off water from entering the excavation and eroding the slope faces.

Where sloped embankments are used, the tops of the slopes should be barricaded to prevent vehicles and storage loads within five feet of the tops of the slopes. A greater setback may be necessary when considering heavy vehicles, such as concrete trucks and cranes; we should be advised of such heavy vehicle loads so that specific setback requirements can be established.

All applicable safety requirements and regulations, including OSHA regulations, should be met.

Fill Slopes: Where the toe of a fill slope terminates on natural, fill, or cut, a keyway is required at the toe of the fill slope. The fill slope keyway should be a minimum width of 12 feet, be founded within competent material, and should extend a horizontal distance beyond the toe of the fill to the depth of the keyway. The keyway should be sloped back at a minimum gradient of two percent into the slope. The width of fill slopes shall be no less than eight feet and under no circumstances should the fill widths be less than what the compaction equipment being used can fully compact. Benches should be cut into the existing slope to bind the fill to the slope. Benches should be step-like in profile, with each bench not less than four feet in height and established in competent material. Compressible or other unsuitable soils should be removed from the slope prior to benching. Competent material is defined as being essentially free of loose soil, heavy fracturing, or erosion-prone material and is established by the Geotechnical Consultant of Record during grading.

Where the top or toe of a fill slope terminates on a natural or cut slope and the natural or cut slope is steeper than a gradient of 3:1, a drainage terrace with a width of at least six feet is recommended along the contact. As an alternative, the natural or cut portion of the slope can be excavated and replaced as a stability fill to provide an all-fill slope condition. Where the contact between the face of the fill slope and the face of a lower natural or cut slope is inclined at 45 degrees or steeper, a drainage terrace would not be required.

When constructing fill slopes, the grading contractor shall avoid spillage of loose material down the face of the slope during the dumping and rolling operations. Preferably, the incoming load shall be dumped behind the face of the slope and bladed into place. After a maximum of four feet of compacted fill has been placed, the contractor shall backroll the outer face of the slope by backing the tamping roller over the top of the slope, thoroughly covering the entire slope surface with overlapping passes of the roller. The foregoing should be repeated after the placement of each four-foot thickness of fill. As an alternative, the fill slope can be overbuilt, and the slope cut back to expose a compacted core. If the required compaction is not obtained on the fill slope, additional rolling will be required prior to placement of additional fill, or the slope shall be overbuilt and cut back to expose the compacted core.

Surface Drainage: All surface drainage should be directed away from proposed structures through non-erosive devices. The ponding of water must not be allowed, especially adjacent to foundations. The pad gradients should not slope toward any descending slopes to reduce the potential for surficial erosion. Water that flows towards slopes should be conducted to appropriate discharge locations via non-erodible drainage devices. Drainage devices, including drainage terraces on graded slopes, should be inspected periodically and kept clear of debris. Drainage and erosion control should be designed in accordance with the standards set forth in the CBC.

Any modification of the grades of building pads, parking areas, etc., could adversely affect drainage at the site. Future landscaping, construction of walkways, planters, and walls, etc., must never modify site drainage unless additional measures to enhance drainage (e.g., area drains, additional grading, etc.) are designed and constructed in accordance with the applicable Los Angeles County regulations.

Erosion Protection: To reduce the potential for erosion, all permanent cut and fill slopes on-site should be seeded or planted with lightweight, deep-rooting, drought-resistant vegetation. A landscaping expert should be consulted for ground cover recommendations. Excessive landscape irrigation or leakage from irrigation lines can cause localized slope failures. Therefore, irrigation systems for slope vegetation should be designed and maintained to minimize leakage onto graded slopes. If automatic sprinkler systems are used, they should be adjusted for seasonal variations in rainfall. Vegetation on natural slopes should remain natural and not be landscaped or irrigated in the same manner as graded slopes.

Rodent burrows are known to provide direct conduits for water flow that can decrease slope stability. Therefore, to maintain the integrity of graded slopes, a rodent abatement program should be instituted.

Even with the implementation of these recommendations, it is not possible to eliminate erosion within hillside developments. Removal of debris from drainage devices, slope

EXPANSIVE SOILS

Samples of on-site soils that will be used for compacted fill were obtained to determine their expansion potential; the results of the tests performed on two samples indicate that the on-site materials generally have an Expansion Index of 14 (very low) and 38 (low), respectively as presented in Appendix B.

FOUNDATIONS

General: The proposed buildings may be supported on continuous or individual spread footings established in properly compacted fill soil. The provided design values are based on our investigation and laboratory test results. A formal review of future foundation plans should be performed prior to commencement of construction.

Footings should not be constructed any closer than 5 feet to the face of a descending slope, measured horizontally from the outer bottom edge of the proposed footing. In addition, footings should not be constructed any closer to the face of a descending slope than one-third the height of the slope, with a maximum setback distance of 40 feet. In case of constructing footings adjacent to the face of an ascending slope, the horizontal distance from the outer bottom edge of the proposed footing to the toe of the slope should not be any closer than one-half the height of the slope or 15 feet, whichever is less.

Bearing Capacity: It is assumed that the proposed building foundations will be founded near final grade, have interior loads of not more than 200 kips at column locations and continuous footing loads that will not exceed three kips per lineal foot, and have normal floor loads with no special requirements. Individual column pads or wall footings should have a width of at least 12 inches and be placed at a depth of at least 18 inches below the lowest final adjacent grade.

It is anticipated that structures may be supported on spread footings using a bearing value of 2,500 pounds per square foot (psf) when established within properly compacted fill soils. There should be at least 3 vertical feet of compacted fill below the bottom of proposed footings. The recommended bearing value is a net value and the weight of the concrete in the footings may be taken as 50 pounds per cubic foot (pcf). The weight of soil backfill may be neglected when determining the downward loads from the footings. A one-third increase in the bearing value may be used for temporary loads such as wind or seismic loads when allowed by the CBC.

It may be required to construct incidental structures, such as trash enclosures or decorative walls. Spread footings may be used to provide support for incidental structures, provided they are separate and unattached from adjacent structures. Footings for incidental structures should be founded at depths of at least 12 inches below the lowest adjacent final grade, and have widths of at least 12 inches. Incidental footings may be designed using a bearing value of 1,500 psf for combined dead and frequently applied live loads. This bearing value may be increased by one-third for the total of all loads, including seismic or wind forces.

Foundations should be deepened, where necessary, to prevent surcharge loads from being imposed upon adjacent foundations or utilities. Surcharge loads should be assumed to be distributed out from the bottom edge of foundations at 45-degree angles. Foundation excavations should be cleaned of all loose material and be observed and approved by a representative of the Geotechnical Engineer of Record prior to casting concrete.

The Foundation Plans for the subject improvements should be reviewed by the Geotechnical Engineer of Record. The Geotechnical Engineer of Record should sign and stamp the plans, provided the plans have been found to conform to the geotechnical recommendations presented in this report.

Lateral Resistance: Lateral loads may be resisted by soil friction and by the passive resistance of the soils. A coefficient of friction of 0.4 may be used between the footings, floor slabs, and the supporting soils. The passive resistance of properly compacted fill soils may be assumed to be equal to the pressure developed by a fluid with a density of 300 pcf, increasing with depth and limited to a maximum pressure value of 3,000 psf. A one-third increase in the passive value may be used for wind or seismic loads. The frictional resistance and the passive resistance of the soils may be combined without reduction in determining the total lateral resistance.

Settlement: Provided that the structures are founded in compacted fill soils as recommended, we estimate that the combined total static and seismic settlement will be about 1.5 inches. Differential settlement within a horizontal distance of 30 feet is estimated to be about 1.0 inch.

FLOOR SLAB SUPPORT

General: The floor slab design recommendations presented in this section are based upon the assumption that the soil subgrade in proposed floor slab areas will consist of compacted fill soil and that floor slabs will be subjected to normal loads with no special requirements. All floor slabs should be designed to resist the static and seismic settlement estimates presented in this report. Any surficial soils that become dried or disturbed during construction should be moisture-conditioned and compacted prior to casting the floor slab.

Expansive Soil Conditions: The upper soils encountered during our investigation ranged from very low to low potential for expansion. The highest expansion obtained was a test performed on a bulk sample of the upper soils from TP-2 that resulted in an Expansion Index of 38, which is a "low" potential for expansion. Perimeter grades around each building should be sloped in a manner allowing water to drain away from the structure and not pond next to the foundations. Roof down drains should be connected to underground pipes carrying water away from the building areas or have extenders so water does not drain and pond next to the buildings. As previously mentioned in the "Grading" section of this report, if import soils are required to establish final grade, they should consist of relatively non-expansive soils.

Floor Slabs: The floor slab recommendations presented in this section assume that the soil subgrade will consist of compacted fill soil. Any near-surface soils that become dried or disturbed during the course of construction should be moisture-conditioned and compacted prior to casting slabs.

Additional expansion testing should be done at the completion of rough grading operations. Conventional floor slabs may be used for the subject development provided they are designed in accordance with the recommendations of this report and the on-site soils consist of very low to low expansive materials. Post tensioned foundations will be recommended for medium expansive conditions or other mitigation measures will be required.

Concrete floor slabs should have a thickness of at least 5 inches and be reinforced with No. 4 reinforcing bars spaced 18 inches, on center, in orthogonal directions. Floor slabs should be designed in accordance with Section 1808.6.2 of the California Building Code (CBC), utilizing the geotechnical design parameters presented in this and the referenced reports.

The following parameters only consider design components relative to the expansion potential of the soil. Foundation design should also account for anticipated static and dynamic settlement in addition to the design considerations relative to the expansiveness of the soil.

Edge Moisture Variation Distance		
Em (Center Lift):	5.25 feet	
Em (Edge Lift):	2.5 feet	
Estimated Differential Movement	Low	Medium
Ym (Center Lift):	0.25 inch	0.9 inches
Ym (Edge Lift):	0.6 inch	0.7 inches

Post-Tensioned Floor Slabs: Post-tensioned floor slabs should be designed per the recommendations of the CBC. The design values, presented following this paragraph, assume that the proposed floor slabs will be poured monolithic with continuous perimeter edge footings. Perimeter edge footings should have a minimum depth of 18 inches. Footing depths should be measured from the lowest adjacent grade for perimeter footings or the top of slab for interior footings. Post-tensioned slabs can be used as an alternative to conventional slabs and are recommended for Medium expansive conditions.

Net Bearing Value:	An allowable net bearing value of 2,500 psf may be used for footings with a minimum depth of 12 inches below the lowest adjacent grade.
Coefficient of Friction:	0.75
Passive Pressure:	250 pcf for level ground condition
Modulus of Subgrade Reaction (K):	150 pounds per cubic inch (pci) for a footing width of one foot. For larger footings or floor slabs, this value should be reduced using the following equation: $Kr = K\left[\frac{(B+1)}{2B}\right]^2$
	where:
	Kr = Reduced Modulus Value

	K = Modulus of Subgrade Reaction for a One-Foot-Wide Plate B = Width of Large Footing or Slab
Modulus of Elasticity:	1,000 pounds per square inch (psi)
Edge Moisture Variation Distance	
Me (Center Lift):	5.25 feet
Me (Edge Lift):	2.5 feet
Estimated Differential Movement	Low Medium
My (swelling):	0.25 0.9
My (shrink):	0.6 0.7

Water Vapor Mitigation: Water vapor transmitted through floor slabs is a common cause of floor covering problems. An impermeable membrane "vapor barrier" should be installed to reduce excess vapor drive through the floor slab. The function of the impermeable membrane is to reduce the amount of water vapor transmitted through the floor slab. Vapor-related impacts should be expected in areas where a vapor barrier is not installed.

Floor slabs should be underlain by a vapor barrier surrounded by 2 inches of sand above and below it. The membrane should be at least 10 millimeters thick; care should be taken to preserve the continuity and integrity of the membrane beneath the floor slab. The sand should be sufficiently moist to remain in place and be stable during construction; however, if the sand above the membrane becomes saturated before placing concrete, the moisture in the sand can become a source of water vapor.

Another factor affecting vapor transmission through floor slabs is a high water-to-cement ratio in the concrete used for the floor slab. A high water-to-cement ratio increases the porosity of the concrete, thereby facilitating the transmission of water and water vapor through the slab. The Project Structural Engineer or a concrete mix specialist should provide recommendations for design of concrete for footings and floor slabs in accordance with CBC, with consideration of the above comments.

Alternative methods of providing floor slab water vapor mitigation have also been successfully utilized. If requested, we would be pleased to provide geotechnical comment if it is desired to utilize alternative mitigation methods. These recommendations may be superseded by the design team based on their experience with alternative mitigation methods. However, RTF&A assumes no responsibility related to adverse impacts associated with superseding the recommendations of this report.

PAVEMENT DESIGN

Samples of the on-site soil should be obtained from near final grade elevation in proposed pavement areas, following the grading operations, to perform R-value tests. The R-value test results would be used to prepare final pavement section recommendations. The preliminary pavement section recommendations presented below assume that the on-site subgrade soils will have an R-value of at least 19. The final pavement section recommendations could vary depending on the results of the actual R-value tests. We would be pleased to provide pavement section recommendations for alternative Traffic Index values upon request.

TRAFFIC INDEX	**ASPHALT THICKNESS (INCHES)**	**BASE COURSE THICKNESS (INCHES)**
4	4	5
6	4	9
8	5	14
10	7	17
12	8	22

Base course material should consist of either crushed aggregate base (CAB) as defined by Section 200-2.2 of the Standard Specifications for Public Works Construction (Greenbook), or Crushed Miscellaneous Base (CMB), as defined by Section 200-2.4 of the Greenbook. Base course should be compacted to at least 95 percent of the maximum dry density of that material.

Base course material should be purchased from a supplier who will certify the base course will meet or exceed the specifications in the Greenbook as indicated. We could, at your request, perform sieve analysis and sand equivalency tests on material delivered to the site which appears suspect. Additional tests could be performed, upon request, to determine if the material is in compliance with the specifications.

The pavement section recommendations presented above are based upon assumed Traffic Index values. RTF&A does not take responsibility for the numerical determination of the Traffic Index values or the areas where they apply within the site.

Portland Cement Concrete pavement (PCC pavement) can be placed directly on at least 4 inches of CAB compacted to a minimum of 95 percent of the maximum dry density. The soil subgrade underlying the CAB should be compacted to a minimum of 90 percent of the maximum dry density. The thickness of pavement should be in accordance with the following table. The water-to-cement ratio of the concrete should be no more than 0.5, with a minimum compressive strength of 3,000 pounds per square inch (psi).

TRAFFIC INDEX	PCC PAVEMENT THICKNESS (INCHES)
6	8
10	9
12	10

The layout of PCC paving joints should be determined by the Civil Engineer preparing the site plan with consideration of the following joint spacing and reinforcement recommendations. These recommendations may be superseded by a Civil Engineer with pavement design expertise. The PCC pavement should include longitude and transverse joints at intervals not to exceed 15 feet on center. The joints should be saw cut within four hours of the concrete pour. Jointing should not allow any concrete areas to remain in which the length of the concrete rectangle exceeds 1.5 times the base. All joints should be reinforced with centered, 30-inch-long #4 bars at 30 inches on center.

RETAINING WALLS

General: A bearing value of 2,000 psf may be used in the design of retaining wall footings. Backfill placed behind retaining walls should be compacted to a minimum of 90 percent of the maximum dry density, as determined by the Soil Compaction Test Method (ASTM Standard D1557). When backfilling, walls should be braced. Heavy compaction equipment should not be used any closer to the back of the wall than the height of the wall. Soils that have an expansion index more than 30 should not be utilized for backfill behind walls that are greater than 3 feet in height. The backs of retaining walls should be water-proofed where aesthetics are concerned. RTF&A should be review and approve the Retaining Wall Plans for the project, prior to the initiation of construction.

Lateral Earth Pressure: Cantilevered retaining walls separate and independent of buildings, where the surface of the backfill is level and the retained height of soils is less than 15 feet, may be designed assuming that drained, non-expansive soils will exert a lateral pressure equal to that developed by a fluid with a density of 35 pounds per cubic foot (pcf). The indicated pressure assumes that a lateral deflection of up to about one percent of the wall height is acceptable at the top of the wall. If it is desired to decrease the amount of potential wall deflection, a greater lateral pressure could be used in the wall design.

Where the surface of the backfill is inclined at 2:1, it may be assumed that drained soils will exert a lateral pressure equal to that developed by a fluid with a density of 50 pcf.

For the design of a rigid wall where rotation and lateral movement are not acceptable, as in the case of buildings, it may be assumed that drained, nonexpansive soils will exert a rectangular lateral pressure with a maximum pressure equal to 25H psf, where “H” is the wall height in feet. The pressure value and distribution may vary significantly when considering wall rigidity and restraining conditions. The structural characteristics of the wall are referred to the Project Structural Engineer. If requested, we can provide additional geotechnical design parameters for specific restrained conditions.

In addition to the recommended earth pressure, walls should be designed to resist any lateral surcharges due to nearby buildings, storage, or traffic loads. A drainage system should be provided behind the walls to reduce the potential for development of hydrostatic pressure.

Traffic Surcharge Loads: Retaining walls should be designed to resist any applicable surcharge loads generated from vehicle traffic that occurs within 10 feet of the top of a retaining wall. It should be assumed that drained soils that are subjected to vehicle loads of up to 300 psf will exert a uniform lateral pressure of 100 psf on the upper 10 feet of proposed retaining walls.

Seismic Lateral Earth Pressure: The preceding recommended values indicate earth pressures for conventional static loading conditions. Ground shaking associated with earthquakes may cause additional pressure on walls. In addition to the previously mentioned lateral earth pressures, it is recommended that all rigid (building) walls of any height, and cantilevered retaining walls greater than 6 feet in height, be designed to support an additional seismic earth pressure equal to an inverted equivalent fluid pressure of 29 pcf.

Wall Drainage: A drainage system should be provided behind retaining walls or the walls should be designed to resist hydrostatic pressures. If a drainage system is not installed, walls should be designed to resist an additional hydrostatic pressure equal to that developed by a fluid with a density of 55 pcf for the full height of the wall. The drainage system could consist of a 4-inch diameter perforated pipe placed 6 inches from the base of the wall, with the perforations down, and connected to an outlet device. The pipe should be sloped at least 1 inch per 50 feet, but in no instance shall the pipe be elevated more than 2 feet above the bottom of the wall, and surrounded on all sides by at least 6 inches of clean gravel. The gravel should be "burrito-wrapped" with filter fabric, such as Mirafi 140N or equivalent. As an alternative to the gravel and filter fabric, filter material meeting the requirements of Los Angeles County Flood Control District Designated F-1 Filter Material and slotted pipe may be used. The backside of the wall should be waterproofed. RTF&A is not a water proofing consulting and will not be able to assist with water proofing design recommendations. It is recommended that the design team consult with a water proofing expert to aid in the specification and detailing of water proofing recommendations, as appropriate.

A vertical, 6-inch-wide gravel chimney drain, or a drainage geocomposite such as Miradrain, should be placed against and behind retaining walls that are higher than 3 feet. The top of the backdrain should be capped with 18 inches of properly compacted on-site soils.

The installed drainage system should be observed by the Geotechnical Consultant of Record prior to backfilling the system. Inspection of the drainage system may also be required by the reviewing governmental agencies.

Density of Backfill: When designing retaining walls to resist over-turning, it can be assumed that compacted, on-site soils will have a density of 125 pcf.

UTILITY TRENCH BACKFILL

Backfill soil placed within trenches excavated for installation of utility lines must be mechanically compacted to at least 90 percent of the maximum density from the top of pipe or bedding materials up to finish grade. Detailed recommendations for compaction of utility trenches can be provided upon request.

CONCLUSIONS

On the basis of our geotechnical investigation, we conclude that there are no potential geotechnical hazards that could adversely impact the proposed site development using typical hillside grading development and grading ground improvement for liquefaction mitigation. In our opinion, the site is suitable for the proposed development as indicated on the attached Geotechnical Map, Figure 1.

REGULATORY STATEMENT

Based on the findings summarized in this submittal, it is our professional opinion that the proposed grading, and any proposed structures at the site, will be safe from hazards of settlement, slippage, or landslide, provided that the recommendations of this submittal and those of the City of Santa Clarita Code are incorporated into the proposed construction. Additionally, the grading performed at the site will not adversely affect the geotechnical conditions on adjacent properties.

OBSERVATION AND TESTING

This report has been prepared assuming that RTF&A will perform all geotechnically related field observations and testing. If the recommendations presented in this report are utilized, and observation of the geotechnical work is performed by others, the party performing the observations must review this report and assume responsibility for recommendations presented herein. That party would then assume the title "Geotechnical Consultant of Record."

A representative of the Geotechnical Consultant should be present to observe all grading operations as well as all footing excavations. A report presenting the results of these observations and related testing should be issued upon completion of these operations.

-oOo-

The following are attached and complete this report:

- References
- Geotechnical Map, Figure 1
- Geologic Sections, Figure 2
- Appendix A - Explorations
- Appendix B – Laboratory Testing
- Appendix C – Seismic Design Parameters
- Appendix D – Liquefaction Calculations
- Appendix E – Slope Stability Calculations

ALAN W. RASPLICKA
No. GE 2558

Respectfully submitted,

R. T. FRANKIAN & ASSOCIATES

Alan W. Rasplicka

by: Alan W. Rasplicka
Principal Geotechnical Engineer

TIMOTHY P. LATIOLAIT
#1140
NO. 3749

Timothy P. Latiolait

and: Timothy P. Latiolait
Principal Engineering Geologist

Distribution: PI Development, LLC Attn: Mr. Charley O’Desky, Attn: Ms. Amanda Criscione
Alliance Land Planning & Engineering, Inc., Attn: Mr. Craig Whitteker

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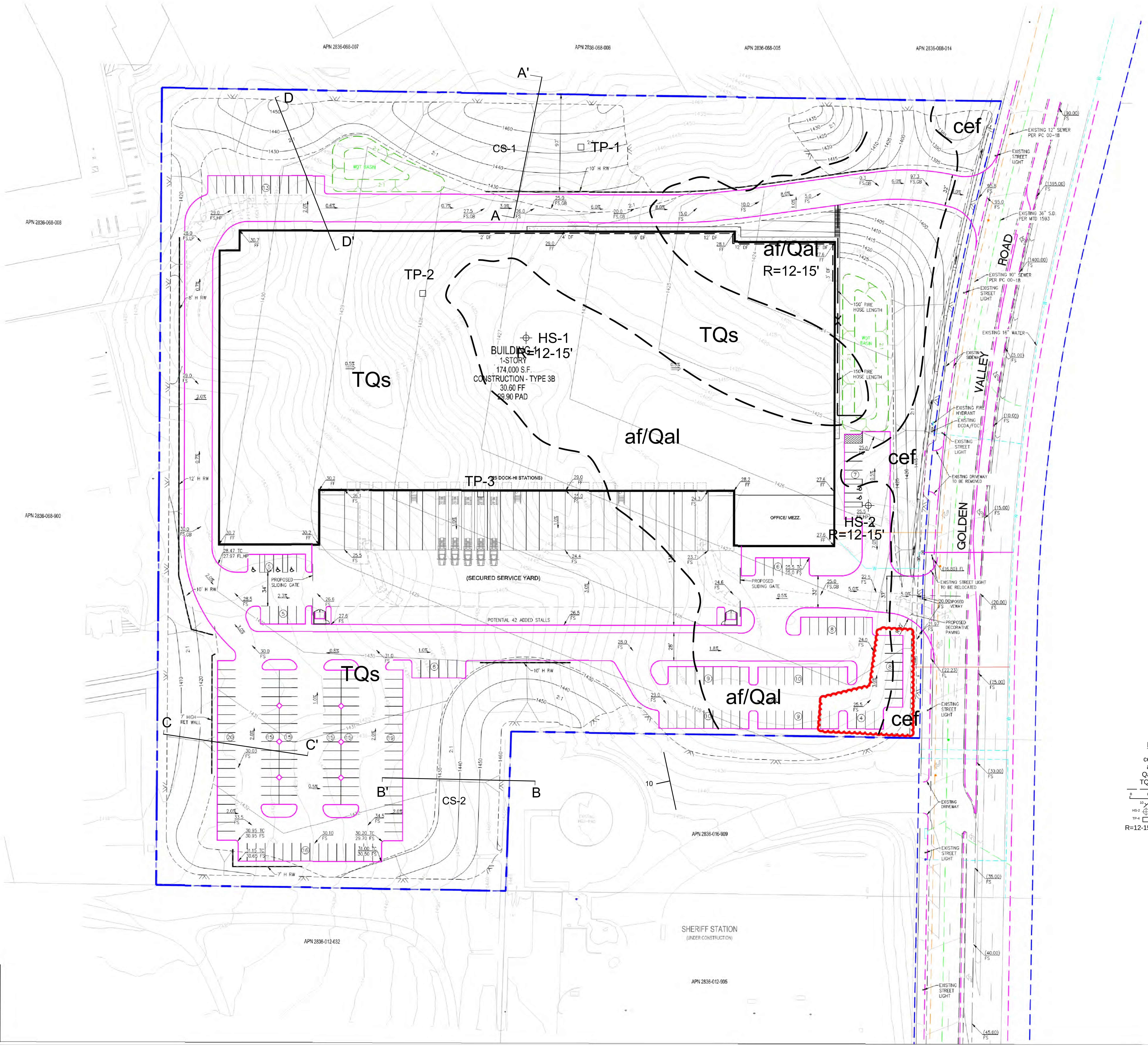
PACIFIC GOLDEN VALLEY

SITE DEVELOPMENT PLAN

5/24/21



EXPLANATION

cef	Certified Engineered Fill
af	Artificial Fill
Qal	Alluvium
TQs	Saugus Formation
— —	Geologic Contact
B └─┘ B'	Section
10 ⟋	Strike and Dip
HS-2 ⊕	Hollow Stem Auger
TP-4 ☐	Test Pit
R=12-15'	Recommended Removal

GEOTECHNICAL MAP

Prepared For:
PI Development, LLC

Pacific Golden Valley
26313 Golden Valley Road
Santa Clarita, California

Scale: As Shown	Drawn By: JH	Checked By: TPL
Date: 7/8/2021		2020-003-001

R. T. FRANKIAN & ASSOCIATES
26027 Huntington Lane, Unit A
Santa Clarita, California 91355
(818) 531-1501
www.RTFrankian.com

RTFA
GEOTECHNICAL ENGINEERING & ENGINEERING GEOLOGY

PROJECT DATA:

BUILDING AREA

OFFICE:	4,000 SF
WAREHOUSE:	170,000 SF
TOTAL:	174,000 SF

PARKING REQUIRED:

OFFICE:	4,000 SF x 1 STALL/250 SF = 16 STALLS
WAREHOUSE:	170,000 SF x 1 STALL/1,000 SF = 170 STALLS
TOTAL:	186 STALLS

PARKING PROVIDED:

TOTAL:	215 STALLS

EARTHWORK:

190,000 cy CUT
190,000 cy FILL
100,000 cy OVEREXCAVATION

LEGEND:

▬ ▬ ▬	NEEDHAM PHASE 1 TRACT BOUNDARY
— — —	EXISTING RIGHT OF WAY
—1600—	EXISTING CONTOUR PER RG PLAN
———	PROPOSED CURB
——SD——	PROPOSED STORM DRAIN (PRIVATE)
- - SD - -	EXISTING STORM DRAIN
——S——	PROPOSED SEWER (PRIVATE)
- - S - -	EXISTING SEWER
——W——	PROPOSED WATER (PRIVATE)
- - W - -	EXISTING WATER
——F——	PROPOSED FIRE LINE (PRIVATE)
- - F - -	EXISTING FIRE LINE

SCALE: 1"=40'

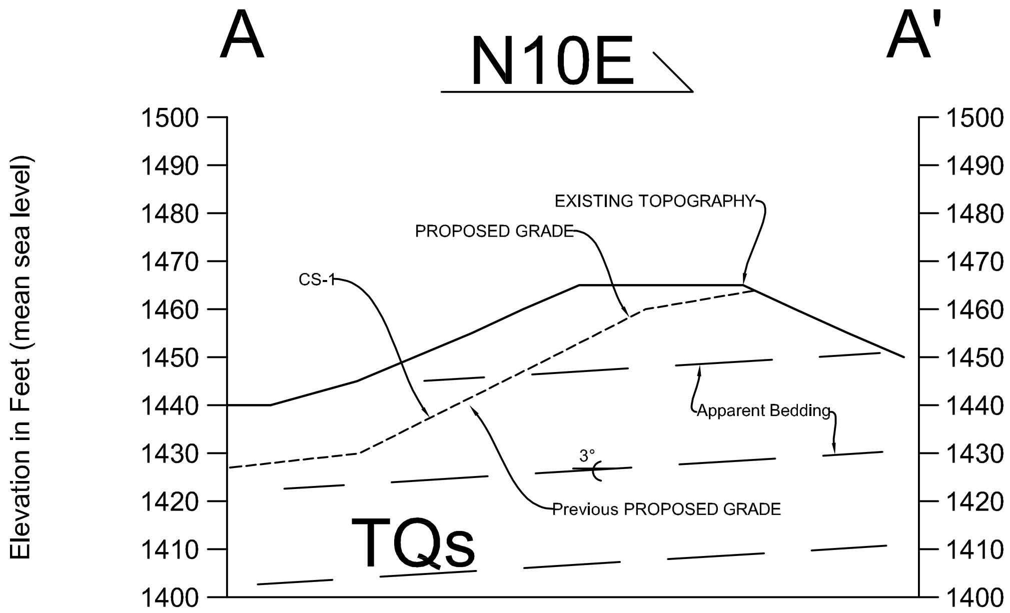
ALLIANCE
LAND PLANNING & ENGINEERING INC.

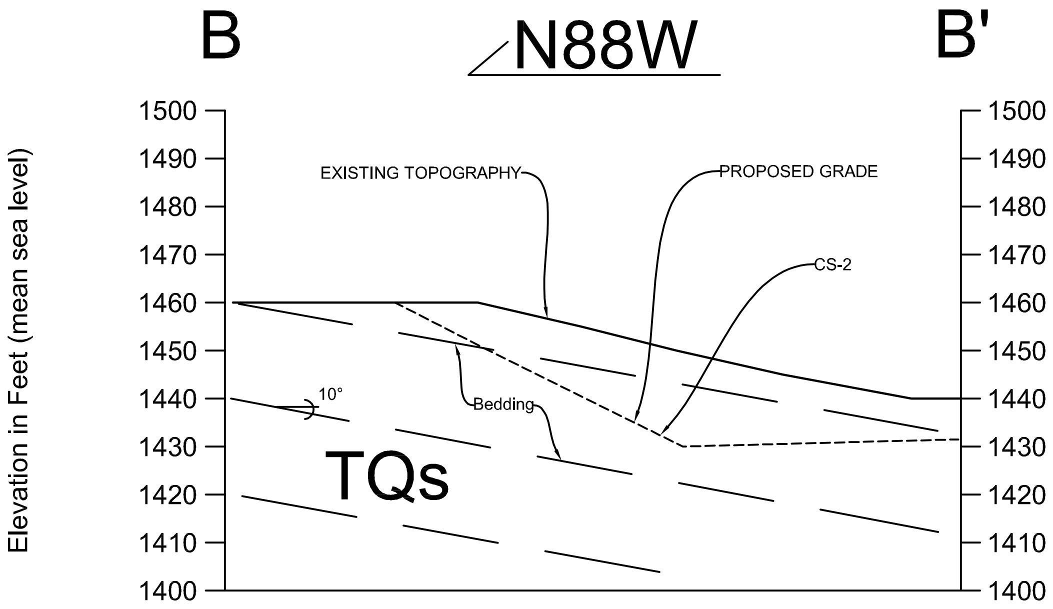
2248 FARADAY AVE.
CARLSBAD, CA 92008
TEL: (760) 431-9896
FAX: (760) 431-8802

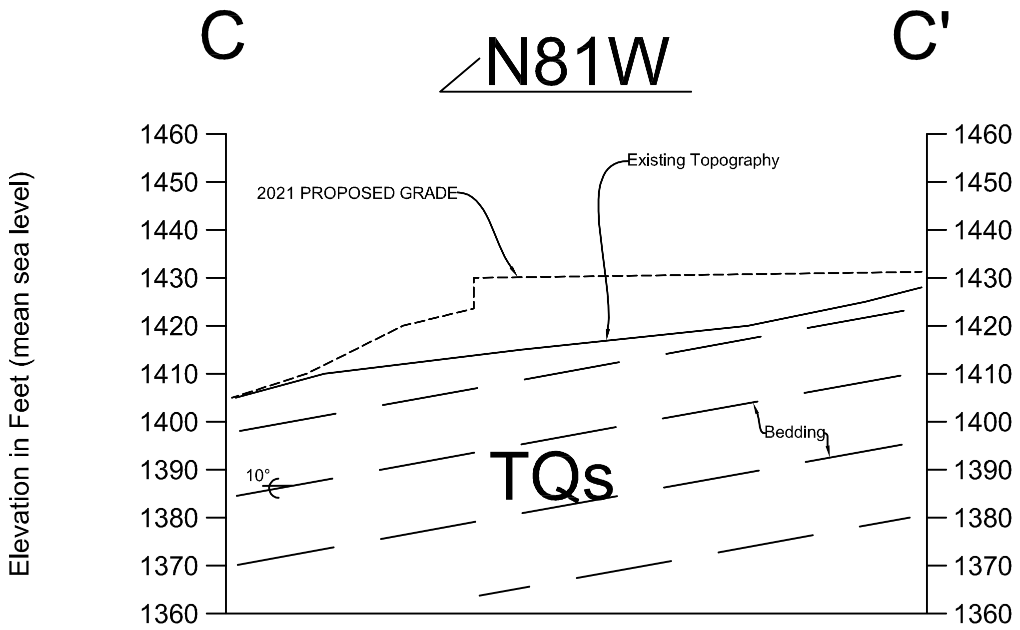
27413 TOURNEY ROAD
SUITE 120
VALENCIA, CA 91355
TEL: (661) 799-2760

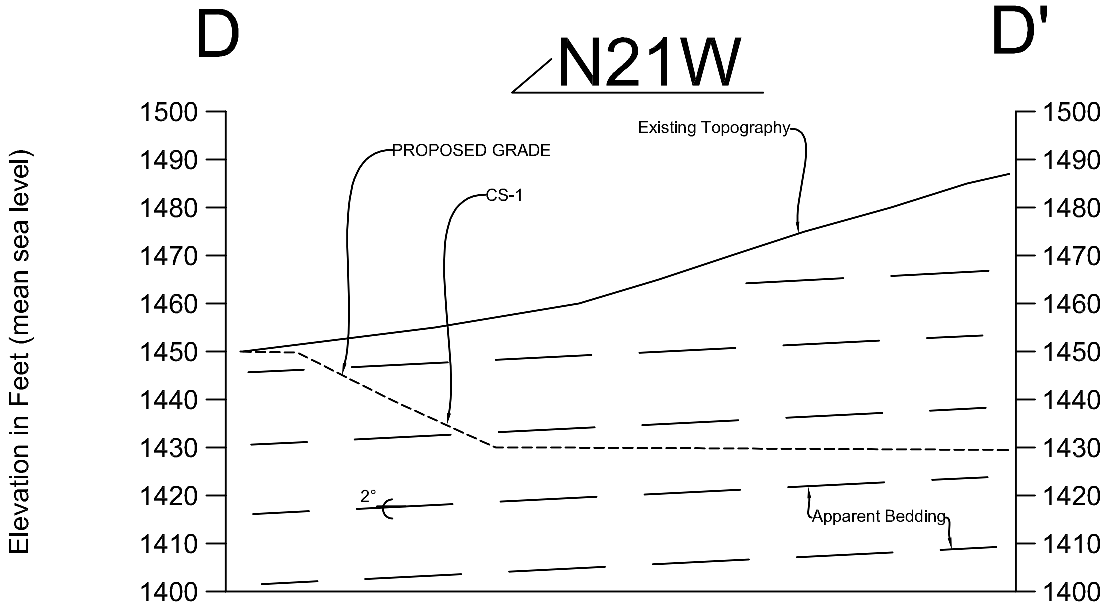
CIVIL ENGINEERING • LAND PLANNING • HILLSIDE DESIGN • SURVEYING

GEOLOGIC SECTIONS









APPENDIX A

EXPLORATIONS

APPENDIX A

EXPLORATIONS

The soil conditions in the area of the proposed improvements were previously explored by drilling two hollow-stem borings and excavating four test pits (RTF&A, 2020). The soils encountered were logged by our field representative. Bulk samples were obtained for laboratory inspection and testing; the depths at which bulk samples were obtained are indicated on the logs. The results of our observations during the excavation of the pits are presented in this Appendix. Details of the explorations are summarized in the “Subsurface Explorations” section of the report and the approximate locations of the borings are shown on the Plot Plan. The soils encountered were classified in accordance with the United Soil Classification System.

BORING HS-1

JOB NUMBER: 2020-003-001
DATE DRILLED: 7/17/20
EQUIPMENT USED: 8" diameter Hollow-Stem Auger with Heavy Duty and SPT Samplers
DRILLING CO.: Choice
LOGGED BY: MKM/APG
BORING DEPTH: 0-33'

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	DEPTH (FEET)	SOIL TYPE	
					ML	**ARTIFICIAL FILL/ALLUVIUM (af/Qal)** SANDY SILT: fine with occasional medium, moderately dense, moist, light to medium brown
30	10.6	109	-			
21	9.1	122	-	5		
24	10.2	114	-			
23	11.5	122	-	10		
-	9.7		20			
					SM	SILTY SAND: fine to coarse with gravel, medium dense, slightly moist, light brown
16	9.8	121	-	15		
-	8.1		45			moist, light gray to gray
17	7.8	105	-	20		
						SAUGUS FORMATION (TQs) SILTY SANDSTONE: fine to coarse, moderately strong, moist, reddish brown to brown
-	8.9		36	25		
77/11"	8		-	30		fine to coarse with pebbles, with caliche veins, (increased difficulty drilling)
						Bottom of Boring at 33 feet. No Water. Boring backfilled.
				35		
				40		

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

BOREHOLE LOG 2020-003.GPJ FRANKIAN.GDT 7/31/20

LOG OF BORING

R.T. FRANKIAN & ASSOCIATES

BORING HS-2

JOB NUMBER: 2020-003-001
DATE DRILLED: 7/17/20
EQUIPMENT USED: 8" diameter Hollow-Stem Auger with Heavy Duty and SPT Samplers
DRILLING CO.: Choice
LOGGED BY: MKM/APG
BORING DEPTH: 0-50'
SURFACE CONDITIONS: Dirt parking lot

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	DEPTH (FEET)	SOIL TYPE	
32	8.1	116	-		SM	**ARTIFICIAL FILL/ALLUVIUM (af/Qal)** SILTY SAND: fine to coarse, with trace fine gravel, dense, moist, mottled brown, reddish brown and gray
26	11	124	-	5		
26	10	124	-			
34	6.9	120	-	10		
-	9.2		18		SC	CLAYEY SAND: fine to medium, with silt, dense, moist, medium brown
16	13.8	126	-	15		
-	13.8		23			fining with depth
					ML	SILTY: with trace clay, slightly moist, light brown
48	9.9	125	-	20		
-	11		37	25	SM	SILTY SAND: fine with some medium, dense, moist, white to gray
						(broke through rocks)
-	6.8		55	30		fine to coarse, with trace gravel, dense, moist, light gray
-	8.6		28	35		trace clay, medium dense, slightly moist, grayish brown
-			38	40		

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

(CONTINUED ON THE FOLLOWING FIGURE)

LOG OF BORING

R.T. FRANKIAN & ASSOCIATES

BORING HS-2 (CONTINUED)

JOB NUMBER: 2020-003-001
DATE DRILLED: 7/17/20
EQUIPMENT USED: 8" diameter Hollow-Stem Auger with Heavy Duty and SPT Samplers
DRILLING CO.: Choice
LOGGED BY: MKM/APG
BORING DEPTH: 0-50'
SURFACE CONDITIONS: Dirt parking lot

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	DEPTH (FEET)	SAMPLE LOCATION	GRAPHIC LOG	SOIL TYPE	
	10.4				☒			**SAUGUS FORMATION (TQs)** SILTSTONE: with fine to coarse sand, weak, moist, reddish brown
	13.1		-	45	▯			SILTY SANDSTONE: fine to medium, weak, moist, reddish brown to brown
-	9		53	50	☒			SANDY SILTSTONE: fine, with trace clay, weak, slightly moist, brown to light brown
								Bottom of Boring at 50 feet. No Water. Boring backfilled.
				55				
				60				
				65				
				70				
				75				
				80				

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

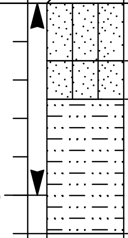
LOG OF BORING

R.T. FRANKIAN & ASSOCIATES

BORING TP-1

JOB NUMBER: 2020-003-001
DATE DRILLED: 7/17/20
DRILLING CO.: Watson
LOGGED BY: MKM/APG
BORING DEPTH: 0-6'

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	DEPTH (FEET)	SAMPLE LOCATION	GRAPHIC LOG	SOIL TYPE	
							SM	**"RESIDUAL SOILS"** SILTY SAND: fine to coarse, with gravel, some oranics, loose, dry, light yellowish brown
			-				SM	SILTY SAND: fine to coarse, with fine gravel, dense, dry, gray CONTACT: NEAR HORIZONTAL (SLIGHTLY UNDULATORY)
				5				**SAUGUS FORMATION (TQs)** SILTSTONE: with fine to medium sand, trace gravel, massive, weak, dry, reddish brown
								Bottom of Boring at 6 feet.
				10				
				15				
				20				
				25				
				30				
				35				
				40				



Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

BOREHOLE LOG 2020-003.GPJ FRANKIAN.GDT 7/31/20

TEST PIT LOG

R.T. FRANKIAN & ASSOCIATES

BORING TP-2

JOB NUMBER: 2020-003-001
DATE DRILLED: 7/17/20
DRILLING CO.: Watson
LOGGED BY: MKM/APG
BORING DEPTH: 0-7'

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	DEPTH (FEET)	SAMPLE LOCATION	GRAPHIC LOG	SOIL TYPE	
							SM	**"RESIDUAL SOILS"** SILTY SAND: fine with trace medium, some organics, loose, dry, light brown
			-	5				**SAUGUS FORMATION (TQs)** SILTY SANDSTONE: fine to medium, with trace clay, weak, light yellowish brown
				10				Bottom of Boring at 7 feet.
				15				
				20				
				25				
				30				
				35				
				40				

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

BOREHOLE LOG 2020-003.GPJ FRANKIAN.GDT 7/31/20

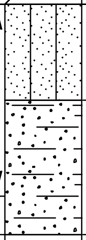
TEST PIT LOG

R.T. FRANKIAN & ASSOCIATES

RTF&A JOB NO. 2020-003-001; FOR USE WITH REPORT DATED 8/6/2020

BORING TP-3

JOB NUMBER: 2020-003-001
DATE DRILLED: 7/17/20
DRILLING CO.: Watson
LOGGED BY: MKM/APG
BORING DEPTH: 0-6'

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	DEPTH (FEET)	SAMPLE LOCATION	GRAPHIC LOG	SOIL TYPE	
			-		▲		SM	**"RESIDUAL SOILS"** SILTY SAND: fine to meium with occasional coarse, fine to coarse gravel, cobbles up to 6", medium dense, dry, organics
				5	▼			**SAUGUS FORMATION (TQs)** SILTY SANDSTONE: fine to medium with trace coarse, weak, dry, reddish brown with white mottling
				10 15 20 25 30 35 40				Bottom of Boring at 6 feet.

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

BOREHOLE LOG 2020-003.GPJ FRANKIAN.GDT 7/31/20

TEST PIT LOG

R.T. FRANKIAN & ASSOCIATES

BORING TP-4

JOB NUMBER: 2020-003-001
DATE DRILLED: 7/17/20
DRILLING CO.: Watson
LOGGED BY: MKM/APG
BORING DEPTH: 0-7.5'

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	DEPTH (FEET)	SAMPLE LOCATION	GRAPHIC LOG	SOIL TYPE	
			-				ML	**"RESIDUAL SOILS"** SANDY SILT: fine to medium with trace coarse, trace clay and fine gravel, some organics, meduim dense, dry, light to medium brown
				5				**SAUGUS FORMATION (TQs)** SILTY SANDSTONE: fine to coarse, moderately fractured with caliche in fractures, weak, slightly moist, reddish brown
				10 15 20 25 30 35 40				Bottom of Boring at 7.5 feet.

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

BOREHOLE LOG 2020-003.GPJ FRANKIAN.GDT 7/31/20

TEST PIT LOG

APPENDIX B

LABORATORY TESTING

APPENDIX B

LABORATORY TESTS

As presented in our previous site investigation (RTF&A, 2020), laboratory tests were previously performed on selected samples obtained from the borings to aid in the classification of the soils and to determine their engineering properties.

Moisture and Density Tests: Moisture content and unit dry density tests were performed on samples of soil obtained in the test borings. Dry density and field moisture information is useful in correlating field and laboratory data and in providing an indication of the variations of soil characteristics. The results of these tests are shown on the Log of Borings in Appendix A.

Direct Shear Tests: Direct shear tests were performed on remolded samples to determine the strength of the soils. The remolded samples were compacted to approximately 90 percent of the maximum dry density of the soils. The tests were performed after soaking the samples to near-saturated moisture content and at various surcharge pressures. The results of the direct shear tests are indicated on the attached summary of "Direct Shear Tests."

Consolidation Tests: Confined consolidation tests were performed on selected undisturbed and/or remolded samples at and below the proposed foundation level. The remolded samples were compacted to approximately 90 percent of the maximum dry density of the soils. Tests were performed on samples at or near the field moisture state. Samples of bearing soils that may become inundated were also tested in an artificially saturated state. For purposes of presentation, the results of the pertinent consolidation tests performed are shown on the attached summary of "Consolidation Test Data."

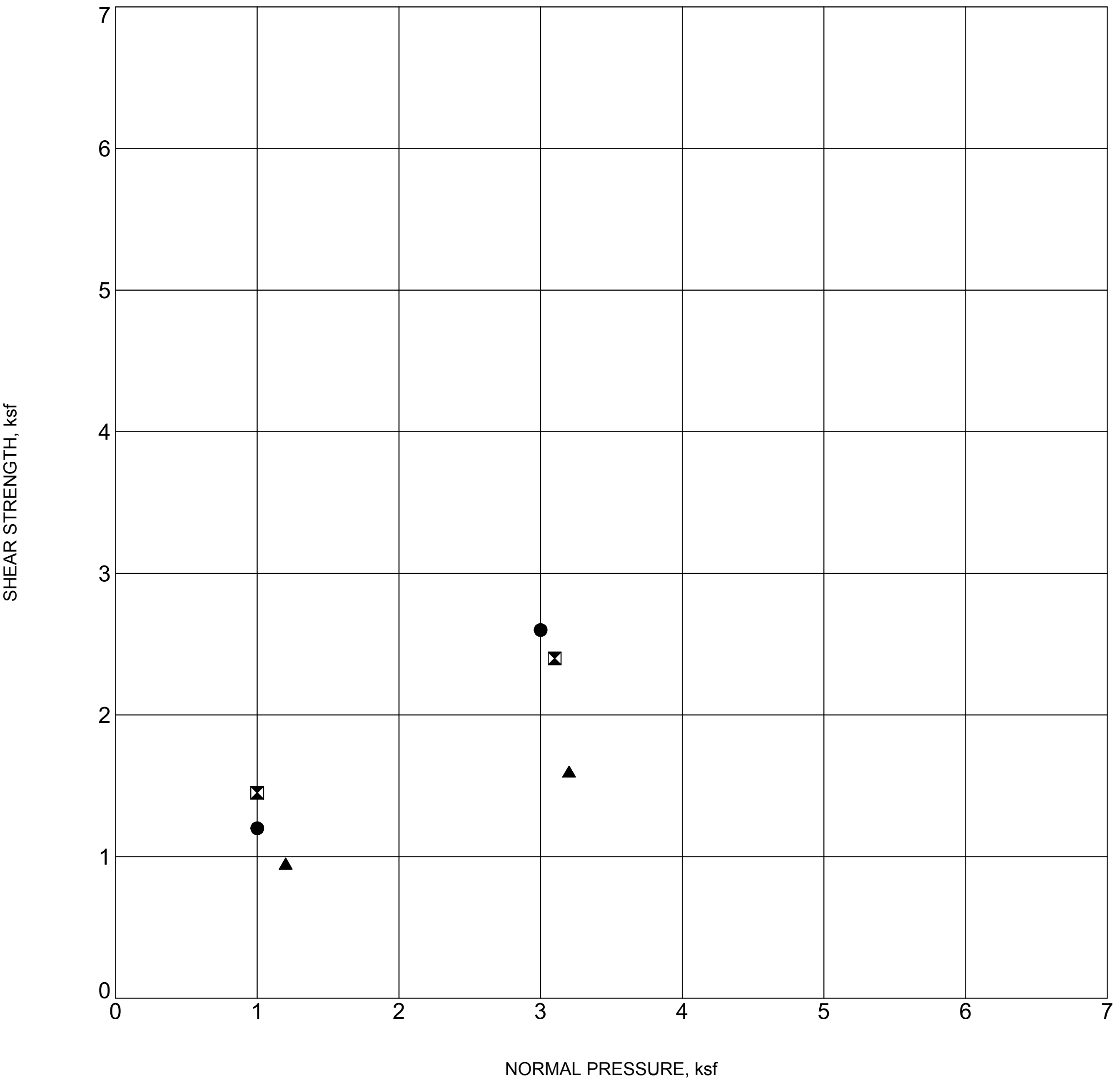
Gradation Tests: A sieve analysis was used to determine the distribution of grain sizes in selected soil samples. The purpose of the tests was to assist in classifying the soil. Sieve analysis was supplemented with hydrometer analysis for finer grained materials. The results of the gradation tests are presented in this Appendix.

Expansion Index Tests: Expansion index tests were used to classify the expansion characteristics of selected soil samples. The results of the tests are as follows:

Sample No.	Expansion Index	Classification
TP-2 S-1	38	"Low"
TP-3 S-1	11	"Very Low"

Maximum Density Tests: The maximum dry densities and optimum moisture contents of bulk soil samples obtained from the test borings were determined in our laboratory in accordance with the current ASTM Soil Compaction Method D1557. The optimum moisture contents are in percent of dry weight and the maximum dry densities are in pounds per cubic foot (pcf). The double-letter soil classification that follows each soil description is in accordance with the Uniform Soil Classification System (ASTM D2487). The results of the maximum dry density tests are presented as an attachment to this report.

Sample No.	**Soil Description**	**Optimum Moisture Content (%)**	**Maximum Dry Density (pcf)**
TP-1 S-1	SILTY SAND (SM) fine to coarse, with gravel, brown	8.5	129
TP-2 S-1	SILTY SAND (SM) fine to coarse, with clay, light yellowish brown	11	127
TP-3 S-1	SILTY SAND (SM) fine to coarse, with gravel, yellowish orange	134.5	8
TP-4 S-1	SILTY SAND (SM) fine to coarse, with clay and gravel, light brown	131	10



Specimen Identification		Classification				
●	**TP-1**					
☒	**TP-3**					
▲	**TP-4**					

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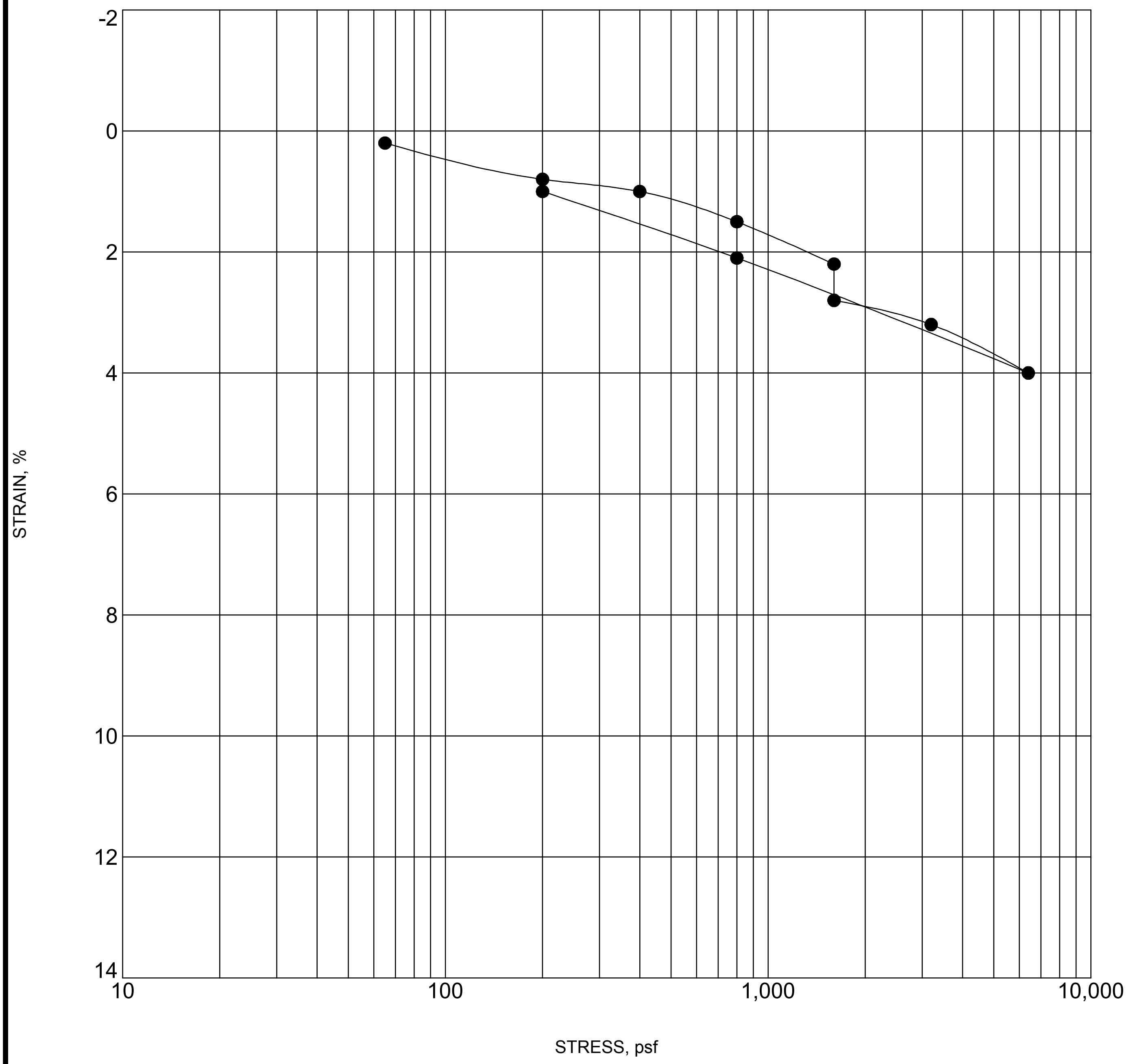
Santa Clarita CA 91355
Telephone: 818 531 1501
Fax: 818 531 1510

DIRECT SHEAR TEST

JOB NUMBER: 2020-003-001

REPORT DATED: 8/6/2020



Water added at 1600 psf

Specimen Identification		Classification		
●	**HS-1** **5.0'**			
⊠				
▲				
★				
⊙				
✿				

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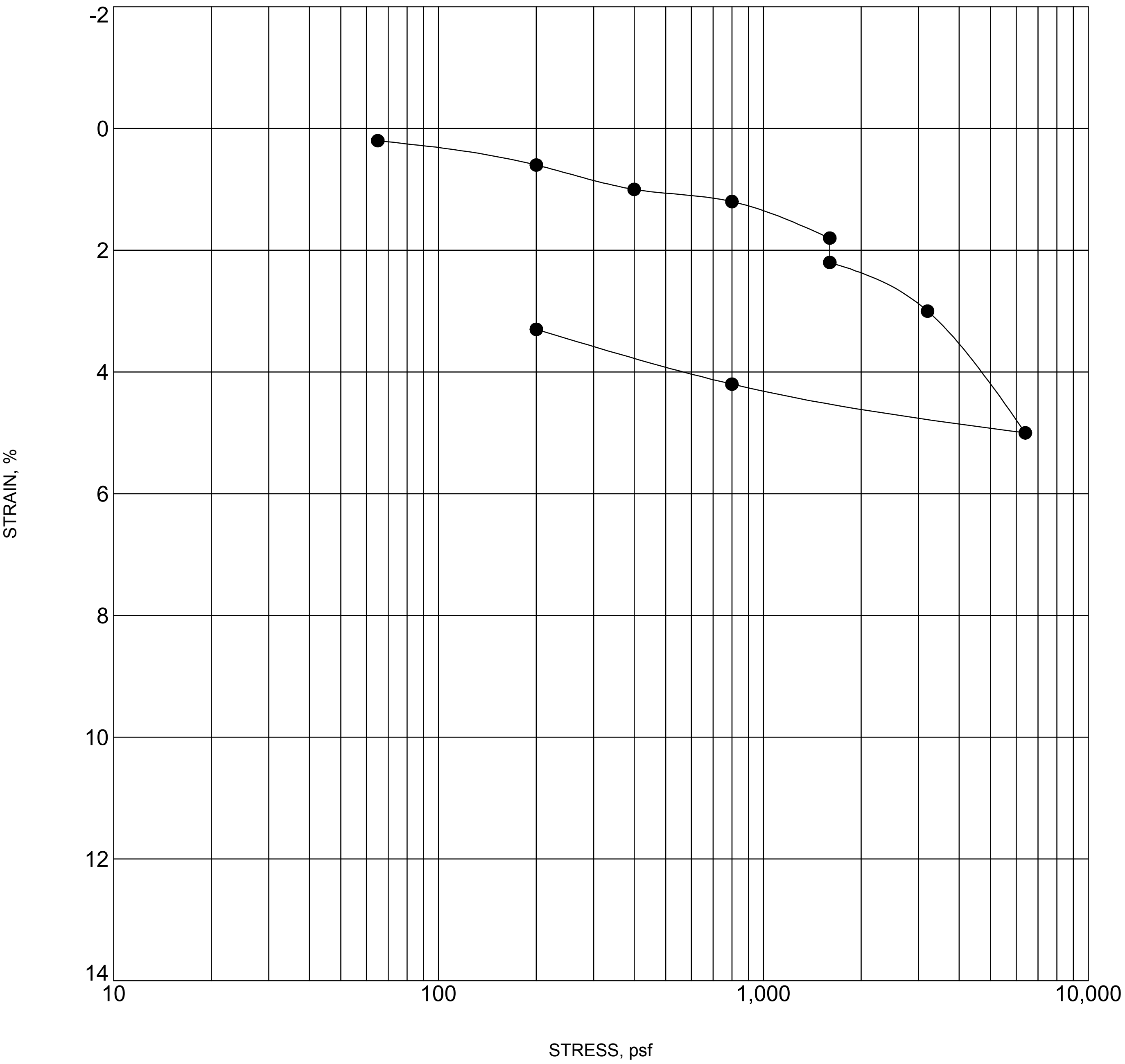
CONSOLIDATION TEST

JOB NUMBER: 2020-003-001

REPORT DATED: 8/6/2020



Water added at 1600 psf

	Specimen Identification		Classification		
●	**HS-1**	**8.0'**			
⊠					
▲					
★					
⊙					
✿					

US CONSOL STRAIN 2020-003.GPJ FRANKIAN.GDT 7/28/20

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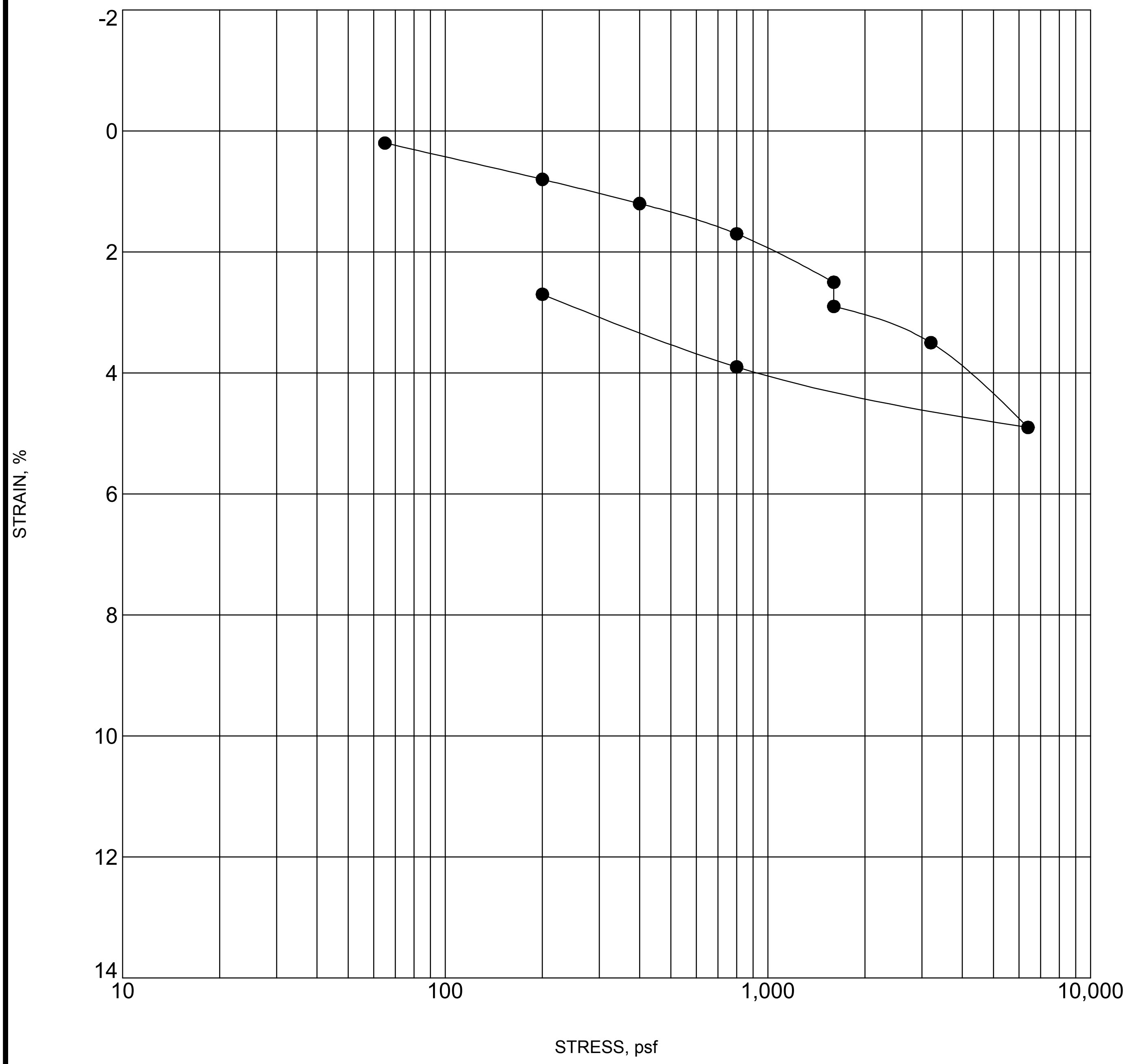
CONSOLIDATION TEST

JOB NUMBER: 2020-003-001

REPORT DATED: 8/6/2020



Water added at 1600 psf

Specimen Identification		Classification		
●	**HS-2** **8.0'**			
☒				
▲				
★				
⊙				
✿				

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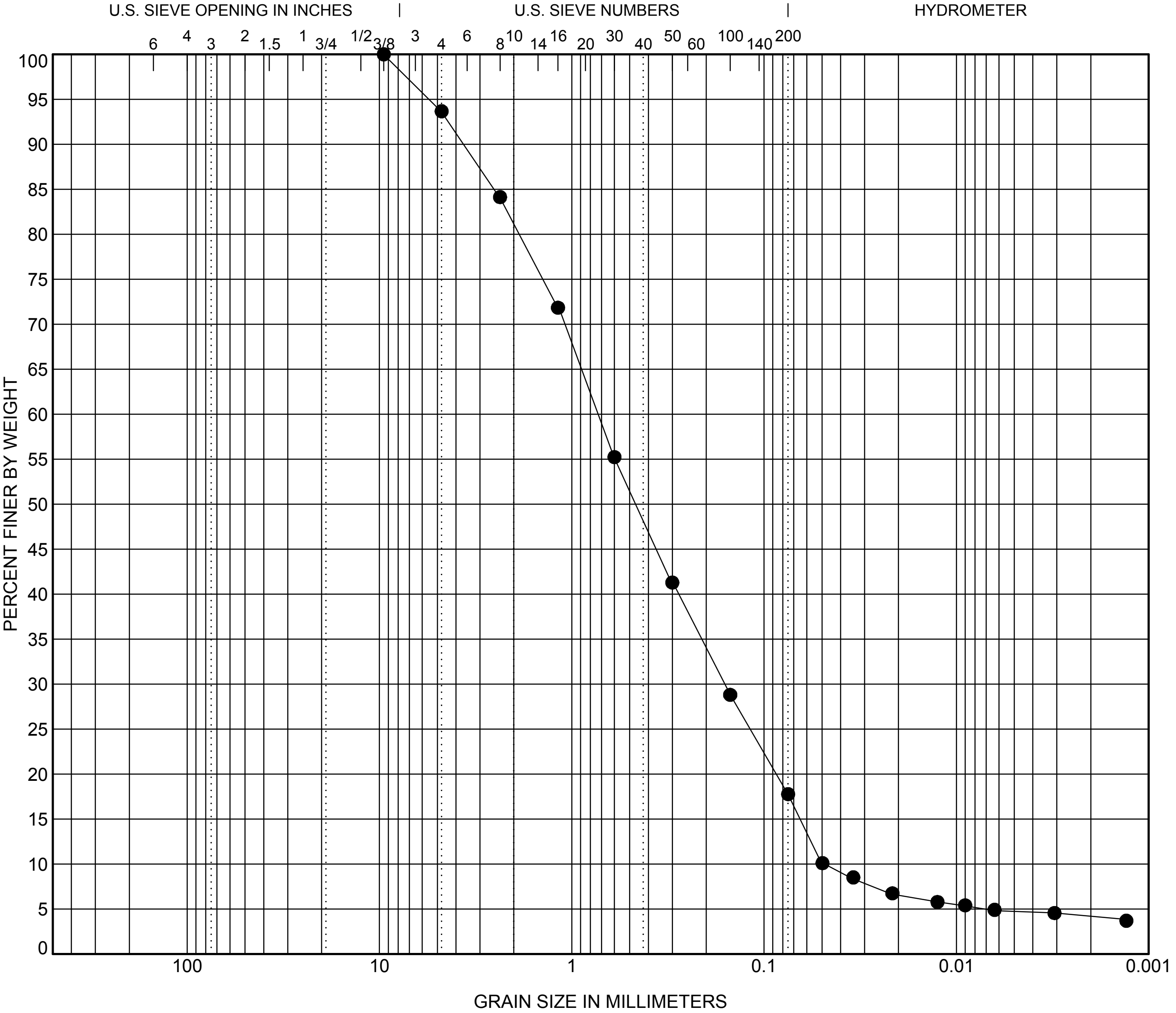
CONSOLIDATION TEST

JOB NUMBER: 2020-003-001

REPORT DATED: 8/6/2020



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	**HS-1**	**18.0**	**SILTY SAND(SM)**	**NP**	**20**	**NP**		
⧗								
▲								
★								
⊙								

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**HS-1**	**18.0**	**9.5**	**0.729**	**0.16**		**6.3**	**73.3**	**2.5**	**17.8**
⧗										
▲										
★										
⊙										

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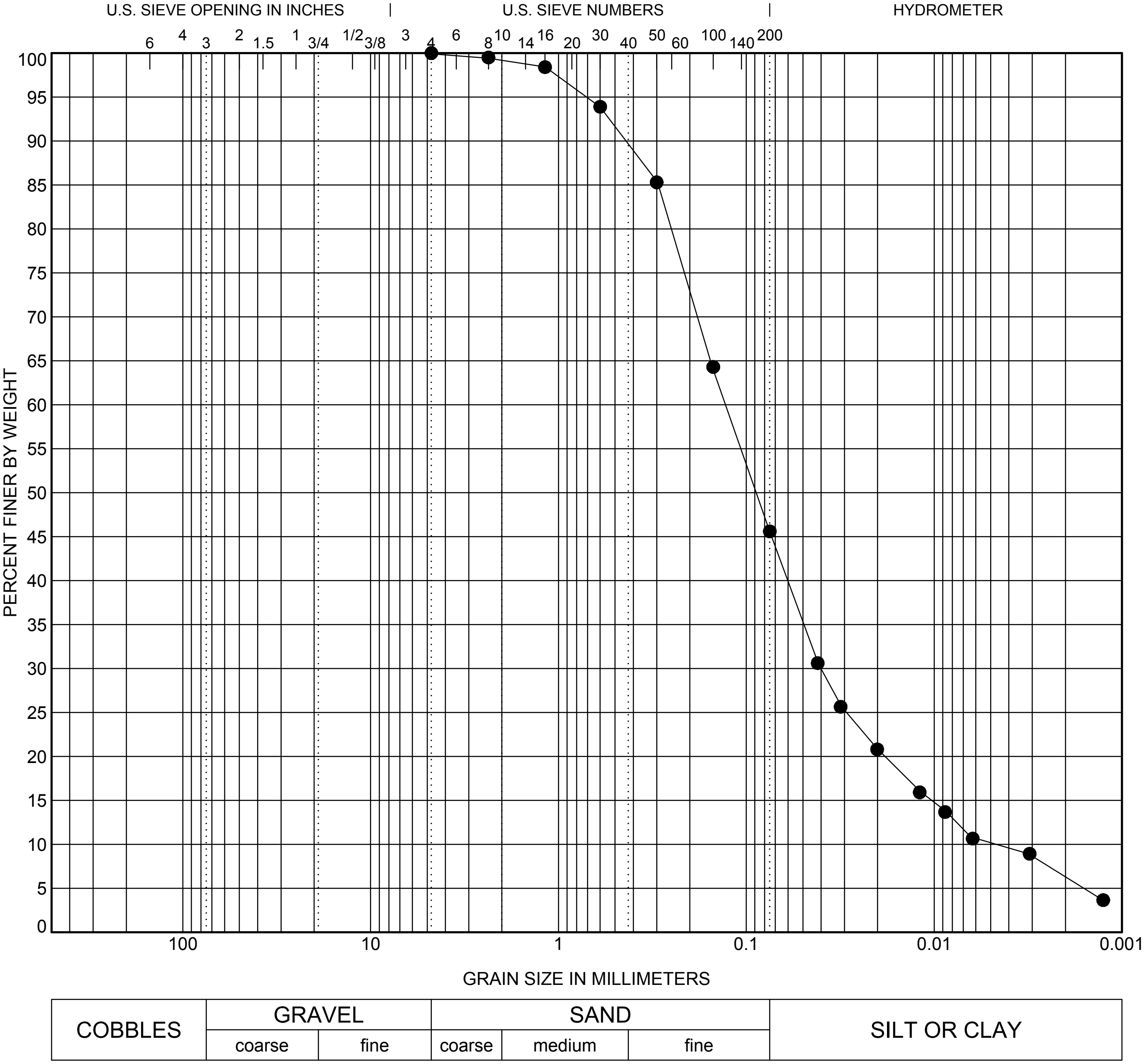
GRAIN SIZE DISTRIBUTION

JOB NUMBER: 2020-003-001

REPORT DATED: 8/6/2020



	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	**HS-2**	**18.0**						
☒								
▲								
★								
⊙								

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**HS-2**	**18.0**	**4.75**	**0.05**	**0.008**	**0.001**	**0.0**	**54.4**	**22.5**	**23.1**
☒										
▲										
★										
⊙										

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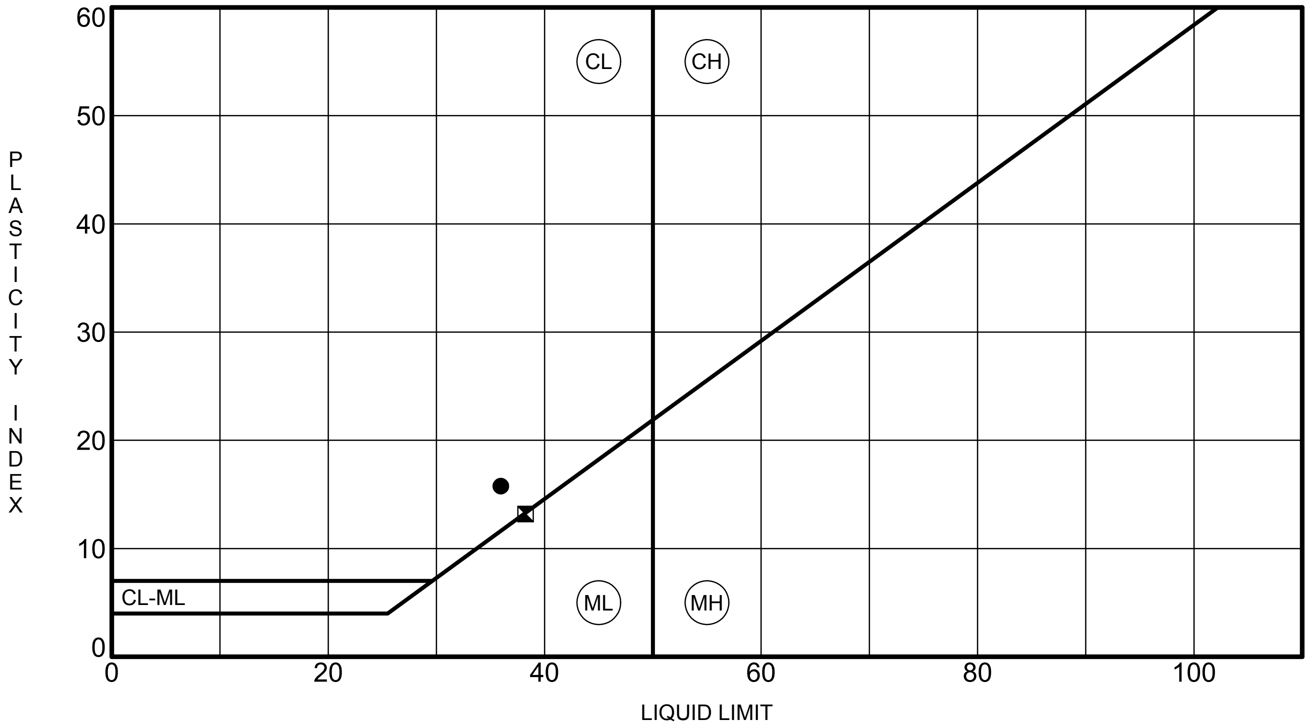
GRAIN SIZE DISTRIBUTION

JOB NUMBER: 2020-003-001

REPORT DATED: 8/6/2020

US GRAIN SIZE 2020-003.GPJ FRANKIAN.GDT 7/30/20



	Specimen Identification		LL	PL	PI	Fines	Classification
●	**HS-1**	**18.0**	**36**	**20**	**16**	**20**	**CLAYEY SAND(SC)**
⧗	**HS-2**	**18.0**	**38**	**25**	**13**	**46**	**SILTY SAND(SM)**

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ATTERBERG LIMITS' RESULTS

JOB NUMBER: 2020-003-001

REPORT DATED: 8/6/2020

US ATTERBERG LIMITS 2020-003.GPJ FRANKIAN.GDT 7/30/20

APPENDIX C

SEISMIC DESIGN PARAMETERS

getLatLong.net

FAQ | **iTouchmap.com**

Home » Latitude and Longitude of a Point

To find the latitude and longitude of a point you can do any of the following...

1. **Press and Hold** the **Shift Key** then **Click** on the point on the map.
2. **Drag** the red marker (Press and Hold the mouse button until the marker pops up) .
3. Enter the **Address** santa clarita GO

Latitude and Longitude of a Point

Clear / Reset Remove Last Blue Marker Center Red Marker

Get the Latitude and Longitude of a Point

When you click on the map, move the marker or enter an address the latitude and longitude coordinates of the point are inserted in the boxes below.

Latitude:	34.408746
Longitude:	-118.503783

	Degrees	Minutes	Seconds
Latitude:	34	24	31.4856
Longitude:	-118	30	13.6182

Show Point from Latitude and L

Use this if you know the latitude a
Use: + for *N* Lat or *E* Long **-** for
Example: +40.689060 -74.04463
Note: Your entry should not have

Decimal Deg. Latitude:

Decimal Deg. Longitude:

Example: **+34** **40** **50.12** for *34*

D

Latitude:

Longitude:

© getLatLong.net 2019 | Credits and Disclaimers | Privacy Policy

ATC Hazards by Location

Search Information

Coordinates:	34.408746, -118.503783
Elevation:	1399 ft
Timestamp:	2020-07-31T17:57:09.224Z
Hazard Type:	Seismic
Reference Document:	ASCE7-16
Risk Category:	II
Site Class:	D

Basic Parameters

Name	Value	Description
S_S	2.296	MCE_R ground motion (period=0.2s)
S_1	0.828	MCE_R ground motion (period=1.0s)
S_{MS}	2.296	Site-modified spectral acceleration value
S_{M1}	* null	Site-modified spectral acceleration value
S_{DS}	1.53	Numeric seismic design value at 0.2s SA
S_{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

▾Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F_a	1	Site amplification factor at 0.2s
F_v	* null	Site amplification factor at 1.0s
CR_S	0.912	Coefficient of risk (0.2s)
CR_1	0.895	Coefficient of risk (1.0s)
PGA	0.968	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	1.065	Site modified peak ground acceleration
T_L	8	Long-period transition period (s)

SsRT	2.296	Probabilistic risk-targeted ground motion (0.2s)
SsUH	2.517	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	2.511	Factored deterministic acceleration value (0.2s)
S1RT	0.828	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.926	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.857	Factored deterministic acceleration value (1.0s)
PGAd	1.009	Factored deterministic acceleration value (PGA)

* See Section 11.4.8

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

While the information presented on this website is believed to be correct, ATC and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in the report should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. ATC does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the report provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the report.

U.S. Geological Survey - Earthquake Hazards Program

Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

Input

Edition

Dynamic: Conterminous U.S. 2014 (u…

Spectral Period

Peak Ground Acceleration

Latitude

Decimal degrees

34.408746

Time Horizon

Return period in years

2475

Longitude

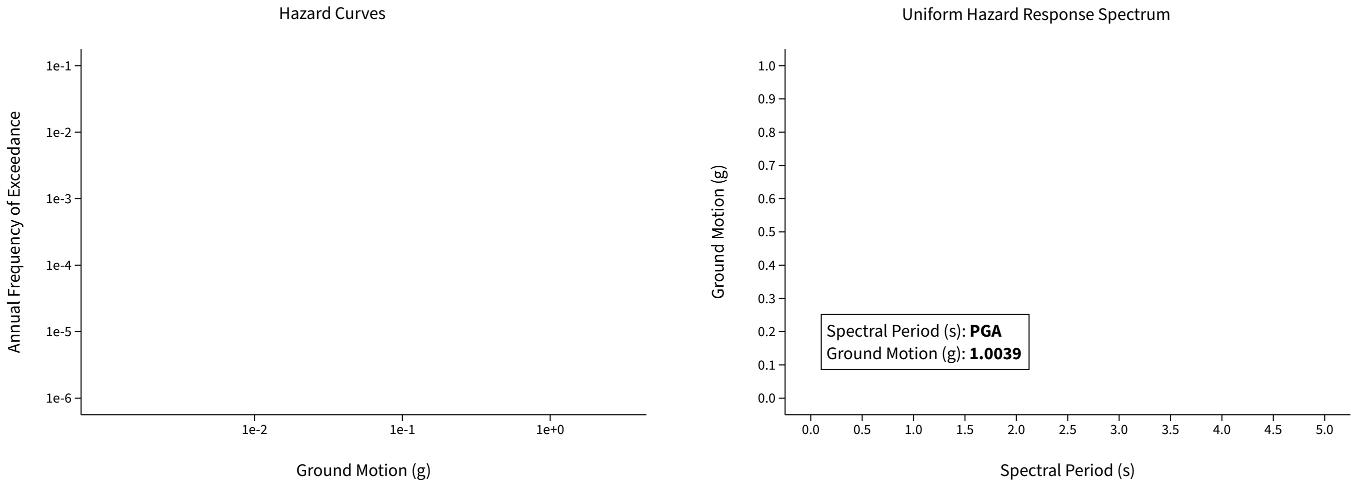
Decimal degrees, negative values for western longitudes

-118.503783

Site Class

Please select…

Hazard Curve

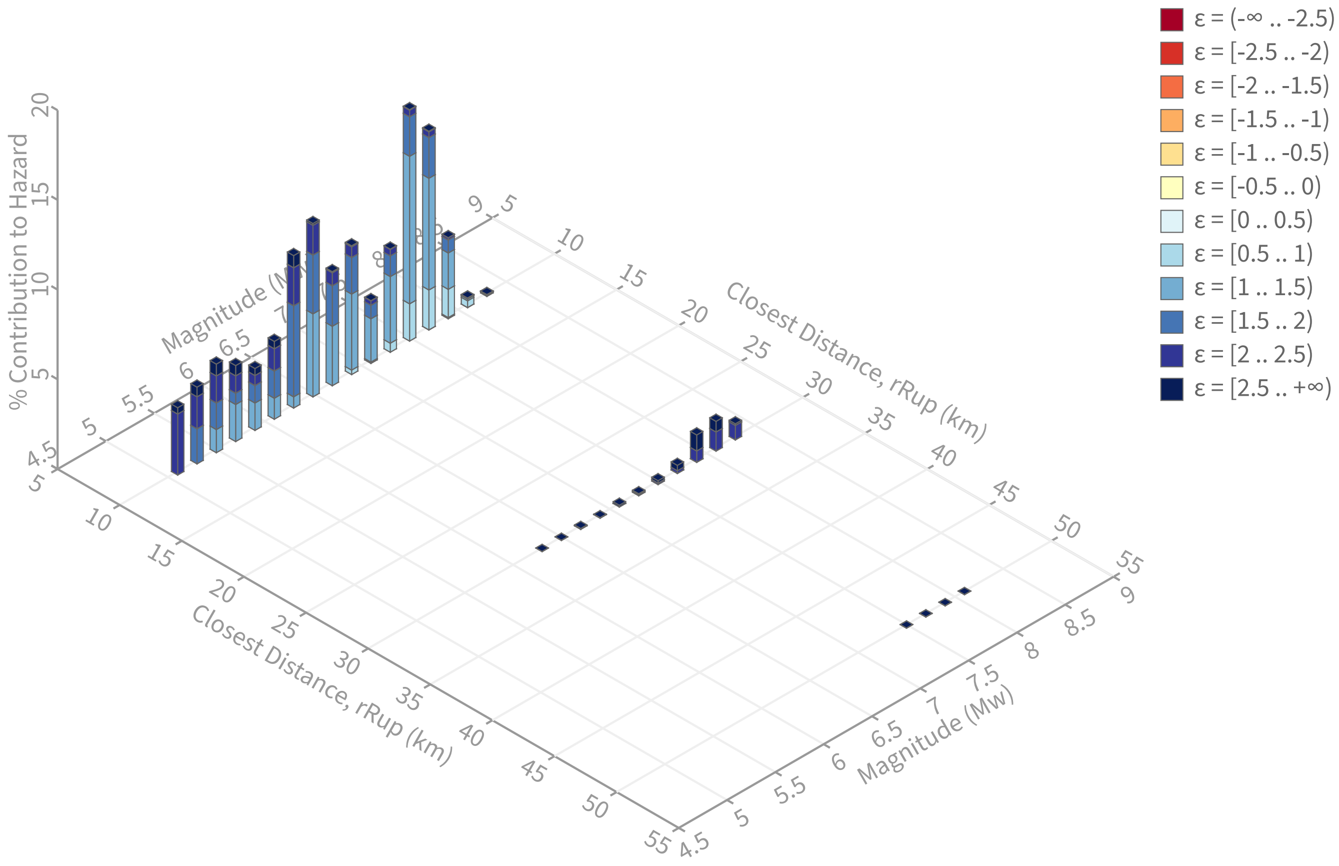


View Raw Data

^ Deaggregation

Component

Total



Summary statistics for, Deaggregation: Total

Deaggregation targets

Return period: 2475 yrs
Exceedance rate: 0.0004040404 yr^{-1}
PGA ground motion: 1.0038967 g

Recovered targets

Return period: 3176.4906 yrs
Exceedance rate: 0.00031481283 yr^{-1}

Totals

Binned: 100 %
Residual: 0 %
Trace: 0.03 %

Mean (over all sources)

m: 6.77
r: 8.36 km
ε_0: 1.61 σ

Mode (largest m-r bin)

m: 7.51
r: 7.9 km
ε_0: 1.26 σ
Contribution: 12.89 %

Mode (largest m-r-ε_0 bin)

m: 7.51
r: 7.64 km
ε_0: 1.18 σ
Contribution: 8.22 %

Discretization

r: min = 0.0, max = 1000.0, Δ = 20.0 km
m: min = 4.4, max = 9.4, Δ = 0.2
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys

ε0: [-∞ .. -2.5)
ε1: [-2.5 .. -2.0)
ε2: [-2.0 .. -1.5)
ε3: [-1.5 .. -1.0)
ε4: [-1.0 .. -0.5)
ε5: [-0.5 .. 0.0)
ε6: [0.0 .. 0.5)
ε7: [0.5 .. 1.0)
ε8: [1.0 .. 1.5)
ε9: [1.5 .. 2.0)
ε10: [2.0 .. 2.5)
ε11: [2.5 .. +∞]

Deaggregation Contributors

Source Set ↳ Source	**Type**	**r**	**m**	**ε_0**	**lon**	**lat**	**az**	**%**
UC33brAvg_FM32	System							37.31
Santa Susana alt 2 [2]		7.44	7.03	1.41	118.486°W	34.336°N	168.74	18.16
Northridge Hills [0]		8.98	7.64	1.10	118.572°W	34.288°N	205.06	3.32
Santa Susana alt 2 [1]		7.72	6.34	1.73	118.477°W	34.336°N	162.88	3.09
Santa Susana alt 2 [3]		9.49	7.21	1.53	118.537°W	34.313°N	195.94	2.67
San Gabriel [2]		1.55	7.40	1.13	118.499°W	34.409°N	84.02	2.54
San Andreas (Mojave S) [2]		29.19	8.06	2.47	118.370°W	34.647°N	24.83	2.02
Holser alt 2 [1]		6.53	7.56	1.36	118.570°W	34.423°N	284.95	1.45
Northridge [3]		11.60	7.35	1.78	118.520°W	34.337°N	190.67	1.37
UC33brAvg_FM31	System							31.78
Santa Susana alt 1 [0]		7.84	7.33	1.28	118.494°W	34.334°N	173.55	11.84
Northridge Hills [0]		8.98	7.64	1.08	118.572°W	34.288°N	205.06	3.73
San Gabriel [2]		1.55	7.50	1.10	118.499°W	34.409°N	84.02	3.22
Northridge [3]		11.60	7.25	1.79	118.520°W	34.337°N	190.67	2.21
Mission Hills 2011 [1]		12.08	6.41	1.86	118.495°W	34.286°N	176.62	2.07
San Andreas (Mojave S) [2]		29.19	8.06	2.47	118.370°W	34.647°N	24.83	2.03
Holser alt 1 [2]		2.57	6.83	1.34	118.515°W	34.396°N	215.28	1.97
San Gabriel [3]		1.63	7.05	1.26	118.507°W	34.414°N	331.28	1.09
UC33brAvg_FM31 (opt)	Grid							16.32
PointSourceFinite: -118.504, 34.422		5.28	5.64	1.74	118.504°W	34.422°N	0.00	5.72
PointSourceFinite: -118.504, 34.422		5.28	5.64	1.74	118.504°W	34.422°N	0.00	5.72
PointSourceFinite: -118.504, 34.485		9.00	5.92	2.22	118.504°W	34.485°N	0.00	1.19
PointSourceFinite: -118.504, 34.485		9.00	5.92	2.22	118.504°W	34.485°N	0.00	1.19
UC33brAvg_FM32 (opt)	Grid							14.59
PointSourceFinite: -118.504, 34.422		5.26	5.63	1.75	118.504°W	34.422°N	0.00	4.97
PointSourceFinite: -118.504, 34.422		5.26	5.63	1.75	118.504°W	34.422°N	0.00	4.97
PointSourceFinite: -118.504, 34.485		9.00	5.92	2.23	118.504°W	34.485°N	0.00	1.06
PointSourceFinite: -118.504, 34.485		9.00	5.92	2.23	118.504°W	34.485°N	0.00	1.06

PI Development, LLC
July 8, 2021
2020-003-001

APPENDIX D

LIQUEFACTION CALCULATIONS

RTF&A
GEOTECHNICAL ENGINEERING & ENGINEERING GEOLOGY

GENERAL INPUT DATA FOR THE SITE

LIQUEFACTION POTENTIAL AND SEISMIC SETTLEMENT EVALUATIONS

R. T. Frankian & Associates		Geotechnical Engineering Consultants			
PROJECT:	**Proposed Warehouse 26313 GVR**	The Hale Corporation			
Job No.:	**2020-003**	Calculated By.:	awr	Date:	7/31/2020
		Checked By:		Date	

Location (Boring No.)	HS-1	**Surcharge**	0.00	ksf
Type of Sampler (SPT/Other)	Various			
Ground Surface Elevation	1415	ft. MSL (assumed?)		
Existing Ground Water Depth	52	ft.(Minimum 0.1ft. below GL)		
Historic High Ground Water Depth	15	ft.(Minimum 0.1ft. below GL)		

Ref. Earthquake Magnitude	7.5	
Approx. Distance From Site		(optional)
Site Earthquake Magnitude	6.7	
Peak Ground Accel (M = 7.5)	0.80	g.<<Calculated by program (=K10/M11), or entered by user.
PGA (for site M = 6.7)	1.07	g
Magnitude Scaling Factors (MSF)	1.0 (M=7.5)	1.33 <<<Calculated by program. (M= 6.7)

Agency-Required Factor of Safety (FS) to classify layers as "liquefiable": (min. 1.0)	
(enter 1 if no special agency-required FS, or enter your selection)>>>>	1.3

LiqueBrngb[nls]

PROGRAM

EQLIQUE & SETTLE2©
April 2005
Copyright by Edward Castellanos, MSCE, PE,GE - Applied Geotech
613 W. Padilla Street, San Gabriel, CA. 91776
Fax & Phone (626) 308-1665 Cellular: (858) 220-3000; (909) 533-0504
For Order Form please send e-mail to: **applgeo@aol.com OR eguares@hotmail.com**

LIQUEFACTION POTENTIAL EVALUATION

R. T. Frankian & Associates Geotechnical Engineering Consultants

PROJECT: Proposed Warehouse 26313 GVR The Hale Corporation 0

Job No.: 2020-003

Calculated By.:	awr	Date:	7/31/2020
Checked By:		Date:	

Borehole diameter (in)=	8	<<<PLEASE DO NOT TOUCH THIS CELL
Correction factor for borehole diameter(CB) =	1.15	<<<PLEASE DO NOT TOUCH THIS CELL

Location HS-1

Layer No.	Mid Layer Depth (ft)	Elevation (ft. MSL)	Depth of layer below Ground Level (ft) Top	Bottom	Main soil USCS Symbol	Total Unit Wt. (kcf)	Total Stress (ksf)	Effective Stress (ksf)	Overburden Correction w/Eff.Strs.@ Drill. time (Cn)	Field Blow Count (w/borehole diam.factor) (blows/ft)	Sampler Type	Sampler & Hammer\drop combination factor	Short Rod Correction Factor, CR	Hammer Energy ratio Factor CE	$(N_1)_{60}$ (blows/ft)	Percent Fines, % Assigned for layer	Lab	Equivalent $(N_1)_{60cs}$ for Clean Sand	Cyclic Resistance Ratio M=7.5	Cyclic Resistance Ratio for M= 7.5	Cyclic Resistance M = 7.5 (ksf)	Ind.stress Reduction Factor(rd)	Induced Stress for Mag.= 7.5 (ksf)	Theoretical Factor of Safety
1	1.50	1413.5	0.0	3.0	ML	0.120	0.180	0.180	1.70	34.5	CD	0.742	0.75	1.25	41	18	-	47	>0.6	>0.6	#N/A	0.998	0.094	Non Liq.
2	4.50	1410.5	3.0	6.0	ML	0.120	0.540	0.540	1.50	24.15	CD	0.796	0.75	1.25	27	18	-	32	>0.6	>0.6	#N/A	0.991	0.279	Non Liq.
3	7.50	1407.5	6.0	9.0	ML	0.120	0.900	0.900	1.33	27.6	CD	0.774	0.75	1.25	27	18	-	32	>0.6	>0.6	#N/A	0.984	0.462	Non Liq.
4	10.00	1405.0	9.0	11.0	ML	0.120	1.200	1.200	1.22	26.45	CD	0.780	0.75	1.25	24	18	-	28	0.387	0.387	#N/A	0.979	0.612	Non Liq.
5	12.00	1403.0	11.0	13.0	ML	0.120	1.440	1.440	1.15	23	SPT	1.200	1	1.25	40	18	-	45	>0.6	>0.6	#N/A	0.975	0.732	Non Liq.
6	14.50	1400.5	13.0	16.0	SM	0.120	1.740	1.740	1.06	18.4	CD	0.539	1	1.25	13	8	-	14	0.147	0.147	#N/A	0.969	0.879	Non Liq.
7	17.50	1397.5	16.0	19.0	SM	0.120	2.100	1.944	0.98	51.75	SPT	1.200	1	1.25	76	8	-	77	>0.6	>0.6	>4.5	0.963	1.054	Non Liq.
8	21.50	1393.5	19.0	24.0	SM	0.120	2.580	2.174	0.88	51.75	SPT	1.200	1	1.25	69	20	-	78	>0.6	>0.6	>4.5	0.953	1.281	Non Liq.
9	26.00	1389.0	24.0	28.0	SM	0.120	3.120	2.434	0.80	41.4	SPT	1.200	1	1.25	50	8	-	50	>0.6	>0.6	>4.5	0.938	1.525	Non Liq.
10	31.00	1384.0	28.0	34.0	SM	0.120	3.720	2.722	0.72	88.55	CD	0.558	1	1.25	44	8	-	45	>0.6	>0.6	>4.5	0.915	1.774	Non Liq.
11	#N/A	#N/A	34.0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
12	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
15	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
16	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
17	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
18	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
25	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
29	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

SEISMIC SETTLEMENT EVALUATION

PROJECT: Proposed Warehouse 26313 GVR
Job No.: 2020-003

Calculated By.:	awr	Date:	7/31/2020
Checked By:		Date:	

Location HS-1

EQ.Vol.Str.Factor For Dry Sands=	0.833

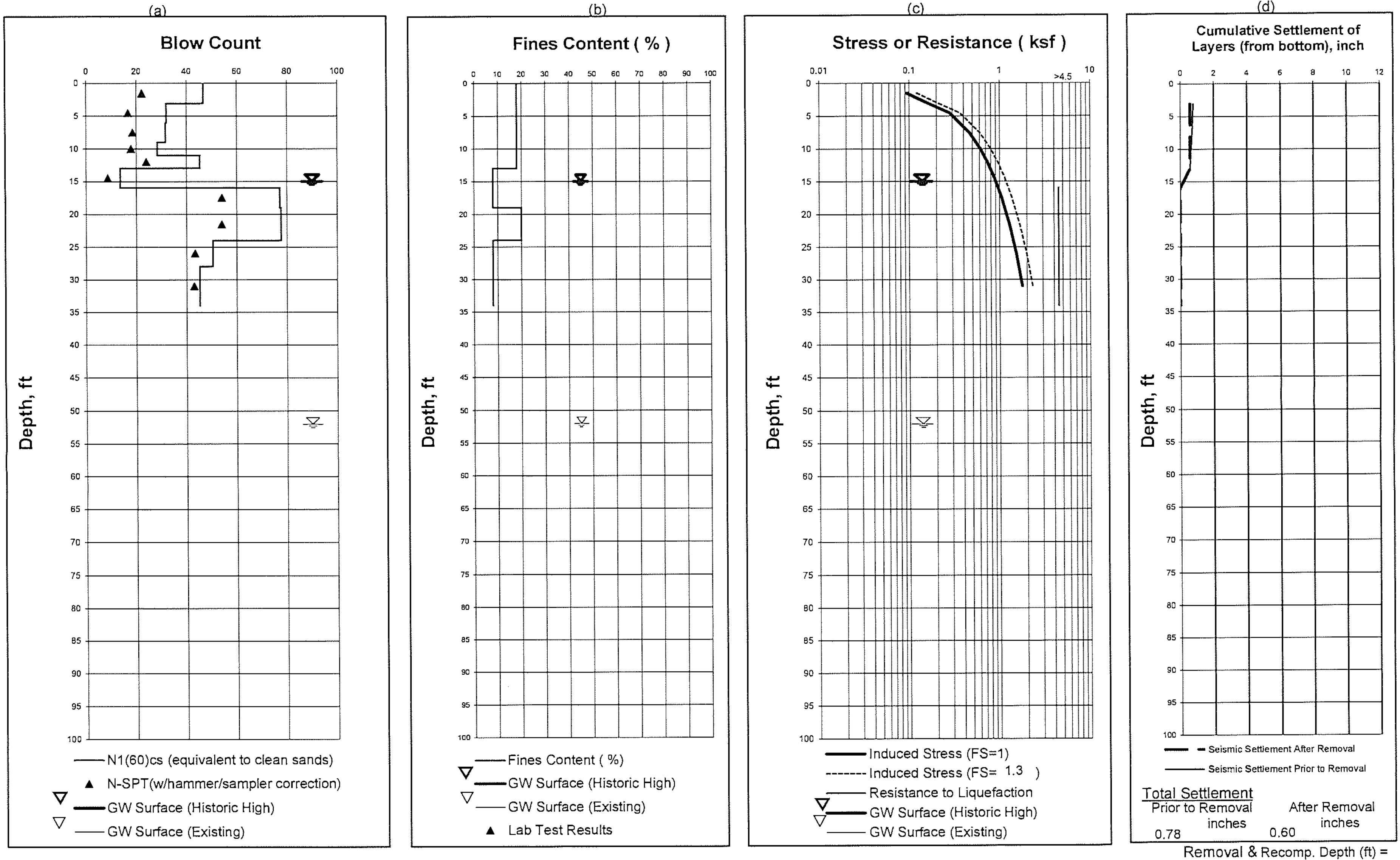
Layer No.	Layer Interval (ft)		Mid-layer depth (ft)	Thickness (ft)	Vertical Effective Stress (psf)	$(N_1)_{60}$ (blows/ft)	Rounded Equiv. $(N_1)_{60cs}$	Rounded Cyclic Str. Ratio M = 7.5 (induced)	Theoretical Factor of Safety	Dry Settlement										Wet Settlement		Cumulative Settlement (inches)
	Top	Bottom								a	b	Gmax (ksf)	Stress, (induced) (ksf)	Gama.eff X (Geff/Gmax) (5)	Gama.eff X 100 (%)	Volumetric Strain, % M = 7.5	Volumetric Strain, %, M= 6.7	Volumetric Strain (%) 3-D effect	Settlement (inches)	Volumetric Strain %	Settlement (inches)	
1	0.00	3.00	1.5	3.00	180.00	41	47.0	0.525	Non Liq.	0.12635	20818	756	0.094	1.24E-04	2.94E-02	0.012	0.010	0.021	0.007			0.007
2	3.00	6.00	4.5	3.00	540.00	27	32.0	0.525	Non Liq.	0.13104	13124	1140	0.279	2.45E-04	9.19E-02	0.064	0.053	0.107	0.039			0.046
3	6.00	9.00	7.5	3.00	900.00	27	32.0	0.525	Non Liq.	0.13573	10590	1467	0.462	3.15E-04	1.33E-01	0.094	0.079	0.157	0.057			0.103
4	9.00	11.00	10.0	2.00	1200.00	24	28.0	0.500	Non Liq.	0.13964	9384	1627	0.612	3.76E-04	1.91E-01	0.156	0.130	0.260	0.062			0.165
5	11.00	13.00	12.0	2.00	1440.00	40	45.0	0.500	Non Liq.	0.14277	8693	2115	0.732	3.46E-04	1.18E-01	0.052	0.043	0.087	0.021			0.186
6	13.00	16.00	14.5	3.00	1740.00	13	14.0	0.500	Non Liq.	0.14667	8028	1613	0.879	5.45E-04	6.03E-01	0.994	0.828	1.656	0.596			0.782
7	16.00	19.00	17.5	3.00	1944.00	76	77.0	0.550	Non Liq.											0.00	0.00	0.782
8	19.00	24.00	21.5	5.00	2174.40	69	78.0	0.600	Non Liq.											0.00	0.00	0.782
9	24.00	28.00	26.0	4.00	2433.60	50	50.0	0.625	Non Liq.											0.00	0.00	0.782
10	28.00	34.00	31.0	6.00	2721.60	44	45.0	0.650	Non Liq.											0.00	0.00	0.782
11	34.00	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
12	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
13	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
15	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
16	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
17	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
18	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
25	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
29	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

COMPUTER PROGRAM: "EQLique&Settle2"©

Location.......... **HS-1** **Surcharge** 0.00 ksf

Elevation (MSL) (ft) 1415

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".



Removal & Recomp. Depth (ft) = 12

PROJECT: Proposed Warehouse 26313 GVR

The Hale Corporation

0

Weighted Ground Accel. (M=7.5) = 0.80 g

Site Magnitude = 6.7

Liquefaction Potential and Seismic Settlements Based on Boring Data

R. T. Frankian & Associates

Geotechnical Engineering Consultants

Job No.:	2020-003
Date:	7-31-2020
Figure No.	0

GENERAL INPUT DATA FOR THE SITE

LIQUEFACTION POTENTIAL AND SEISMIC SETTLEMENT EVALUATIONS

R. T. Frankian & Associates		Geotechnical Engineering Consultants			
PROJECT:	**Proposed Warehouse 26313 GVR**	The Hale Corporation			
Job No.:	**2020-003**	Calculated By.:	awr	Date:	7/31/2020
		Checked By:		Date	

Location (Boring No.)	HS-2	**Surcharge**	0.00	ksf
Type of Sampler (SPT/Other)	Various			
Ground Surface Elevation	1392	ft. MSL (assumed?)		
Existing Ground Water Depth	52	ft.(Minimum 0.1ft. below GL)		
Historic High Ground Water Depth	15	ft.(Minimum 0.1ft. below GL)		

Ref. Earthquake Magnitude	7.5		
Approx. Distance From Site		(optional)	
Site Earthquake Magnitude	6.7		
Peak Ground Accel (M = 7.5)	0.80	g.<<Calculated by program (=K10/M11), or entered by user.	
PGA (for site M = 6.7)	1.07	g	
Magnitude Scaling Factors (MSF)	1.0 (M=7.5)	1.33 <<<Calculated by program. (M= 6.7)	

Agency-Required Factor of Safety (FS) to classify layers as "liquefiable": (min. 1.0)	
(enter 1 if no special agency-required FS, or enter your selection)>>>>	1.3

LiqueBrngb[nls]

PROGRAM

EQLIQUE & SETTLE2©

April 2005

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LIQUEFACTION POTENTIAL EVALUATION

R. T. Frankian & Associates Geotechnical Engineering Consultants

PROJECT: Proposed Warehouse 26313 GVR The Hale Corporation 0

Job No.: 2020-003

Calculated By.:	awr	Date:	7/31/2020
Checked By:		Date:	

Borehole diameter (in)=	8	<<<PLEASE DO NOT TOUCH THIS CELL
Correction factor for borehole diameter(CB) =	1.15	<<<PLEASE DO NOT TOUCH THIS CELL

Location HS-2

Layer No.	Mid Layer Depth (ft)	Elevation (ft. MSL)	Depth of layer below Ground Level (ft)		Main soil USCS Symbol	Total Unit Wt. (kcf)	Total Stress (ksf)	Effective Stress (ksf)	Overburden Correction w/Eff.Strs.@ Drill. time (Cn)	Field Blow Count (w/borehole diam.factor) (blows/ft)	Sampler Type	Sampler & Hammer\drop combination factor	Short Rod Correction Factor, CR	Hammer Energy ratio Factor CE	$(N_1)_{60}$ (blows/ft)	Percent Fines, %		Equivalent $(N_1)_{60cs}$ for Clean Sand	Cyclic Resistance Ratio M=7.5	Cyclic Resistance Ratio for M= 7.5	Cyclic Resistance M = 7.5 (ksf)	Ind.stress Reduction Factor(rd)	Induced Stress for Mag.= 7.5 (ksf)	Theoretical Factor of Safety
			Top	Bottom												Assigned for layer	Lab							
1	1.50	1390.5	0.0	3.0	SM	0.120	0.180	0.180	1.70	36.8	CD	0.555	0.75	1.25	33	8	-	33	>0.6	>0.6	#N/A	0.998	0.094	Non Liq.
2	5.00	1387.0	3.0	7.0	SM	0.120	0.600	0.600	1.47	29.9	CD	0.549	0.75	1.25	23	8	-	23	0.259	0.259	#N/A	0.990	0.310	Non Liq.
3	8.50	1383.5	7.0	10.0	SM	0.120	1.020	1.020	1.29	29.9	CD	0.549	0.75	1.25	20	8	-	20	0.220	0.220	#N/A	0.982	0.522	Non Liq.
4	11.00	1381.0	10.0	12.0	SM	0.120	1.320	1.320	1.18	39.1	CD	0.556	1	1.25	32	8	-	33	>0.6	>0.6	#N/A	0.977	0.672	Non Liq.
5	14.00	1378.0	12.0	16.0	SM	0.120	1.680	1.680	1.08	20.7	SPT	1.200	1	1.25	33	8	-	34	>0.6	>0.6	#N/A	0.970	0.850	Non Liq.
6	17.00	1375.0	16.0	18.0	SM	0.120	2.040	1.915	0.99	26.45	SPT	1.200	1	1.25	39	8	-	40	>0.6	>0.6	>4.5	0.964	1.025	Non Liq.
7	20.00	1372.0	18.0	22.0	ML	0.120	2.400	2.088	0.92	55.2	CD	0.704	1	1.25	45	46	-	58	>0.6	>0.6	>4.5	0.957	1.197	Non Liq.
8	23.00	1369.0	22.0	24.0	ML	0.120	2.760	2.261	0.85	55.2	CD	0.704	1	1.25	41	46	-	55	>0.6	>0.6	>4.5	0.948	1.364	Non Liq.
9	26.00	1366.0	24.0	28.0	SM	0.120	3.120	2.434	0.80	42.55	SPT	1.200	1	1.25	51	8	-	52	>0.6	>0.6	>4.5	0.938	1.525	Non Liq.
10	31.00	1361.0	28.0	34.0	SM	0.120	3.720	2.722	0.72	63.25	SPT	1.200	1	1.25	68	8	-	69	>0.6	>0.6	>4.5	0.915	1.774	Non Liq.
11	36.00	1356.0	34.0	38.0	SM	0.120	4.320	3.010	0.65	32.2	SPT	1.200	1	1.25	32	8	-	32	>0.6	>0.6	>4.5	0.883	1.988	Non Liq.
12	39.00	1353.0	38.0	40.0	SM	0.120	4.680	3.182	0.62	43.7	SPT	1.200	1	1.25	41	8	-	42	>0.6	>0.6	>4.5	0.859	2.095	Non Liq.
13	#N/A	#N/A	40.0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
15	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
16	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
17	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
18	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
25	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
29	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.25	#N/A	#N/A	-	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

SEISMIC SETTLEMENT EVALUATION

PROJECT: Proposed Warehouse 26313 GVR
Job No.: 2020-003

Calculated By:	awr	Date:	7/31/2020
Checked By:		Date:	

Location HS-2

EQ.Vol.Str.Factor For Dry Sands=	0.833

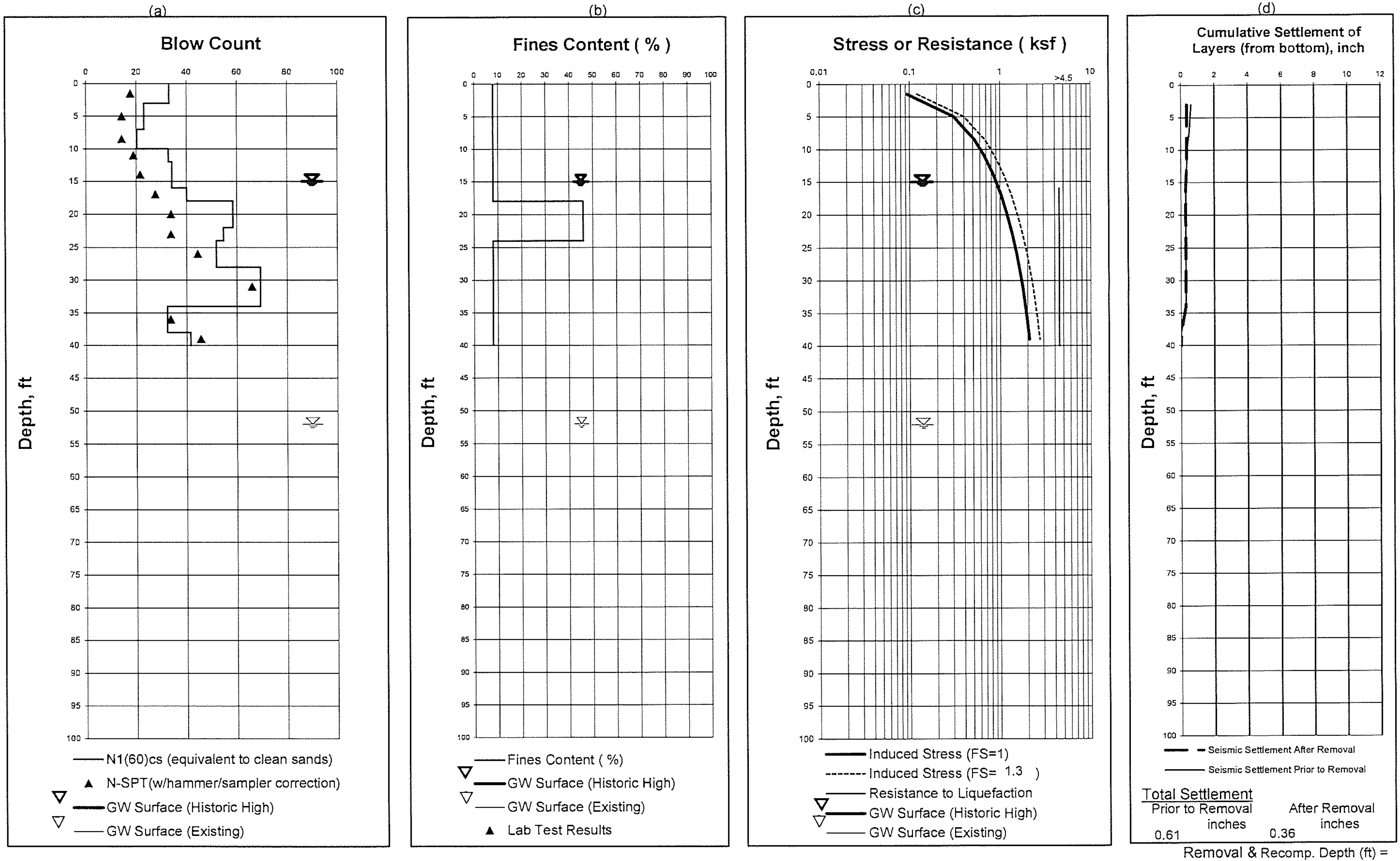
Layer No.	Layer Interval (ft)		Mid-layer depth	Thickness	Vertical Effective Stress	$(N_1)_{60}$ (blows/ft)	Rounded Equiv. $(N_1)_{60cs}$	Rounded Cyclic Str. Ratio M = 7.5 (induced)	Theoretical Factor of Safety	Dry Settlement										Wet Settlement		Cumulative Settlement (inches)
	Top	Bottom	(ft)	(ft)	(psf)					a	b	Gmax (ksf)	Stress, (induced) (ksf)	Gama.eff X (Geff/Gmax) (5)	Gama.eff X 100 (%)	Volumetric Strain, % M = 7.5	Volumetric Strain, % M= 6.7	Volumetric Strain (%) 3-D effect	Settlement (inches)	Volumetric Strain %	Settlement (inches)	
1	0.00	3.00	1.5	3.00	180.00	33	33.0	0.525	Non Liq.	0.12635	20818	701	0.094	1.34E-04	3.61E-02	0.020	0.017	0.034	0.012			0.012
2	3.00	7.00	5.0	4.00	600.00	23	23.0	0.525	Non Liq.	0.13182	12556	1133	0.310	2.73E-04	1.23E-01	0.106	0.088	0.177	0.085			0.097
3	7.00	10.00	8.5	3.00	1020.00	20	20.0	0.500	Non Liq.	0.13729	10047	1414	0.522	3.69E-04	2.15E-01	0.217	0.181	0.362	0.130			0.227
4	10.00	12.00	11.0	2.00	1320.00	32	33.0	0.500	Non Liq.	0.14120	9016	1890	0.672	3.56E-04	1.40E-01	0.079	0.066	0.132	0.032			0.259
5	12.00	16.00	14.0	4.00	1680.00	33	34.0	0.500	Non Liq.	0.14589	8148	2162	0.850	3.93E-04	1.57E-01	0.085	0.071	0.141	0.068			0.327
6	16.00	18.00	17.0	2.00	1915.20	39	40.0	0.525	Non Liq.											0.00	0.00	0.327
7	18.00	22.00	20.0	4.00	2088.00	45	58.0	0.575	Non Liq.											0.00	0.00	0.327
8	22.00	24.00	23.0	2.00	2260.80	41	55.0	0.600	Non Liq.											0.00	0.00	0.327
9	24.00	28.00	26.0	4.00	2433.60	51	52.0	0.625	Non Liq.											0.00	0.00	0.327
10	28.00	34.00	31.0	6.00	2721.60	68	69.0	0.650	Non Liq.											0.00	0.00	0.327
11	34.00	38.00	36.0	4.00	3009.60	32	32.0	0.650	Non Liq.											0.60	0.29	0.615
12	38.00	40.00	39.0	2.00	3182.40	41	42.0	0.650	Non Liq.											0.00	0.00	0.615
13	40.00	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
14	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
15	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
16	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
17	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
18	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
23	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
24	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
25	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
26	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
29	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

COMPUTER PROGRAM: "EQLique&Settle2"©

Location.......... HS-2
Elevation (MSL) (ft) 1392

Surcharge 0.00 ksf

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".



Removal & Recomp. Depth (ft) = 12

PROJECT: Proposed Warehouse 26313 GVR
The Hale Corporation

0

Weighted Ground Accel. (M=7.5) = 0.80 g

Site Magnitude = 6.7

Liquefaction Potential and Seismic Settlements Based on Boring Data

R. T. Frankian & Associates
Geotechnical Engineering Consultants

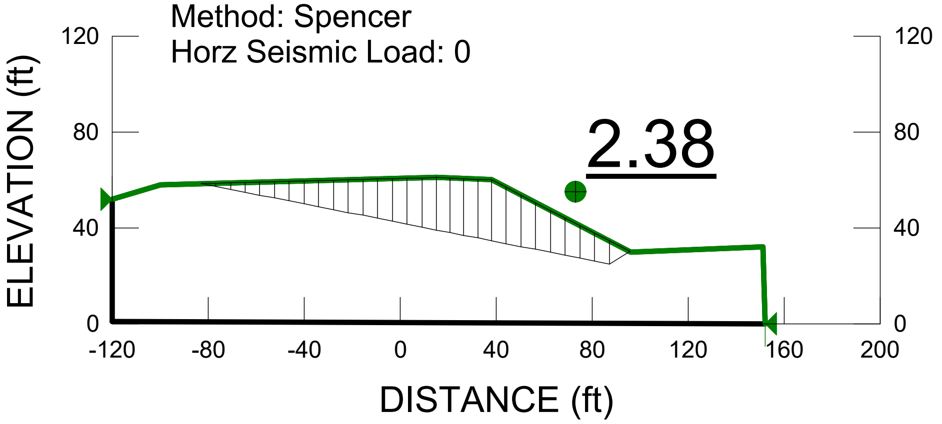
Job No.:	2020-003
Date:	7-31-2020
Figure No.	0

APPENDIX E

SLOPE STABILITY CALCULATIONS

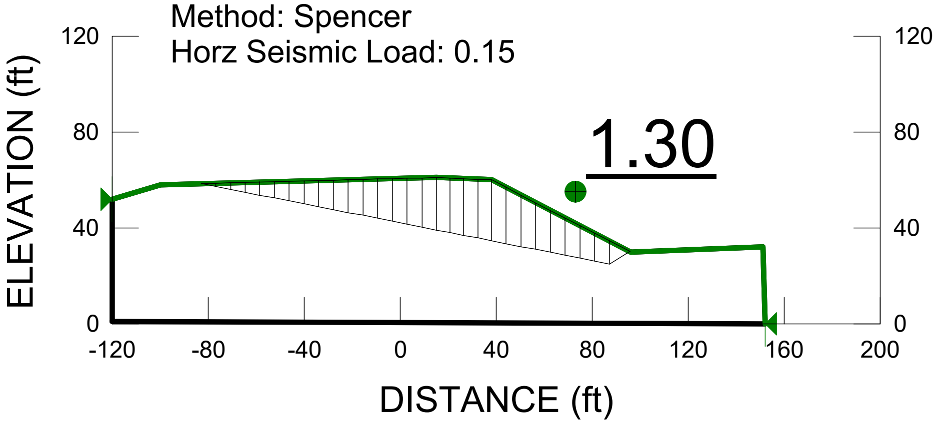
Title: Pacific Golden Valley
Comments: 2020-003
Name: Section B-B'.gsz
Date: 7/8/2021 Time: 2:42:16 PM
Material #: 1   Wt: 125   C: 200   Phi: 18   Model: MohrCoulomb

Method: Spencer
Slip Surface Option: FullySpecified
Method: Spencer
Horz Seismic Load: 0



Title: Pacific Golden Valley
Comments: 2020-003
Name: Section B-B' Seismic.gsz
Date: 7/8/2021 Time: 2:44:44 PM
Material #: 1 Wt: 125 C: 200 Phi: 18 Model: MohrCoulomb

Method: Spencer
Slip Surface Option: FullySpecified
Method: Spencer
Horz Seismic Load: 0.15



APPENDIX B

Golden Valley Industrial Facility Air Quality and Greenhouse Gas Emissions Technical Memorandum

DUDEK
621 CHAPALA STREET
SANTA BARBARA, CALIFORNIA 93101
T 805.963.0651 F 805.963.2074

MEMORANDUM

To:	Bo Prock, Pacific Industrial
From:	Adam Poll, Senior Air Quality Specialist, Dudek
Subject:	Golden Valley Industrial Facility Air Quality and Greenhouse Gas Emissions Technical Memorandum
Date:	March 13, 2023
cc:	Heather McDevitt, Dudek
Attachment(s):	Attachment A – CalEEMod Emissions Outputs

Dudek is pleased to present Pacific Industrial with the following air quality and greenhouse gas (GHG) analysis for the proposed Golden Valley Industrial Facility (Project) located in the City of Santa Clarita, California (City). The Project site would be located on approximately 12.84 acres of vacant land at 26313 Golden Valley Road.

This memorandum estimates criteria air pollutant and GHG emissions and impacts from construction and operation of the Project in accordance with the California Environmental Quality Act (CEQA) Guidelines.

The contents and organization of this memorandum are as follows: Project Description, General Analysis and Methodology, Thresholds of Significance and Impact Analyses for the Air Quality Assessment and GHG Emissions Assessment, Conclusions, and References Cited.

1 Project Description

The Project is located at 26313 Golden Valley Road in the City (the "Project Site"). The proposed project site is located on the west side of Golden Valley Road between Centre Pointe Parkway and Robert C. Lee Parkway. The vacant 12.84-acre Project site (APN 2836-016-083) is located on the west side of Golden Valley Road, south of Centre Pointe Parkway. The project is proposing to construct a 174,000 square foot industrial building, which includes 165,000 square feet of warehouse space, 9,000 square feet of office space, with 238 outdoor parking spaces.

2 General Analysis and Methodology

The Project Site is located within the South Coast Air Basin (SCAB) and is within the jurisdictional boundaries of the South Coast Air Quality Management District (SCAQMD), which has jurisdiction over Los Angeles County (County) where the Project is located.

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants that are evaluated include volatile organic compounds (VOCs; also referred to as reactive organic gases [ROGs]), oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), particulate matter with an aerodynamic diameter less than or equal to 10 microns in size (coarse particulate matter, or PM_{10}), and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size (fine particulate matter, or $PM_{2.5}$). VOCs and NO_x are important because they are precursors to ozone (O_3). Criteria air pollutant emissions associated with construction of the Project were estimated for the following emission sources: operation of off-road construction equipment, paving, architectural coating, on-road vendor (material delivery) trucks, and worker vehicles. The operational criteria air pollutant emissions were estimated from area sources, energy sources, and mobile sources.

GHGs are gases that absorb infrared radiation in the atmosphere. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature. Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect. Principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, and water vapor. If the atmospheric concentrations of GHGs rise, the average temperature of the lower atmosphere will gradually increase. Globally, climate change has the potential to impact numerous environmental resources though uncertain impacts related to future air temperatures and precipitation patterns. Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. Climate change is already affecting California: average temperatures have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (Climate Action Team [CAT] 2010).

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP), which varies among GHGs. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG emissions are typically measured in terms of pounds or tons of CO_2 equivalent (CO_2e). The CO_2e for a gas is derived by multiplying the mass of the gas by the associated GWP, such that metric tons (MT) of CO_2e = (MT of a GHG) × (GWP of the GHG). CalEEMod assumes that the GWP for CH_4 is 25, which means that emissions of one MT of CH_4 are equivalent to emissions of 25 MT of CO_2, and the GWP for N_2O is 298, based on the Intergovernmental Panel on Climate Change's (IPCC's) Fourth Assessment Report (IPCC 2007).

GHG emissions associated with construction of the Project were estimated for the following emission sources: operation of off-road construction equipment, on-road vendor trucks, and worker vehicles. GHG emission sources associated with operation of the Project include area, energy, mobile, solid waste, water, and wastewater categories. The detailed Project construction and operational assumptions are included in Attachment A.

2.1 Construction

The California Emissions Estimator Model (CalEEMod) Version 2020.4.0 was used to estimate emissions from construction of the Project (California Air Pollution Control Officers Association (CAPCOA) 2021). CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant and GHG emissions associated with construction activities and operation of a variety of land use projects, such as residential, commercial, and industrial facilities. CalEEMod input parameters, including the land use type used to represent the Project and its size, construction schedule, and anticipated use of construction equipment, were based on information provided by the applicant or default model assumptions if Project specifics were unavailable. Construction was assumed to commence in August 2023 [1] and last approximately 19 months. The first year of operation was assumed to be 2024. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for up to 8 hours per day (depending on phase), 5 days per week (22 days per month), during project construction. In addition to construction equipment operation, emissions from worker trips and vendor trucks (i.e., delivery trucks) were estimated based on CalEEMod defaults. The construction equipment mix and estimated hours of equipment operation per day used for the air emissions modeling of the project are based on CalEEMod defaults and are shown in Table 1.

Table 1. Construction Scenario Assumptions

	One-Way Vehicle Trips			Equipment		
Construction Phase	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Daily Usage Hours
Demolition	16	4	20	Concrete/Industrial Saws	1	8
				Excavators	3	8
				Rubber Tired Dozers	2	8
Site Preparation	18	4	0	Rubber Tired Dozers	3	8
				Tractors/Loaders/Backhoes	4	8
Grading	20	4	0	Excavators	2	8
				Graders	1	8
				Rubber Tired Dozers	1	8
				Scrapers	2	8
				Tractors/Loaders/Backhoes	2	8
Building Construction	236	92	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	3	7
				Welders	1	8
Paving	16	4	0	Pavers	2	8
				Paving Equipment	2	8
				Rollers	2	8
Architectural Coating	48	4	0	Air Compressors	1	6

Notes: See Attachment A for details.

Vendor trucks transporting building materials were assumed for building construction. The project is assumed to have a balanced cut and fill and requires no import or export during grading. Average daily emissions were computed

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[1] The analysis assumes a construction start date of August 2023, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

by dividing the total construction emissions by the number of active construction days. Additional details regarding construction assumptions are provided in the modeling output, Attachment A.

2.2 Operations

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating and water heating are calculated in the building energy use module of CalEEMod, as described in the following text.

Consumer products are chemically formulated products used by institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2021). Consumer product VOC emissions were estimated in CalEEMod based on the floor area of buildings and default factor of pounds of VOC per building square foot per day. The CalEEMod default values for consumer products were assumed.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings such as in paints and primers using during building maintenance. CalEEMod calculates the VOC evaporative emissions from application of surface coatings based on the VOC emission factor, building square footage, assumed fraction of surface area, and reapplication rate. The VOC emission factor is based on the VOC content of the surface coatings, and SCAQMD's Rule 1113 (Architectural Coatings) governs the VOC content for interior and exterior coatings. The model default reapplication rate of 10% of area per year is assumed. Consistent with CalEEMod defaults for non-residential uses, it is assumed that the surface area for painting equals 2.0 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating (CAPCOA 2021). The CalEEMod defaults of 100 g/L were assumed for non-residential interior, exterior, and parking area coatings.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for greenhouse gases (GHGs) in CalEEMod, since criteria pollutant emissions occur at the power plant, which is typically off site.

CalEEMod default values for energy consumption for each land use were applied for the Project analysis. The energy use from non-residential land uses is calculated in CalEEMod based on the California Commercial End-Use Survey database. Energy use in buildings (both natural gas and electricity) is divided by the program into end-use categories subject to Title 24 requirements (end uses associated with the building envelope, such as the heating, ventilation, and air conditioning (HVAC) system, water heating system, and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous “plug-in” uses). The CalEEMod assumes compliance with the 2019 Title 24 code.

Offroad Sources

Based on the type of Project, there are additional emission sources that are either not captured in CalEEMod or specifics are not available to accurately estimate emissions using CalEEMod.

For most of these sources, because specifics are not available to accurately estimate emissions from these anticipated sources under the Project, associated emissions are not included in the estimated emissions presented herein. However, in a good faith effort to include sources typically associated with warehouse/industrial land uses, forklifts and yard trucks are included in the Project’s emission inventory. Methods and assumptions to estimate these sources of emissions are discussed below.

Forklifts

The SCAQMD published a high cube warehouse truck trip study white paper summary of business survey results (SCAQMD Survey), which summarizes various operational results from 34 operating high cube warehouses (SCAQMD 2014). The SCAQMD Survey reported an average of 0.12 forklifts/pallet jacks per 1,000 square feet of building area, which was applied to the proposed Project. Note that this estimate is for total forklifts and pallet jacks while pallet jacks are small as they are primarily used to lift small loads in tight quarters (and are electric or manual); therefore, assuming all pieces of equipment are forklifts is conservative. The high cube warehouse factor of 0.12 forklifts/pallet jacks per 1,000 square feet of building area was applied for the Project, resulting in a total of 21 forklifts. All indoor forklifts are anticipated to be electric-powered and while the majority of forklifts are anticipated to be used indoors, to conservatively capture the potential for outdoor forklift usage, 75% of the forklifts were assumed to be indoor and 25% were assumed to be outdoor. The indoor forklifts were modeled as 89-horsepower electric forklifts that would operate at 8 hours per day, 365 days per year. The outdoor forklifts were modeled as 100-horsepower diesel rough terrain forklifts that would operate at 8 hours per day, 365 days per year. CalEEMod was used to estimate emissions from forklifts.

Yard Trucks

Industrial warehouse building operation may require cargo handling equipment to move empty containers and empty chassis to and from the various pieces of cargo handling equipment that receive and distribute containers, which is commonly done by yard trucks. Yard trucks, which are also called yard goats, utility tractors, hustlers, yard hostlers, and yard tractors, were reported at the majority of the 34 high cube warehouses in the SCAQMD Survey with an average usage of 3.6 hostlers per million square feet of building area. The 3.6 hostlers per million square feet of building area was applied to the Proposed Project – both warehouse and manufacturing land uses – with the Project totaling one yard truck. The yard truck was assumed to be diesel-powered, 200 horsepower, and would operate for four hours per day, 365 days per year. CalEEMod was used to estimate emissions from yard trucks.

Mobile Sources

Following the completion of construction activities, the Project would generate criteria pollutant emissions from mobile sources (vehicular traffic) as a result of employees and visitors of the project. Based on the Transportation Assessment for the project, there would be 298 total vehicle trips per day, 105 of which are trucks and 193 are passenger cars (Translutions Inc. 2022). The truck breakdown by axle was also taken from the Transportation Assessment. CalEEMod was used to estimate emissions from proposed vehicular sources (refer to Attachment A). CalEEMod default data, including temperature, trip characteristics, variable start information, and emissions factors, were conservatively used for the model inputs. Project-related traffic was assumed to include a mixture of vehicles in accordance with the associated use (as discussed below), as modeled within CalEEMod, which is based on the California Air Resources Board (CARB) EMFAC2017 model. Emission factors representing the vehicle mix and emissions for 2024 were used to estimate emissions associated with vehicular sources. Two land uses in CalEEMod were used to model emissions from mobile sources. The “unrefrigerated warehouse-rail” land use was used to model trucks and the “unrefrigerated warehouse-no rail” was used to model passenger cars. The trip rates (as stated above) were apportioned to each land use from the Transportation Assessment. The fleet mix for trucks was determined based off the Transportation Assessment and included the following vehicle categories: 2-axle trucks (50% LHD1 and 50% LHD2), 3-axle trucks (MHD), and 4-axle trucks (HHD). The fleet mix for passenger vehicles was assumed consistent with the EMFAC fleet mix for the air basin for the following vehicle categories: LDA, LDT1, LDT2, and MDV. Vehicle trip lengths were assumed to be 40 miles for truck trips (in accordance with SCAQMD guidance) and the CalEEMod defaults for passenger car trips.

Solid Waste

The Project would generate solid waste, and therefore, result in CO_2e emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste.

Stationary Source

The Project would include a fire pump rated at up to 2,500 gallons per minute. The fire pump would be powered by a 350-horsepower Tier 3 diesel engine. The fire pump would need to be tested weekly in accordance with the NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems. It was assumed that the generator would operate up to 1 hour per day and up to 50 hours per year. CalEEMod was used to estimate emissions from the fire pump generator.

Water

Supply, conveyance, treatment, and distribution of water for the proposed Project require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the proposed Project requires the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. The indoor and outdoor water use and electricity consumption from water use and wastewater generation were estimated using CalEEMod default values for the proposed Project. As the warehouse land use does not include outdoor water usage, the City Park land use was included to estimate outdoor water use for landscaping for the project.

3 Air Quality Assessment

3.1 Thresholds of Significance

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). In addition, Appendix G of the CEQA Guidelines indicates that where available, the significance criteria established by the applicable air district may be relied on to determine whether the Project would have a significant impact on air quality. This analysis focuses on addressing the potential for the Project to violate any air quality standard or contribute substantially to an existing or projected air quality violation, which is determined by comparing estimated Project-generated construction and operational emissions to numeric mass emissions thresholds established by SCAQMD.

SCAQMD has adopted thresholds to address the significance of air quality impacts resulting from a project. A project would result in a substantial contribution to an existing air quality violation of the National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS) for O_3, which is a nonattainment pollutant, if the project's construction mass emissions would exceed SCAQMD's VOC or NO_x significance thresholds shown in Table 2. These emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly, and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods. The SCAB is also nonattainment for the state PM_{10} and federal and state $PM_{2.5}$ standards.

Table 2. SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	**Construction (Pounds per Day)**	**Operation (Pounds per Day)**
VOCs	75	55
NO_x	100	55
CO	550	550
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Lead[a]	3	3
TACs and Odor Thresholds		
TACs[b]	Maximum incremental cancer risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic and acute hazard index ≥ 1.0 (project increment)	

Table 2. SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	**Construction (Pounds per Day)**	**Operation (Pounds per Day)**
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Standards for Criteria Pollutants[c]		
NO$_2$ 1-hour average NO$_2$ annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.030 ppm (state) and 0.0534 ppm (federal)	
CO 1-hour average CO 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state /federal)	
PM$_{10}$ 24-hour average PM$_{10}$ annual average	10.4 µg/m^3 (construction)[d] 2.5 µg/m^3 (operation) 1.0 µg/m^3	
PM$_{2.5}$ 24-hour average	10.4 µg/m^3 (construction)[d] 2.5 µg/m^3 (operation)	

Source: SCAQMD 2019.

Notes: SCAQMD = South Coast Air Quality Management District; VOCs = volatile organic compounds; NO$_x$ = oxides of nitrogen; CO = carbon monoxide; SO$_x$ = sulfur oxides; PM$_{10}$ = coarse particulate matter; PM$_{2.5}$ = fine particulate matter; TAC = toxic air contaminant; NO$_2$ = nitrogen dioxide; ppm = parts per million; µg/m^3 = micrograms per cubic meter.

GHG emissions thresholds for industrial proposed projects, as added in the March 2015 revision to the SCAQMD Air Quality Significance Thresholds, were not include included in Table 1 as they will be addressed within the GHG emissions analysis and not the air quality study.

[a] The phaseout of leaded gasoline started in 1976. Since gasoline no longer contains lead, the Project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

[b] TACs include carcinogens and non-carcinogens.

[c] Ambient air quality standards for criteria pollutants are based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.

[d] Ambient air quality threshold are based on SCAQMD Rule 403.

In addition to the emission-based thresholds listed in Table 2, SCAQMD also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the Project as a result of construction activities. Such an evaluation is referred to as a localized significance threshold (LST) analysis. The LST analysis focuses on construction equipment and does not include mobile sources. Therefore, the LST analysis only applies to the construction equipment on site, not the worker vehicles or vendor trucks. For project sites of 5 acres or less, the SCAQMD LST Methodology (2009) includes lookup tables that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., the emissions would not cause an exceedance of the applicable concentration limits for NO$_2$, CO, PM$_{10}$, and PM$_{2.5}$) without performing Project-specific dispersion modeling. The Project would disturb less than 5 acres per day, so it is appropriate to use the lookup tables for the LST evaluation.

The LST significance thresholds for NO$_2$ and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for PM$_{10}$ represents compliance with Rule 403 (Fugitive Dust).

The LST significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. The allowable emission rates depend on the following parameters:

- Source-receptor area (SRA) in which the Project is located
- Size of the Project Site
- Distance between the Project Site and the nearest sensitive receptor (e.g., residences, schools, hospitals)

The Project Site is located in SRA 13 (Santa Clarita Valley). LST pollutant screening level concentration data is currently published for 1-, 2-, and 5-acre sites for varying distances. In accordance with the SCAQMD *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*, the project would disturb a maximum of 2-acres per day during the grading phase. The nearest sensitive-receptor land use (Santa Clarita Aquatics Center) is located approximately 280 meters from the Project Site boundary. As such, the LST receptor distance was assumed to be 656 feet (200 meters). The LST values from the SCAQMD lookup tables for SRA 13 (Santa Clarita Valley) for a 2-acre project site and a receptor distance of 200 meters are shown in Table 3.

Table 3. Localized Significance Thresholds for Source-Receptor Area 13 (Santa Clarita Valley)

Pollutant	Threshold (pounds/day)
Construction	
NO_2	204
CO	3,108
PM_{10}	59
$PM_{2.5}$	20
Operation	
NO_2	204
CO	3,108
PM_{10}	15
$PM_{2.5}$	5

Source: SCAQMD 2009.
Notes: NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter
Localized significance thresholds were determined based on the values for a 2-acre site at a distance of 200 meters (656 feet) from the nearest sensitive receptor.

3.2 Impact Analysis

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

The Project Site is located within the SCAB, which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties and all of Orange County, and is within the jurisdictional boundaries of SCAQMD.

SCAQMD administers SCAB's Air Quality Management Plan (AQMP), which is a comprehensive document outlining an air pollution control program for attaining all CAAQS and NAAQS. The most recent adopted AQMP for the SCAB is the 2016 AQMP (SCAQMD 2017), which was adopted by SCAQMD's Governing Board in March 2017. The 2016 AQMP focuses on available, proven, and cost-effective alternatives to traditional strategies while seeking to achieve multiple goals in partnership with other entities seeking to promote reductions in GHGs and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017).

The purpose of a consistency finding with regard to the AQMP is to determine if a project is consistent with the assumptions and objectives of the regional air quality plans, and if it would interfere with the region's ability to comply with federal and state air quality standards. SCAQMD has established criteria for determining consistency with the currently applicable AQMP in Chapter 12, Sections 12.2 and 12.3 of the SCAQMD CEQA Air Quality Handbook. These criteria are (SCAQMD 1993):

- Whether the Project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP.
- Whether the Project would exceed the assumptions in the AQMP or increments based on the year of Project buildout and phase.

To address the first criterion, Project-generated criteria air pollutant emissions have been estimated and analyzed for significance and are addressed under Section 3.2.2. Detailed results of this analysis are included in Attachment A, CalEEMod Emissions Outputs. As presented in Section 3.2.2, construction and operation of the Project would not generate criteria air pollutant emissions that exceed SCAQMD's thresholds.

The second criterion regarding the Project's potential to exceed the assumptions in the AQMP or increments based on the year of Project buildout and phase is primarily assessed by determining consistency between the Project's land use designations and its potential to generate population growth. In general, projects are considered consistent with, and not in conflict with or obstructing implementation of, the AQMP if the growth in socioeconomic factors is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook). SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) for its Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2016). This document, which is based on general plans for cities and counties in the SCAB, is used by SCAQMD to develop the AQMP emissions inventory (SCAQMD 2017).[2] The SCAG 2016 RTP/SCS and the associated Regional Growth Forecast are generally consistent with the local plans; therefore, the 2016 AQMP is generally consistent with local government plans.

The Project Site is located within the City's Industrial BP – Business Park zone, which specifically authorizes the use of the property as a storage building for distribution. The Project is consistent with the existing land use designation

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[2] Information necessary to produce the emissions inventory for the SCAB is obtained from SCAQMD and other governmental agencies, including the California Air Resources Board (CARB), California Department of Transportation (Caltrans), and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socioeconomic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. SCAG incorporates these data into its Travel Demand Model for estimating/projecting vehicle miles traveled and driving speeds. SCAG's socioeconomic and transportation activities projections in their 2016 RTP/SCS are integrated in the 2016 AQMP (SCAQMD 2017).

and does not propose a change in land use designation. In addition, the implementation of the Project would not generate an increase in growth demographics that would conflict with existing projections within the region. Accordingly, the Project is consistent with the SCAG RTP/SCS forecasts used in the SCAQMD AQMP development.

In summary, based on the considerations presented for the two criteria, impacts relating to the Project's potential to conflict with or obstruct implementation of the applicable AQMP would be less than significant.

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

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, Project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

Construction Emissions

Proposed construction activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity; the specific type of operation; and, for particulate matter, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated.

The CalEEMod Version 2020.4.0 was used to estimate emissions from construction of the Project. Internal combustion engines used by construction equipment, trucks, and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions would also be generated by entrained dust, which results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil. The Project would be required to comply with SCAQMD Rule 403 to control dust emissions generated during any dust-generating activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active dust areas two times per day, with additional watering depending on weather conditions. The CalEEMod default assumptions were used for estimating fugitive dust emissions from grading on site. The Project would involve application of architectural coating (e.g., paint and other finishes) for painting the interior and exterior of the building as well as parking lot striping. The contractor is required to procure architectural coatings from a supplier that complies with the requirements of SCAQMD's Rule 1113 (Architectural Coatings). Table 4 presents the estimated maximum daily construction emissions generated during construction of the Project. Details of the emission calculations are provided in Attachment A.

Table 4. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	pounds per day					
2023	3.39	34.71	28.81	0.07	10.34	5.77

Table 4. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	pounds per day					
2024	66.99	17.46	25.17	0.06	3.87	1.48
Maximum	*66.99*	*34.71*	*28.81*	*0.07*	*10.34*	*5.77*
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
Emissions include compliance with SCAQMD Rules 403 and 1113.
See Attachment A for complete results.

As shown in Table 4, the Project construction would not exceed SCAQMD's daily thresholds. Therefore, construction impacts associated with criteria air pollutant emissions would be less than significant.

Operational Emissions

Emissions from the operational phase of the Project were estimated using CalEEMod. Operational year 2024 was assumed as it would be the first year following completion of construction. Table 5 presents the emissions during operation.

Table 5. Estimated Maximum Daily Operation Criteria Air Pollutant Emissions

Emissions Source	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Area	3.98	0.00	0.04	0.00	0.00	0.00
Energy	0.00	0.04	0.03	0.00	0.00	0.00
Mobile	0.60	18.36	9.46	0.11	5.64	1.66
Offroad	0.88	10.24	15.50	0.03	0.32	0.30
Stationary	0.11	1.58	1.47	0.00	0.09	0.09
Total	**5.57**	**30.22**	**26.50**	**0.14**	**6.05**	**2.05**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
See Attachment A for complete results. Columns may not add due to rounding.

As shown in Table 5, the Project would not exceed SCAQMD's significance thresholds during operations. Therefore, operational impacts associated with criteria air pollutant emissions would be less than significant.

Cumulative Impacts

In considering cumulative impacts from the Project, the analysis must specifically evaluate a Project's contribution to the cumulative increase in pollutants for which the SCAB is designated as nonattainment for the CAAQS and NAAQS. If a Project's emissions would exceed SCAQMD's significance thresholds, it would be considered to have a cumulatively considerable contribution to nonattainment status in the SCAB. If a project does not exceed thresholds and is determined to have less than significant Project-specific impacts, it may still contribute to a significant cumulative impact on air quality. The basis for analyzing the Project's cumulatively considerable contribution is if the Project's contribution accounts for a considerable proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact) and consistency with SCAQMD's 2016 AQMP, which addresses cumulative emissions in the SCAB.

The SCAB has been designated as a federal nonattainment area for O_3 and $PM_{2.5}$ and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from various sources of air pollutants and their precursors within the SCAB, including motor vehicles, off-road equipment, and commercial and industrial facilities. Construction of the Project would generate VOC and NO_x emissions (which are precursors to O_3) and emissions of PM_{10} and $PM_{2.5}$. As indicated in Tables 4 and 5, Project-generated construction and operational emissions would not exceed SCAQMD's emission-based significance thresholds for VOC, NO_x, CO, SO_2, PM_{10}, or $PM_{2.5}$.

Cumulative localized impacts would potentially occur if a construction project were to occur concurrently with another off-site project. Construction schedules for potential future projects near the Project Site are currently unknown; therefore, potential construction impacts associated with two or more simultaneous projects would be speculative.[3] However, future projects would be subject to CEQA and would require an air quality analysis and, where necessary, mitigation if the Project would exceed SCAQMD's significance thresholds. Criteria air pollutant emissions associated with construction activity of future proposed projects would be reduced through implementation of control measures required by SCAQMD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SCAQMD.

Since criteria pollutant mass emissions impacts shown in Tables 4 and 5 would not be expected to exceed any of the air quality significance thresholds, cumulative air quality impacts would also be expected to be less than significant. SCAQMD cumulative air quality significance thresholds are the same as project-specific air quality significance thresholds. Therefore, potential adverse impacts from implementing the proposed project would not be "cumulatively considerable" as defined by CEQA Guidelines Section 15064(h)(1) for air quality impacts. Per CEQA Guidelines Section 15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.

The SCAQMD's guidance on addressing cumulative impacts for air quality is as follows: "As Lead Agency, the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR." "Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."[4]

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[3] The CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145). This discussion is nonetheless provided in an effort to show good-faith analysis and to comply with CEQA's information disclosure requirements.

[4] South Coast AQMD Cumulative Impacts Working Group White Paper on Potential Control Strategies to Address Cumulative Impacts From Air Pollution, August 2003, Appendix D, Cumulative Impact Analysis Requirements Pursuant to CEQA, at D-3.

Based on the previous considerations, the Project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants, and cumulative impacts would be less than significant.

3.3.3 Would the project expose sensitive receptors to substantial pollutant concentrations?

Localized Significance Thresholds

Sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). The nearest sensitive-receptor land use (Santa Clarita Aquatics Center) is located approximately 280 meters from the Project Site boundary.

Construction activities associated with the Project would result in temporary sources of on-site fugitive dust and construction equipment emissions. During operation, emissions from forklifts, the yard truck, and vehicles would be the primary source of emissions. The passenger vehicle and truck trips during construction and operation were modeled using a 1,000-foot trip distance to capture onsite emissions. The maximum allowable daily emissions that would satisfy the SCAQMD localized significance criteria for SRA 13 are presented in Table 6 and compared to the maximum daily on-site construction and operational emissions.

Table 6. Localized Significance Thresholds Analysis for the Project

Pollutant	Project Construction Emissions (Pounds per Day)	LST Criteria (Pounds per Day)	Exceeds LST?
Construction			
NO_2	34.58	204	No
CO	28.20	3,108	No
PM_{10}	10.12	59	No
$PM_{2.5}$	5.71	20	No
Operation			
NO_2	13.37	204	No
CO	19.20	3,108	No
PM_{10}	0.47	15	No
$PM_{2.5}$	0.40	5	No

Source: SCAQMD 2009.
Notes: LST = localized significance threshold; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix A for detailed results.
LSTs are shown for 2-acre project sites corresponding to a distance to a sensitive receptor of 200 meters (656 feet) for SRA 13 (Santa Clarita Valley).
These estimates reflect control of fugitive dust required by Rule 403.

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http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulativeimpacts-white-paper-appendix.pdf.

The emissions represent worst-case operating scenario during construction.

As shown in Table 6, the Project LST would not exceed the established significance thresholds, and thus, would result in a less than significant localized impact to sensitive receptors during construction and operation.

CO Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed CO "hotspots." CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

Title 40 of the Code of Federal Regulations, Section 93.123(c)(5), Procedures for Determining Localized CO, PM_{10}, and $PM_{2.5}$ Concentrations (Hot-Spot Analysis), states that "CO, PM_{10}, and $PM_{2.5}$ hot-spot analyses are not required to consider construction-related activities, which cause temporary increases in emissions. Each site which is affected by construction-related activities shall be considered separately, using established 'Guideline' methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site" (40 CFR 93.123). While Project construction would involve on-road vehicle trips from trucks and workers during construction, construction activities would last approximately 13 months and would not require a Project-level construction hotspot analysis.

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed "CO hotspots." The transport of CO is extremely limited, as it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots. As provided in the Transportation Assessment (Translutions, Inc. 2022), the proposed project would not cause the LOS to operate at an unacceptable level according to the City's guidelines.

In addition, at the time that the SCAQMD Handbook (1993) was published, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO. In 2007, the SCAQMD was designated in attainment for CO under both the CAAQS and NAAQS as a result of the steady decline in CO concentrations in the SCAB due to turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities. The SCAQMD conducted CO modeling for the 2003 AQMP[5] (SCAQMD 2003) for the four worst-case intersections in the SCAB: (1) Wilshire Boulevard and Veteran Avenue, (2) Sunset Boulevard and Highland Avenue, (3) La Cienega Boulevard and Century Boulevard, and (4) Long Beach Boulevard and Imperial Highway.

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[5] SCAQMD's CO hotspot modeling guidance has not changed since 2003.

At the time the 2003 AQMP was prepared, the intersection of Wilshire Boulevard and Veteran Avenue was the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day. The 2003 AQMP also projected 8-hour CO concentrations at these four intersections for 1997 and from 2002 through 2005. From years 2002 through 2005, the maximum 8-hour CO concentration was 3.8 ppm at the Sunset Boulevard and Highland Avenue intersection in 2002; the maximum 8-hour CO concentration was 3.4 ppm at the Wilshire Boulevard and Veteran Avenue in 2002.

Accordingly, CO concentrations at congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least over 100,000 vehicles per day. Because the project is not anticipated to increase daily traffic volumes at any study intersection to more than 100,000 vehicles per day (Translutions, Inc. 2022), a CO hotspot is not anticipated to occur.

Based on these considerations, the proposed project would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. This conclusion is supported by the analysis in the Transportation Assessment, which demonstrates that traffic impacts would be less than significant. In addition, due to continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SCAB is steadily decreasing. Based on these considerations, the proposed project would result in a less-than-significant impact to air quality with regard to potential CO hotspots.

Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute (immediate) and/or chronic (cumulative) non-cancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics “Hot Spots” Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Project construction would result in emissions of diesel particulate from heavy construction equipment and trucks accessing the site. Diesel particulate is characterized as a TAC by the State of California. The Office of Environmental Health Hazard Assessment (OEHHA) has identified carcinogenic and chronic noncarcinogenic effects from long-term exposure, but has not identified health effects due to short-term exposure to diesel exhaust. According to the OEHHA, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with the Project (OEHHA 2015). Thus, the duration of the proposed construction activities would only constitute a small percentage of the total 30-year exposure period. Due to this relatively short period of exposure (13 months) and minimal particulate emissions on-site (as shown in Table 6), TACs generated by the Project would not result in concentrations causing significant health risks. Furthermore, the closest sensitive receptor to the project is over 600 feet away from the project site. Impacts would be less than significant.

Additionally, the health risk public-notification thresholds adopted by the SCAQMD Board is 10 excess cancer cases in a million for cancer risk and a hazard index of more than one (1.0) for non-cancer risk. The hazard index of more than 1.0 means that predicted levels of a toxic pollutant are greater than the reference exposure level, which is considered the level below which adverse health effects are not expected. Examples of projects that emit toxic pollutants over long-term operations include oil and gas processing, gasoline dispensing, dry cleaning, electronic and parts manufacturing, medical equipment sterilization, freeways, and rail yards (SCAQMD 2017). The Project would not emit substantial amounts of TACs during operations (as shown in Table 6) and sensitive receptors are not proximate to the Project Site; as such, a formal health risk assessment will not be required for the Project. Accordingly, the Project is not anticipated to result in emissions that would exceed the SCAQMD Board-adopted health risk notification thresholds.

Health Impacts of Criteria Air Pollutants

Construction of the Project would generate criteria air pollutant emissions; however, the Project would not exceed the SCAQMD mass-emission thresholds.

The SCAB is designated as nonattainment for O_3 for the NAAQS and CAAQS. Thus, existing O_3 levels in the SCAB are at unhealthy levels during certain periods. The health effects associated with O_3 generally relate to reduced lung function. Because the Project would not involve construction activities that would result in O_3 precursor emissions (VOC or NO_x) that would exceed the SCAQMD thresholds, the Project is not anticipated to substantially contribute to regional O_3 concentrations and associated health impacts. Similar to construction, no SCAQMD threshold would be exceeded during operation.

In addition to O_3, NO_x emissions contribute to potential exceedances of the NAAQS and CAAQS for NO_2 (since NO_2 is a constituent of NO_x). Exposure to NO_2 can cause lung irritation, bronchitis, and pneumonia, and lower resistance to respiratory infections. As depicted in Table 6, Project construction and operation would not exceed the SCAQMD localized thresholds for NO_2. Thus, construction and operation of the Project are not expected to exceed the NO_2 standards or contribute to associated health effects.

CO tends to be a localized impact associated with congested intersections. CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. CO hotspots were discussed previously as a less than significant impact. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

The SCAB is designated as nonattainment for PM_{10} under the CAAQS and nonattainment for $PM_{2.5}$ under the NAAQS and CAAQS. Particulate matter contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing (US Environmental Protection Agency [EPA] 2016). As with O_3 and NO_x, the Project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed SCAQMD's LSTs. Accordingly, the Project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, as shown in Table 6, the Project would not result in any potentially significant contribution to local or regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Impacts would be less than significant.

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

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the Project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and asphalt pavement application. Such odors would disperse rapidly from the Project Site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities (SCAQMD 1993). The Project would not create any new sources of odor during operation. Therefore, Project operations would result in an odor impact that is less than significant.

4 Greenhouse Gas Emissions Assessment

4.1 Thresholds of Significance

The significance criteria used to evaluate the project impacts to Greenhouse Gas Emissions are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to GHG emissions would occur if the project would:

A. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
B. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project, such as the proposed Project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated at a project level under CEQA.

The State CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the State CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009a). The State of California has not adopted emission-based thresholds for GHG emissions under CEQA. The Governor's Office of Planning and Research's Technical Advisory, titled "Discussion Draft CEQA and Climate Change Advisory," states that

> "Neither the CEQA statute nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for perming an impact analysis. This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable. Even in the absence of clearly defined thresholds for GHG emissions, such emissions must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact. (OPR 2018)Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice." Section 15064.7(c) of the CEQA Guidelines specifies that "when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

OPR Guidance

The OPR's Technical Advisory titled *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review* states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008). Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2008).

SCAQMD

In October 2008, the SCAQMD working group considered numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of development projects as presented in its *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (SCAQMD 2008). This guidance document, which builds on the previous guidance prepared by the CAPCOA, explored various approaches for establishing a significance threshold for GHG emissions. However, the draft interim CEQA thresholds guidance document was not adopted or approved by the Governing Board. In December 2008, the SCAQMD adopted an interim 10,000 MT CO_2e per-year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (see SCAQMD Resolution No. 08-35, December 5, 2008). However, SCAQMD has not adopted a GHG significance threshold for land use development projects.

City of Santa Clarita Climate Action Plan

On November 16, 2010, the Santa Clarita City Council adopted the 2010-2035 General Plan and certified the Final Environmental Impact Report. On December 3, 2013, the City Council adopted the Climate Action Plan (CAP) and included it as part of Appendix 8.13 of the General Plan. The CAP, part of the General Plan, serves as a component of the general plan document for the City to address GHG emissions. Using the goals, objectives, and policies of the General Plan as a starting point, the CAP identifies mitigation measures that can be quantified and translated into significant reductions in the GHG emissions by the year 2020. The development of a CAP begins with a premise that establishing a complete GHG emissions inventory within the City's boundary is the critical foundation for the remainder of the project.

The CAP also defines a local threshold of significance for GHG emissions for project level submittals that trigger review by the CEQA. Because goals, objectives, and policies approved under the General Plan are forecast to meet the GHG emission reduction targets mandated by AB 32, development projects that are able to demonstrate consistency with the General Plan and zoning ordinance will by association demonstrate consistency with the CAP. However, because the CAP is only certified through 2020 and the project is expected to be built out in 2024 it does not apply herein.

Cumulative Nature of Climate Change

Global climate change has a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project in the South Coast Air Basin, such as the project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change.

While the project would result in emissions of GHGs during construction and operation, no guidance exists to indicate what level of GHG emissions would be considered substantial enough to result in a significant adverse impact on global climate. However, it is generally believed that an individual project is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory as scientific uncertainty regarding the significance a project's individual and cumulative effects on global climate change remains.

Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). This approach is consistent with that recommended by the CNRA, which noted in its Public Notice for the proposed CEQA amendments (pursuant to SB97) that the evidence before it indicates that in most cases, the impact of GHG emissions should be considered in the context of a cumulative impact, rather than a project-level impact (CNRA 2009a). Similarly, the Final Statement of Reasons for Regulatory Action on the CEQA Amendments confirm that an EIR or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009b). Accordingly, further discussion of the project's GHG emissions and their impact on global climate are addressed below.

In the absence of any adopted numeric threshold, the significance of a project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b) by considering whether the project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. For this project, as a land use development project, the most directly applicable adopted regulatory plan to reduce GHG emissions is SCAG's 2020-2045 RTP/SCS (Connect SoCal), which is designed to achieve regional GHG reductions from the land use and transportation sectors as required by SB 375 and the state's long-term climate goals. This analysis also considers consistency with regulations or requirements adopted by the 2008 Climate Change Scoping Plan and subsequent updates, City of Santa Clarita General Plan, and the City of Santa Clarita CAP.

4.2 Impact Analysis

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?

Construction Emissions

Construction of the Project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. As stated above, the SCAQMD recommends that construction emissions be amortized over a 30-year project lifetime; therefore, the total construction GHG emissions were calculated, amortized over 30 years, and added to the operational emissions.

CalEEMod was used to estimate GHG emissions during construction. Construction of the Project is anticipated to last up to 13 months. On-site sources of GHG emissions include off-road equipment and off-site sources include on-road vehicles (vendor trucks and worker vehicles). Table 7 presents construction GHG emissions for the Project from on-site and off-site emission sources.

Table 7. Estimated Annual Construction GHG Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons			
2023	291.00	0.09	0.00	293.50

Table 7. Estimated Annual Construction GHG Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons			
2024	394.33	0.05	0.02	400.84
			Total	**694.34**
			Annualized emissions over 30 years (metric tons per year)	***23.14***

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas.
See Attachment A for complete results.

As shown in Table 7, the estimated total GHG emissions during construction of would be approximately 694 MT CO_2e. Estimated Project-generated construction emissions amortized over 30 years would be approximately 23 MT CO_2e per year.

Operational Emissions

CalEEMod was used to estimate potential Project-generated operational GHG emissions from energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment. Emissions from each category are discussed in the following text with respect to the Project. For additional details, see Section 2.2 for a discussion of operational emission calculation methodology and assumptions, specifically for area, energy (natural gas and electricity), and mobile sources. Operational year 2024 was assumed as the first year of operation. Table 8 presents the GHG emissions of the Project during operation.

Table 8. Estimated Annual Operation GHG Emissions

Emissions Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area	0.01	0.00	0.00	0.01
Energy	132.48	0.01	0.00	133.17
Mobile	2,008.90	0.08	0.26	2,088.62
Offroad[1]	474.78	0.15	0.00	478.55
Stationary	6.66	0.00	0.00	6.69
Waste	33.28	1.97	0.00	82.45
Water	116.20	1.32	0.03	158.74
			Total	**2,948.23**
			Amortized construction emissions	23.14
			Total with amortized construction emissions	**2,971.37**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Attachment A for complete results.
[1] Includes GHG emissions from electric forklifts calculated outside of CalEEMod.

As shown in Table 8, the estimated total GHG emissions during operation of the Project would be approximately 2,971 MT CO_2e per year, including amortized construction emissions.

Consistency with AB 32

The project is consistent and compliant with applicable statewide regulatory programs designed to reduce GHG emissions consistent with AB 32, as described in Table 9.

Table 9. Consistency with Assembly Bill 32 Regulatory Programs

Regulatory Program	Project Level Evaluation
Construction	
CARB In-Use Off-Road Regulation	*Consistent.* Off-road equipment used for construction of the project will utilize equipment in compliance with CARB ATCMs.
Mobile Sources	
California Assembly Bill 1493 (Pavley Standards)	*Consistent.* This regulatory program applies to vehicle manufacturers, and not directly to land use development. That being said, the vehicles operated by future occupants of and visitors to the project would benefit from and be consistent with this regulatory program in the form of reduced GHG emissions from the vehicle fleet for model years 2017 through 2025.
Advanced Clean Cars Program	*Consistent.* This regulatory program applies to vehicle manufacturers, and not directly to land use development. That being said, the vehicles operated by future occupants of and visitors to the project would benefit from and be consistent with this regulatory program in the form of reduced GHG emissions from the vehicle fleet for model years 2017 through 2025.
Low Carbon Fuel Standard Regulation	*Consistent.* This regulatory program applies to fuel suppliers, and not directly to land use development. That being said, the vehicles operated by future occupants of and visitors to the project would benefit from and be consistent with this regulatory program in the form of reduced GHG emissions from the vehicle fleet.
Heavy-Duty Vehicle GHG Emission Reduction Regulation	*Consistent.* This regulatory program is intended to reduce fuel use and GHG emissions from medium- and heavy-duty vehicles, semi-trucks, pickup trucks and vans, and all types and sizes of work trucks and buses in between. The project construction and operational analysis includes the benefit of reductions from these programs.
CARB In-Use On-Road Heavy-Duty Diesel Vehicles Regulation	*Consistent.* This regulatory program applies to vehicle manufacturers, and not directly to land use development. That being said, the vehicles operated during project construction and operations would benefit from and be consistent with this regulatory program in the form of reduced GHG emissions from the vehicle fleet.
Energy Use	
California Title 20 Standards Appliance Energy Efficiency Standards	*Consistent.* The project would result in new land use development that would be outfitted with appliances that accord to the CEC's Title 20 standards to the extent required by law.
California Title 24, Part 6 Standards Building Energy Efficiency Standards	*Consistent.* The project will design and construct buildings that accord to the CEC's 2016 Title 24 standards to the extent required by law.
California Title 24, Part 11 Standards Green Building Standards Code	*Consistent.* The development facilitated by the project would comply with CALGreen as a matter of law.

Table 9. Consistency with Assembly Bill 32 Regulatory Programs

Regulatory Program	Project Level Evaluation
California Senate Bill X1-2 Renewable Portfolio Standards	*Consistent.* This regulatory program applies to investor-owned utilities, electric service providers and community choice aggregators, and not directly to land use development. That being said, the project would benefit from and be consistent with this regulatory program in the form of reduced GHG emissions from building energy consumption. The project will purchase electricity from Southern California Edison, which is required to procure 20% and 33% of retail sales from renewable energy resources by 2013 and 2020, respectively.
Water Supply, Treatment and Distribution	
Senate Bill X7-7 Water Use Efficiency Program	*Consistent.* This regulatory program is implemented through the California Department of Water Resources and urban water suppliers, not land use developers. The project would accord to water conservation objectives through use of the latest water-efficiency technologies, including those relating to water-conserving plumbing fixtures, weather-sensitive irrigation controls, drought-tolerant landscaping palettes, and the use of recycled water for irrigation purposes.
Executive Order B-29-15	*Consistent.* Mandatory water reductions are implemented via Executive Order B-29-15 and a regulatory framework developed by the State Water Resources Control Board. These regulatory programs apply to urban water suppliers, not land use developers. The project would accord to water conservation objectives through use of the latest water-efficiency technologies, including those relating to water-conserving plumbing fixtures, weather-sensitive irrigation controls, drought-tolerant landscaping palettes, and the use of recycled water for irrigation purposes.
California Title 24, Part 11 Standards Green Building Standards Code	*Consistent.* The project would comply with CALGreen as a matter of law. The use of water saving design elements (such as water-efficient toilets/urinals and faucets) will allow the project to comply with required 20% reduction in indoor potable water use.
Solid Waste	
California Assembly Bill 341 Mandatory Commercial Recycling	*Does not apply.* This regulatory program applies to commercial businesses and local land use jurisdictions, not land use developers. That being said, any businesses located in the project would be required to comply with the program to the extent required by law; the project would not hinder implementation of the program.
General	
California Cap-and-Trade Regulation	*Does not apply.* This regulatory program does not classify land use development as a covered entity. That being said, implementation of the regulatory program serves to reduce emissions at sources that are indirectly related to land use development (e.g., transportation fuel refineries).

Notes: CARB = California Air Resources Board; ATCM = Airborne Toxic Control Measure; GHG = greenhouse gas; CEC = California Energy Commission; CALGreen = California Green Building Standards.

Consistency with CARB's Scoping Plan

The Scoping Plan (approved by CARB in 2008 and updated in 2014 and 2017) provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations.[6] It does provide recommendations for lead agencies to develop evidence-based numeric thresholds consistent with the Scoping Plan, the State's long-term GHG goals, and climate change science. Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 10 highlights measures that have been, or will be, developed under the Scoping Plan and presents the Project's consistency with Scoping Plan measures. The Project would comply with all regulations adopted in furtherance of the Scoping Plan to the extent required by law and to the extent that they are applicable to the Project.

Table 10. Proposed Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
Transportation Sector		
Advanced Clean Cars	T-1	*Consistent.* The Project's employees and customers would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Low Carbon Fuel Standard	T-2	*Consistent.* Motor vehicles driven by the Project's employees and customers would use compliant fuels.
Regional Transportation-Related GHG Targets	T-3	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Advanced Clean Transit	N/A	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Last-Mile Delivery	N/A	*Consistent.* The location of the Project would support this measure with locating distribution closer to the end user.
Reduction in VMT	N/A	*Not applicable.* The Project would not prevent CARB from implementing this measure.

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[6] The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009a).

Table 10. Proposed Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing	T-4	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Ship Electrification at Ports (Shore Power)	T-5	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction	T-6	*Consistent.* The Project would comply with the cargo handling equipment and would not include cold storage.
Heavy-Duty Vehicle GHG Emission Reduction ▪ Tractor-Trailer GHG Regulation ▪ Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	T-7	*Consistent.* The Project would include heavy-duty vehicles that are subject to this measure.
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Proposed Project	T-8	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Medium and Heavy-Duty GHG Phase 2	N/A	*Consistent.* The Project would include heavy-duty vehicles that are subject to this measure.
High-Speed Rail	T-9	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	*Consistent.* The Project would be constructed in accordance with Cal Green and Title 24 building standards.
Energy Efficiency (Natural Gas)	CR-1	*Consistent.* The Project would be constructed in accordance with Cal Green and Title 24 building standards.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Combined Heat and Power	E-2	*Not applicable.* The Project would not prevent CARB from implementing this measure.

Table 10. Proposed Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
Renewables Portfolio Standard (33% by 2020)	E-3	*Consistent.* The Project would procure electricity from SCE who is in compliance with this measure.
Renewables Portfolio Standard (50% by 2050)	N/A	*Consistent.* The Project would procure electricity from SCE who is on trajectory to be compliance with this measure.
SB 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Water Sector		
Water Use Efficiency	W-1	*Consistent.* The Project would be constructed in accordance with Cal Green and Title 24 building standards.
Water Recycling	W-2	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Water System Energy Efficiency	W-3	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Reuse Urban Runoff	W-4	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Renewable Energy Production	W-5	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Green Buildings		
State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-1	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-1	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-1	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Industry Sector		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Oil and Gas Extraction GHG Emission Reduction	I-2	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Reduce GHG Emissions by 20% in Oil Refinery Sector	N/A	*Not applicable.* The Project would not prevent CARB from implementing this measure.

Table 10. Proposed Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Refinery Flare Recovery Process Improvements	I-4	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Work with the Local Air Districts to Evaluate Amendments to Their Existing Leak Detection and Repair Rules for Industrial Facilities to Include Methane Leaks	I-5	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Recycling and Waste Management Sector		
Landfill Methane Control Measure	RW-1	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Increasing the Efficiency of Landfill Methane Capture	RW-2	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Mandatory Commercial Recycling	RW-3	*Consistent.* The Project would include recycling during both construction and operation.
Increase Production and Markets for Compost and Other Organics	RW-3	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Anaerobic/Aerobic Digestion	RW-3	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Extended Producer Responsibility	RW-3	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Environmentally Preferable Purchasing	RW-3	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Forests Sector		
Sustainable Forest Target	F-1	*Not applicable.* The Project would not prevent CARB from implementing this measure.
High GWP Gases Sector		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	*Not applicable.* The Project would not prevent CARB from implementing this measure.
SF_6 Limits in Non-Utility and Non-Semiconductor Applications	H-2	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Reduction of Perfluorocarbons (PFCs) in Semiconductor Manufacturing	H-3	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Limit High GWP Use in Consumer Products	H-4	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	*Not applicable.* The Project would not prevent CARB from implementing this measure.

Table 10. Proposed Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	*Not applicable.* The Project would not prevent CARB from implementing this measure.
SF_6 Leak Reduction Gas Insulated Switchgear	H-6	*Not applicable.* The Project would not prevent CARB from implementing this measure.
40% Reduction in Methane and Hydrofluorocarbon (HFC) Emissions	N/A	*Not applicable.* The Project would not prevent CARB from implementing this measure.
50% Reduction in Black Carbon Emissions	N/A	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Agriculture Sector		
Methane Capture at Large Dairies	A-1	*Not applicable.* The Project would not prevent CARB from implementing this measure.

Source: CARB 2014, 2017.
Notes: GHG = greenhouse gas; CARB = California Air Resources Board; VMT = vehicle miles traveled; SB = Senate Bill; N/A = not applicable; SF_6 = sulfur hexafluoride.

Based on the analysis in Table 10, the Project would be consistent with the applicable strategies and measures in the Scoping Plan.

Consistency Evaluation with Senate Bill 375 (Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy)

On September 3, 2020, SCAG's Regional Council unanimously voted to approve and fully adopt Connect SoCal (2020–2045 RTP/SCS), and the addendum to the Connect SoCal Program Environmental Impact Report. SCAG's Connect SoCal is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region. The SCS integrated land use and transportation strategies that will achieve GHG emissions reduction targets that are forecasted to achieve reduction in GHG emissions to achieve the state's 2045 GHG reduction goals. The Connect SoCal incorporated local land use projections and circulation networks in city and county general plans. Typically, a project would be consistent with the RTP/SCS if the project does not exceed the underlying growth assumptions within the RTP/SCS. For purposes of this analyses, employment estimates were calculated using average employment density factors reported by SCAG. The SCAG Employment Density Survey (SCAG 2001) reports that in Los Angeles County, for every 1,518 square feet of warehouse use, the median number of jobs supported is one employee. The Project would include approximately 174,000 square feet of warehousing use. Therefore, the estimated number of employees for the project would be approximately 115 persons. The Connect SoCal growth forecast estimated employment of 91,200 jobs in 2016 and 105,200 jobs in 2045, for an annual increase of 483 jobs. As such, the project's additional 115 jobs would be within the growth forecast of the Connect SoCal. Therefore, the project would support the VMT and GHG reducing goals of the Connect SoCal.

Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. It charts a path toward a more mobile, sustainable, and prosperous region by making connections between transportation networks, between planning strategies, and between the people whose collaboration can improve the quality of life for Southern Californians. The major goals of the Connect SoCal are outlined in Table 11, along with the project's consistency with them.

Table 11. Project Consistency with the SCAG Connect SoCal RTP/SCS

RTP/SCS Measure	Proposed Project Consistency
Encourage regional economic prosperity and global competitiveness.	*Consistent.* The project would create up to 115 jobs.
Improve mobility, accessibility, reliability, and travel safety for people and goods.	*Does not apply.* The project would not inhibit SCAG from strengthening the regional transportation network for goods movement.
Enhance the preservation, security, and resilience of the regional transportation system.	*Does not apply.* The project would not inhibit SCAG from enhancing the resilience of the regional transportation system.
Increase person and goods movement and travel choices within the transportation system.	*Consistent.* The project would increase the regional goods movement capacity.
Reduce greenhouse gas emissions and improve air quality.	*Consistent*. The project would result in criteria air pollutant and GHG emissions during construction and operation. However, emissions would not exceed the SCAQMD significance thresholds.
Support healthy and equitable communities.	*Does not apply*. The project would not inhibit SCAG from supporting healthy and equitable communities.
Adapt to a changing climate and support an integrated regional development pattern and transportation network.	*Does not apply*. The project would not inhibit SCAG from adapting to a changing climate.
Leverage new transportation technologies and data-driven solutions that result in more efficient travel.	*Does not apply.* The project would not inhibit SCAG from leveraging technology for the transportation system.
Encourage development of diverse housing types in areas that are supported by multiple transportation options.	*Does not apply.* The project would not inhibit SCAG from encouraging development of diverse housing types.
Promote conservation of natural and agricultural lands and restoration of habitats.	*Consistent*. The project would not impact natural lands during construction or operation. The project site is currently vacant and undeveloped but disturbed.

Source: SCAG 2020.
Note: SCAG = Southern California Association of Governments; GHG = greenhouse gas; SCAQMD = South Coast Air Quality Management District.

As shown in Table 11, the project would be consistent with all applicable measures within the SCAG Connect SoCal RTP/SCS.

Consistency with City of Santa Clarita Climate Action Plan

As stated previously, the City's adopted CAP defines a local threshold of significance for GHG emissions for project level submittals that trigger review by CEQA. Because goals, objectives, and policies approved under the General

Plan are forecast to meet the GHG emission reduction targets mandated by AB 32 and SB 32, development projects that are able to demonstrate consistency with the General Plan will by association demonstrate consistency with the CAP and AB 32. Table 12 illustrates that the project would be consistent with the City's General Plan. Because the CAP is only certified through 2020, this consistency analysis is provided for information only and is not relied upon for determination of significance.

Table 12. Project Consistency with Applicable Greenhouse Gas Policies of the General Plan

Objective/Policy	Consistency Analysis
Objective CO 8.1: Comply with the requirements of State law, including AB 32, SB 375 and implementing regulations, to reach targeted reductions of greenhouse gas (GHG) emissions.	
Policy CO 8.1.1: Create and adopt a Climate Action Plan within 18 months of the OVOV adoption date of the City's General Plan Update that meets State requirements.	*Consistent.* The City published its CAP in August 2012. The project would be consistent with the GHG reduction measures and design features recommended in the City's adopted CAP.
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.	*Consistent.* The project will be built to meet the state's 2019 Green Building Standards in accordance with Section 25.01.010 of the City's building code.
Policy CO 8.3.5: Encourage on-site solar generation of electricity in new retail and office commercial buildings and associated parking lots, carports, and garages, in concert with other significant energy conservation efforts.	*Does not apply.* The project is not an office commercial building.
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.	*Consistent.* The project will include trees and landscaping that would provide shade to reduce heating and cooling energy loads.
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.	*Consistent.* The project will include energy efficient appliances, high-efficiency lighting, and solar panels. The project will be built to meet the City's 2019 Green Building Standards.
Policy CO 8.3.9: Limit excessive lighting levels, and encourage a reduction of lighting when businesses are closed to a level required for security.	*Consistent.* The project will include high-efficiency lighting and outdoor lighting would be used minimally to illuminate the project site for safety and security.

Source: City of Santa Clarity 2011
Note: CAP = Climate Action Plan.

As discussed above, the project would be consistent with applicable GHG reduction measures found within the Scoping Plan and AB32, the SCAG 2016 RTP/SCS, and the City's Climate Action Plan. Therefore, the project would not conflict with an applicable GHG reduction plan and impacts would be considered less than significant.

The Project would not impede the attainment of the GHG reduction goals for 2030 or 2050 identified in Executive Order (EO) S-03-05 and SB 32. EO S-03-05 establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050. SB 32 establishes for a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030. While there are no established protocols or thresholds of significance for that future year analysis, CARB forecasts that compliance with the current Scoping Plan puts the state on a trajectory toward meeting these long-term GHG goals, although the specific path to compliance is unknown (CARB 2014).

To begin, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the First Update to the Climate Change Scoping Plan states the following (CARB 2014):

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, SB 32, and EO S-03-05. This is confirmed in the Second Update, which states (CARB 2017):

> The Proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Proposed Plan is developed to be consistent with requirements set forth in AB 32, SB 32, and AB 197.

As discussed previously, the Project is consistent with the GHG emission reduction measures in the Scoping Plan and would not conflict with the state's trajectory toward future GHG reductions. In addition, since the specific path to compliance for the state in regard to the long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the Project would be speculative and cannot be identified at this time. The Project's consistency would assist in meeting the City's contribution to GHG emission reduction targets in California. With respect to future GHG targets under SB 32 and EO S-03-05, CARB has also made clear its legal interpretation is that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet SB 32's 40% reduction target by 2030 and EO S-03-05's 80% reduction target by 2050; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its trajectory toward meeting these future GHG targets. Based on the considerations previously outlined, the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and no mitigation is required. Therefore, the Project's impact associated with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs would be less than significant.

5 Conclusions

Criteria air pollutant emissions generated during construction and operation of the Project would not exceed SCAQMD's significance thresholds or result in a cumulatively considerable net increase in emissions. Similarly, the emissions would also not exceed the LST significance thresholds for sensitive receptors during construction or operations, or create a CO hotspot. Therefore, the Project would result in a less than significant impact.

The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs as there are currently no mandatory GHG regulations or finalized agency guidelines that would apply to implementation of this Project. Accordingly, potential cumulative GHG impacts would be less than significant. As such, the proposed Project would not result in significant impacts to air quality or GHG emissions.

Sincerely,

Adam Poll, QEP, LEED AP BD+C
Senior Air Quality Specialist

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Attachment A

CalEEMod Emissions Output

Table of Contents

Golden Valley Industrial Facility

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	87.00	1000sqft	2.00	87,000.00	0
Unrefrigerated Warehouse-Rail	87.00	1000sqft	2.00	87,000.00	0
Other Asphalt Surfaces	2.08	Acre	2.08	90,604.80	0
Parking Lot	254.00	Space	2.29	101,600.00	0
City Park	4.48	Acre	4.48	195,148.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on site plan for project. Project split in half to model cars and trucks separately.

Construction Phase - Based on applicant provided information.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Trips and VMT - CalEEmod defaults. Odd trips rounded up to account for whole round trips.

On-road Fugitive Dust - CalEEmod defaults.

Demolition - Based on aerial of site.
Grading - CalEEmod defaults.

Architectural Coating - CalEEmod defaults.

Vehicle Trips - Based on traffic report. Land use "no-rail" represents passenger cars while "rail" represents trucks.

Road Dust - CalEEMod defaults.
Consumer Products - CalEEMod defaults.
Area Coating - CalEEMod defaults.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEmod defaults.

Water And Wastewater - CalEEmod defaults.

Solid Waste - CalEEmod defaults.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403.
Operational Off-Road Equipment - Based on SCAQMD High-Cube Warehouse Business Survey
Fleet Mix - Based on TIA and EMFAC vehicle mix.
Stationary Sources - Emergency Generators and Fire Pumps - Based on applicant provided information.
Stationary Sources - Emergency Generators and Fire Pumps EF - Tier 3 rated generator.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	300.00	125.00
tblConstructionPhase	NumDays	20.00	9.00
tblConstructionPhase	NumDays	30.00	90.00
tblConstructionPhase	NumDays	20.00	15.00
tblFleetMix	HHD	9.2090e-003	0.00
tblFleetMix	HHD	9.2090e-003	0.60
tblFleetMix	LDA	0.54	0.59
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.09
tblFleetMix	LHD2	6.4480e-003	0.00
tblFleetMix	LHD2	6.4480e-003	0.09
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.13	0.14
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	3.7210e-003	0.00
tblFleetMix	MH	3.7210e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.23
tblFleetMix	OBUS	8.1000e-004	0.00
tblFleetMix	OBUS	8.1000e-004	0.00

tblFleetMix	SBUS	7.5100e-004	0.00
tblFleetMix	SBUS	7.5100e-004	0.00
tblFleetMix	UBUS	5.0300e-004	0.00
tblFleetMix	UBUS	5.0300e-004	0.00
tblGrading	AcresOfGrading	270.00	90.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	124.00	200.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblStationaryGeneratorsPumpsEF	NOX_EF	2.85	2.80
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	4.4000e-004
tblStationaryGeneratorsPumpsEF	TOG_EF	2.4700e-003	4.4000e-004
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	350.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	19.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	47.00	48.00
tblVehicleTrips	CC_TL	8.40	40.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	6.90	0.00

tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	1.74	2.22
tblVehicleTrips	ST_TR	1.74	1.21
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	1.74	2.22
tblVehicleTrips	SU_TR	1.74	1.21
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	1.74	2.22
tblVehicleTrips	WD_TR	1.74	1.21

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1766	1.7996	1.4801	3.3000e-003	0.4323	0.0750	0.5073	0.2085	0.0691	0.2776	0.0000	290.9986	290.9986	0.0895	8.9000e-004	293.4995
2024	0.9918	1.1831	1.6962	4.3400e-003	0.2065	0.0448	0.2513	0.0557	0.0421	0.0978	0.0000	394.3272	394.3272	0.0459	0.0180	400.8436
Maximum	**0.9918**	**1.7996**	**1.6962**	**4.3400e-003**	**0.4323**	**0.0750**	**0.5073**	**0.2085**	**0.0691**	**0.2776**	**0.0000**	**394.3272**	**394.3272**	**0.0895**	**0.0180**	**400.8436**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1766	1.7996	1.4801	3.3000e-003	0.2018	0.0750	0.2768	0.0958	0.0691	0.1649	0.0000	290.9983	290.9983	0.0895	8.9000e-004	293.4992
2024	0.9918	1.1831	1.6962	4.3400e-003	0.2065	0.0448	0.2513	0.0557	0.0421	0.0978	0.0000	394.3270	394.3270	0.0459	0.0180	400.8434
Maximum	**0.9918**	**1.7996**	**1.6962**	**4.3400e-003**	**0.2065**	**0.0750**	**0.2768**	**0.0958**	**0.0691**	**0.1649**	**0.0000**	**394.3270**	**394.3270**	**0.0895**	**0.0180**	**400.8434**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**36.08**	**0.00**	**30.38**	**42.67**	**0.00**	**30.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**8-1-2023**	**10-31-2023**	1.1102	1.1102
2	**11-1-2023**	**1-31-2024**	1.0219	1.0219
3	**2-1-2024**	**4-30-2024**	0.6328	0.6328
4	**5-1-2024**	**7-31-2024**	0.8562	0.8562
5	**8-1-2024**	**9-30-2024**	0.3911	0.3911
		Highest	1.1102	1.1102

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7268	5.0000e-005	5.5400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0108	0.0108	3.0000e-005	0.0000	0.0115
Energy	8.1000e-004	7.3400e-003	6.1600e-003	4.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	132.4784	132.4784	0.0107	1.4200e-003	133.1681
Mobile	0.1046	3.3760	1.6668	0.0206	0.9821	0.0273	1.0094	0.2723	0.0261	0.2983	0.0000	2,008.9025	2,008.9025	0.0796	0.2608	2,088.6220
Offroad	0.1600	1.8686	2.8279	5.1500e-003		0.0590	0.0590		0.0542	0.0542	0.0000	452.4705	452.4705	0.1463	0.0000	456.1289
Stationary	2.8100e-003	0.0394	0.0366	7.0000e-005		2.1100e-003	2.1100e-003		2.1100e-003	2.1100e-003	0.0000	6.6640	6.6640	9.3000e-004	0.0000	6.6873
Waste						0.0000	0.0000		0.0000	0.0000	33.2804	0.0000	33.2804	1.9668	0.0000	82.4507
Water						0.0000	0.0000		0.0000	0.0000	12.7655	103.4343	116.1998	1.3199	0.0320	158.7376
Total	**0.9950**	**5.2914**	**4.5430**	**0.0259**	**0.9821**	**0.0890**	**1.0711**	**0.2723**	**0.0830**	**0.3553**	**46.0459**	**2,703.9603**	**2,750.0062**	**3.5242**	**0.2943**	**2,925.8060**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7268	5.0000e-005	5.5400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0108	0.0108	3.0000e-005	0.0000	0.0115
Energy	8.1000e-004	7.3400e-003	6.1600e-003	4.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	132.4784	132.4784	0.0107	1.4200e-003	133.1681
Mobile	0.1046	3.3760	1.6668	0.0206	0.9821	0.0273	1.0094	0.2723	0.0261	0.2983	0.0000	2,008.9025	2,008.9025	0.0796	0.2608	2,088.6220
Offroad	0.1600	1.8686	2.8279	5.1500e-003		0.0590	0.0590		0.0542	0.0542	0.0000	452.4705	452.4705	0.1463	0.0000	456.1289
Stationary	2.8100e-003	0.0394	0.0366	7.0000e-005		2.1100e-003	2.1100e-003		2.1100e-003	2.1100e-003	0.0000	6.6640	6.6640	9.3000e-004	0.0000	6.6873
Waste						0.0000	0.0000		0.0000	0.0000	33.2804	0.0000	33.2804	1.9668	0.0000	82.4507
Water						0.0000	0.0000		0.0000	0.0000	12.7655	103.4343	116.1998	1.3199	0.0320	158.7376
Total	**0.9950**	**5.2914**	**4.5430**	**0.0259**	**0.9821**	**0.0890**	**1.0711**	**0.2723**	**0.0830**	**0.3553**	**46.0459**	**2,703.9603**	**2,750.0062**	**3.5242**	**0.2943**	**2,925.8060**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2023	8/11/2023	5	9	
2	Site Preparation	Site Preparation	8/14/2023	8/25/2023	5	10	
3	Grading	Grading	8/28/2023	12/29/2023	5	90	
4	Building Construction	Building Construction	1/1/2024	6/21/2024	5	125	
5	Paving	Paving	6/24/2024	7/12/2024	5	15	
6	Architectural Coating	Architectural Coating	7/15/2024	8/16/2024	5	25	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 4.37

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 261,000; Non-Residential Outdoor: 87,000; Striped Parking Area: 11,532 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20

Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	4.00	20.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	236.00	92.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	48.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0700e-003	0.0000	2.0700e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.0967	0.0884	1.7000e-004		4.4900e-003	4.4900e-003		4.1800e-003	4.1800e-003	0.0000	15.2964	15.2964	4.2800e-003	0.0000	15.4035
Total	**0.0102**	**0.0967**	**0.0884**	**1.7000e-004**	**2.0700e-003**	**4.4900e-003**	**6.5600e-003**	**3.1000e-004**	**4.1800e-003**	**4.4900e-003**	**0.0000**	**15.2964**	**15.2964**	**4.2800e-003**	**0.0000**	**15.4035**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5704	0.5704	3.0000e-005	9.0000e-005	0.5982
Vendor	2.0000e-005	6.9000e-004	2.6000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.3204	0.3204	1.0000e-005	5.0000e-005	0.3345
Worker	2.2000e-004	1.7000e-004	2.3500e-003	1.0000e-005	7.9000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6182	0.6182	2.0000e-005	2.0000e-005	0.6233
Total	**2.6000e-004**	**2.1300e-003**	**2.9500e-003**	**2.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0900e-003**	**2.9000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**1.5089**	**1.5089**	**6.0000e-005**	**1.6000e-004**	**1.5560**

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.3000e-004	0.0000	9.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.0967	0.0884	1.7000e-004		4.4900e-003	4.4900e-003		4.1800e-003	4.1800e-003	0.0000	15.2964	15.2964	4.2800e-003	0.0000	15.4035
Total	**0.0102**	**0.0967**	**0.0884**	**1.7000e-004**	**9.3000e-004**	**4.4900e-003**	**5.4200e-003**	**1.4000e-004**	**4.1800e-003**	**4.3200e-003**	**0.0000**	**15.2964**	**15.2964**	**4.2800e-003**	**0.0000**	**15.4035**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5704	0.5704	3.0000e-005	9.0000e-005	0.5982
Vendor	2.0000e-005	6.9000e-004	2.6000e-004	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.3204	0.3204	1.0000e-005	5.0000e-005	0.3345
Worker	2.2000e-004	1.7000e-004	2.3500e-003	1.0000e-005	7.9000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6182	0.6182	2.0000e-005	2.0000e-005	0.6233
Total	**2.6000e-004**	**2.1300e-003**	**2.9500e-003**	**2.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0900e-003**	**2.9000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**1.5089**	**1.5089**	**6.0000e-005**	**1.6000e-004**	**1.5560**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	7.6000e-004	2.9000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3559	0.3559	1.0000e-005	5.0000e-005	0.3716
Worker	2.8000e-004	2.2000e-004	2.9400e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.7727	0.7727	2.0000e-005	2.0000e-005	0.7792
Total	**3.0000e-004**	**9.8000e-004**	**3.2300e-003**	**1.0000e-005**	**1.1200e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**1.1287**	**1.1287**	**3.0000e-005**	**7.0000e-005**	**1.1508**

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0442	0.0000	0.0442	0.0227	0.0000	0.0227	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0442**	**6.3300e-003**	**0.0506**	**0.0227**	**5.8200e-003**	**0.0286**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	7.6000e-004	2.9000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3559	0.3559	1.0000e-005	5.0000e-005	0.3716
Worker	2.8000e-004	2.2000e-004	2.9400e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.7727	0.7727	2.0000e-005	2.0000e-005	0.7792
Total	**3.0000e-004**	**9.8000e-004**	**3.2300e-003**	**1.0000e-005**	**1.1200e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**1.1287**	**1.1287**	**3.0000e-005**	**7.0000e-005**	**1.1508**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3187	0.0000	0.3187	0.1541	0.0000	0.1541	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1495	1.5532	1.2623	2.7900e-003		0.0641	0.0641		0.0590	0.0590	0.0000	245.4084	245.4084	0.0794	0.0000	247.3927
Total	**0.1495**	**1.5532**	**1.2623**	**2.7900e-003**	**0.3187**	**0.0641**	**0.3828**	**0.1541**	**0.0590**	**0.2131**	**0.0000**	**245.4084**	**245.4084**	**0.0794**	**0.0000**	**247.3927**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9000e-004	6.8600e-003	2.6100e-003	3.0000e-005	1.1400e-003	4.0000e-005	1.1700e-003	3.3000e-004	4.0000e-005	3.6000e-004	0.0000	3.2035	3.2035	1.1000e-004	4.6000e-004	3.3445
Worker	2.8100e-003	2.1600e-003	0.0294	8.0000e-005	9.8700e-003	6.0000e-005	9.9300e-003	2.6200e-003	5.0000e-005	2.6700e-003	0.0000	7.7273	7.7273	2.0000e-004	2.0000e-004	7.7915
Total	**3.0000e-003**	**9.0200e-003**	**0.0320**	**1.1000e-004**	**0.0110**	**1.0000e-004**	**0.0111**	**2.9500e-003**	**9.0000e-005**	**3.0300e-003**	**0.0000**	**10.9308**	**10.9308**	**3.1000e-004**	**6.6000e-004**	**11.1360**

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1434	0.0000	0.1434	0.0694	0.0000	0.0694	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1495	1.5532	1.2623	2.7900e-003		0.0641	0.0641		0.0590	0.0590	0.0000	245.4082	245.4082	0.0794	0.0000	247.3924
Total	**0.1495**	**1.5532**	**1.2623**	**2.7900e-003**	**0.1434**	**0.0641**	**0.2075**	**0.0694**	**0.0590**	**0.1283**	**0.0000**	**245.4082**	**245.4082**	**0.0794**	**0.0000**	**247.3924**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9000e-004	6.8600e-003	2.6100e-003	3.0000e-005	1.1400e-003	4.0000e-005	1.1700e-003	3.3000e-004	4.0000e-005	3.6000e-004	0.0000	3.2035	3.2035	1.1000e-004	4.6000e-004	3.3445
Worker	2.8100e-003	2.1600e-003	0.0294	8.0000e-005	9.8700e-003	6.0000e-005	9.9300e-003	2.6200e-003	5.0000e-005	2.6700e-003	0.0000	7.7273	7.7273	2.0000e-004	2.0000e-004	7.7915
Total	**3.0000e-003**	**9.0200e-003**	**0.0320**	**1.1000e-004**	**0.0110**	**1.0000e-004**	**0.0111**	**2.9500e-003**	**9.0000e-005**	**3.0300e-003**	**0.0000**	**10.9308**	**10.9308**	**3.1000e-004**	**6.6000e-004**	**11.1360**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0920	0.8402	1.0104	1.6800e-003		0.0383	0.0383		0.0361	0.0361	0.0000	144.9057	144.9057	0.0343	0.0000	145.7623
Total	**0.0920**	**0.8402**	**1.0104**	**1.6800e-003**		**0.0383**	**0.0383**		**0.0361**	**0.0361**	**0.0000**	**144.9057**	**144.9057**	**0.0343**	**0.0000**	**145.7623**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0600e-003	0.2201	0.0820	1.0300e-003	0.0363	1.2200e-003	0.0375	0.0105	1.1700e-003	0.0116	0.0000	100.8628	100.8628	3.4300e-003	0.0146	105.3097
Worker	0.0430	0.0316	0.4484	1.3400e-003	0.1618	8.9000e-004	0.1627	0.0430	8.1000e-004	0.0438	0.0000	122.9427	122.9427	2.9500e-003	3.0300e-003	123.9200
Total	**0.0490**	**0.2516**	**0.5304**	**2.3700e-003**	**0.1981**	**2.1100e-003**	**0.2002**	**0.0534**	**1.9800e-003**	**0.0554**	**0.0000**	**223.8055**	**223.8055**	**6.3800e-003**	**0.0177**	**229.2297**

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0920	0.8402	1.0104	1.6800e-003		0.0383	0.0383		0.0361	0.0361	0.0000	144.9055	144.9055	0.0343	0.0000	145.7622
Total	**0.0920**	**0.8402**	**1.0104**	**1.6800e-003**		**0.0383**	**0.0383**		**0.0361**	**0.0361**	**0.0000**	**144.9055**	**144.9055**	**0.0343**	**0.0000**	**145.7622**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0600e-003	0.2201	0.0820	1.0300e-003	0.0363	1.2200e-003	0.0375	0.0105	1.1700e-003	0.0116	0.0000	100.8628	100.8628	3.4300e-003	0.0146	105.3097
Worker	0.0430	0.0316	0.4484	1.3400e-003	0.1618	8.9000e-004	0.1627	0.0430	8.1000e-004	0.0438	0.0000	122.9427	122.9427	2.9500e-003	3.0300e-003	123.9200
Total	**0.0490**	**0.2516**	**0.5304**	**2.3700e-003**	**0.1981**	**2.1100e-003**	**0.2002**	**0.0534**	**1.9800e-003**	**0.0554**	**0.0000**	**223.8055**	**223.8055**	**6.3800e-003**	**0.0177**	**229.2297**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4100e-003	0.0714	0.1097	1.7000e-004		3.5100e-003	3.5100e-003		3.2300e-003	3.2300e-003	0.0000	15.0199	15.0199	4.8600e-003	0.0000	15.1413
Paving	5.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0131**	**0.0714**	**0.1097**	**1.7000e-004**		**3.5100e-003**	**3.5100e-003**		**3.2300e-003**	**3.2300e-003**	**0.0000**	**15.0199**	**15.0199**	**4.8600e-003**	**0.0000**	**15.1413**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.1500e-003	4.3000e-004	1.0000e-005	1.9000e-004	1.0000e-005	2.0000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5262	0.5262	2.0000e-005	8.0000e-005	0.5494
Worker	3.5000e-004	2.6000e-004	3.6500e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.0002	1.0002	2.0000e-005	2.0000e-005	1.0082
Total	**3.8000e-004**	**1.4100e-003**	**4.0800e-003**	**2.0000e-005**	**1.5100e-003**	**2.0000e-005**	**1.5200e-003**	**4.0000e-004**	**2.0000e-005**	**4.2000e-004**	**0.0000**	**1.5265**	**1.5265**	**4.0000e-005**	**1.0000e-004**	**1.5576**

3.6 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4100e-003	0.0714	0.1097	1.7000e-004		3.5100e-003	3.5100e-003		3.2300e-003	3.2300e-003	0.0000	15.0199	15.0199	4.8600e-003	0.0000	15.1413
Paving	5.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0131**	**0.0714**	**0.1097**	**1.7000e-004**		**3.5100e-003**	**3.5100e-003**		**3.2300e-003**	**3.2300e-003**	**0.0000**	**15.0199**	**15.0199**	**4.8600e-003**	**0.0000**	**15.1413**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.1500e-003	4.3000e-004	1.0000e-005	1.9000e-004	1.0000e-005	2.0000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5262	0.5262	2.0000e-005	8.0000e-005	0.5494
Worker	3.5000e-004	2.6000e-004	3.6500e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.0002	1.0002	2.0000e-005	2.0000e-005	1.0082
Total	**3.8000e-004**	**1.4100e-003**	**4.0800e-003**	**2.0000e-005**	**1.5100e-003**	**2.0000e-005**	**1.5200e-003**	**4.0000e-004**	**2.0000e-005**	**4.2000e-004**	**0.0000**	**1.5265**	**1.5265**	**4.0000e-005**	**1.0000e-004**	**1.5576**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2600e-003	0.0152	0.0226	4.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	3.1916	3.1916	1.8000e-004	0.0000	3.1961
Total	**0.8355**	**0.0152**	**0.0226**	**4.0000e-005**		**7.6000e-004**	**7.6000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**3.1916**	**3.1916**	**1.8000e-004**	**0.0000**	**3.1961**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.9100e-003	7.1000e-004	1.0000e-005	3.2000e-004	1.0000e-005	3.3000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.8771	0.8771	3.0000e-005	1.3000e-004	0.9157
Worker	1.7500e-003	1.2800e-003	0.0182	5.0000e-005	6.5800e-003	4.0000e-005	6.6200e-003	1.7500e-003	3.0000e-005	1.7800e-003	0.0000	5.0011	5.0011	1.2000e-004	1.2000e-004	5.0408
Total	**1.8000e-003**	**3.1900e-003**	**0.0190**	**6.0000e-005**	**6.9000e-003**	**5.0000e-005**	**6.9500e-003**	**1.8400e-003**	**4.0000e-005**	**1.8800e-003**	**0.0000**	**5.8781**	**5.8781**	**1.5000e-004**	**2.5000e-004**	**5.9566**

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2600e-003	0.0152	0.0226	4.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	3.1916	3.1916	1.8000e-004	0.0000	3.1961
Total	**0.8355**	**0.0152**	**0.0226**	**4.0000e-005**		**7.6000e-004**	**7.6000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**3.1916**	**3.1916**	**1.8000e-004**	**0.0000**	**3.1961**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.9100e-003	7.1000e-004	1.0000e-005	3.2000e-004	1.0000e-005	3.3000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.8771	0.8771	3.0000e-005	1.3000e-004	0.9157
Worker	1.7500e-003	1.2800e-003	0.0182	5.0000e-005	6.5800e-003	4.0000e-005	6.6200e-003	1.7500e-003	3.0000e-005	1.7800e-003	0.0000	5.0011	5.0011	1.2000e-004	1.2000e-004	5.0408
Total	**1.8000e-003**	**3.1900e-003**	**0.0190**	**6.0000e-005**	**6.9000e-003**	**5.0000e-005**	**6.9500e-003**	**1.8400e-003**	**4.0000e-005**	**1.8800e-003**	**0.0000**	**5.8781**	**5.8781**	**1.5000e-004**	**2.5000e-004**	**5.9566**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1046	3.3760	1.6668	0.0206	0.9821	0.0273	1.0094	0.2723	0.0261	0.2983	0.0000	2,008.9025	2,008.9025	0.0796	0.2608	2,088.6220
Unmitigated	0.1046	3.3760	1.6668	0.0206	0.9821	0.0273	1.0094	0.2723	0.0261	0.2983	0.0000	2,008.9025	2,008.9025	0.0796	0.2608	2,088.6220

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	193.00	193.00	193.00	827,143	827,143
Unrefrigerated Warehouse-Rail	105.00	105.00	105.00	1,528,800	1,528,800
Total	298.00	298.00	298.00	2,355,943	2,355,943

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-Rail	0.00	40.00	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Other Asphalt Surfaces	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Parking Lot	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Unrefrigerated Warehouse-No Rail	0.590674	0.066935	0.201597	0.140794	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-Rail	0.000000	0.000000	0.000000	0.000000	0.085714	0.085714	0.228571	0.600000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	124.4930	124.4930	0.0105	1.2700e-003	125.1353
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	124.4930	124.4930	0.0105	1.2700e-003	125.1353
NaturalGas Mitigated	8.1000e-004	7.3400e-003	6.1600e-003	4.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	7.9854	7.9854	1.5000e-004	1.5000e-004	8.0328
NaturalGas Unmitigated	8.1000e-004	7.3400e-003	6.1600e-003	4.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	7.9854	7.9854	1.5000e-004	1.5000e-004	8.0328

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	74820	4.0000e-004	3.6700e-003	3.0800e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	3.9927	3.9927	8.0000e-005	7.0000e-005	4.0164
Unrefrigerated Warehouse-Rail	74820	4.0000e-004	3.6700e-003	3.0800e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	3.9927	3.9927	8.0000e-005	7.0000e-005	4.0164
Total		**8.0000e-004**	**7.3400e-003**	**6.1600e-003**	**4.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**7.9854**	**7.9854**	**1.6000e-004**	**1.4000e-004**	**8.0328**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	74820	4.0000e-004	3.6700e-003	3.0800e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	3.9927	3.9927	8.0000e-005	7.0000e-005	4.0164
Unrefrigerated Warehouse-Rail	74820	4.0000e-004	3.6700e-003	3.0800e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	3.9927	3.9927	8.0000e-005	7.0000e-005	4.0164
Total		**8.0000e-004**	**7.3400e-003**	**6.1600e-003**	**4.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**7.9854**	**7.9854**	**1.6000e-004**	**1.4000e-004**	**8.0328**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	35560	6.3064	5.3000e-004	6.0000e-005	6.3389
Unrefrigerated Warehouse-No Rail	333210	59.0933	4.9900e-003	6.0000e-004	59.3982
Unrefrigerated Warehouse-Rail	333210	59.0933	4.9900e-003	6.0000e-004	59.3982
Total		**124.4930**	**0.0105**	**1.2600e-003**	**125.1353**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	35560	6.3064	5.3000e-004	6.0000e-005	6.3389
Unrefrigerated Warehouse-No Rail	333210	59.0933	4.9900e-003	6.0000e-004	59.3982
Unrefrigerated Warehouse-Rail	333210	59.0933	4.9900e-003	6.0000e-004	59.3982
Total		**124.4930**	**0.0105**	**1.2600e-003**	**125.1353**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7268	5.0000e-005	5.5400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0108	0.0108	3.0000e-005	0.0000	0.0115
Unmitigated	0.7268	5.0000e-005	5.5400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0108	0.0108	3.0000e-005	0.0000	0.0115

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0833					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6430					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.1000e-004	5.0000e-005	5.5400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0108	0.0108	3.0000e-005	0.0000	0.0115
Total	**0.7268**	**5.0000e-005**	**5.5400e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0108**	**0.0108**	**3.0000e-005**	**0.0000**	**0.0115**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0833					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6430					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.1000e-004	5.0000e-005	5.5400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0108	0.0108	3.0000e-005	0.0000	0.0115
Total	**0.7268**	**5.0000e-005**	**5.5400e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0108**	**0.0108**	**3.0000e-005**	**0.0000**	**0.0115**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	116.1998	1.3199	0.0320	158.7376
Unmitigated	116.1998	1.3199	0.0320	158.7376

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 5.33784	10.5172	8.9000e-004	1.1000e-004	10.5714
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	20.1187 / 0	52.8413	0.6595	0.0160	74.0831
Unrefrigerated Warehouse-Rail	20.1187 / 0	52.8413	0.6595	0.0160	74.0831
Total		**116.1998**	**1.3199**	**0.0320**	**158.7376**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 5.33784	10.5172	8.9000e-004	1.1000e-004	10.5714
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	20.1187 / 0	52.8413	0.6595	0.0160	74.0831
Unrefrigerated Warehouse-Rail	20.1187 / 0	52.8413	0.6595	0.0160	74.0831
Total		**116.1998**	**1.3199**	**0.0320**	**158.7376**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	33.2804	1.9668	0.0000	82.4507
Unmitigated	33.2804	1.9668	0.0000	82.4507

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.39	0.0792	4.6800e-003	0.0000	0.1961
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	81.78	16.6006	0.9811	0.0000	41.1273
Unrefrigerated Warehouse-Rail	81.78	16.6006	0.9811	0.0000	41.1273
Total		**33.2804**	**1.9668**	**0.0000**	**82.4507**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.39	0.0792	4.6800e-003	0.0000	0.1961
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	81.78	16.6006	0.9811	0.0000	41.1273
Unrefrigerated Warehouse-Rail	81.78	16.6006	0.9811	0.0000	41.1273
Total		**33.2804**	**1.9668**	**0.0000**	**82.4507**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Tractors	1	8.00	365	200	0.44	Diesel
Rough Terrain Forklifts	6	8.00	365	100	0.40	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Off-Highway Tractors	0.0478	0.3901	0.3214	1.3800e-003		0.0139	0.0139		0.0128	0.0128	0.0000	120.9482	120.9482	0.0391	0.0000	121.9261
Rough Terrain Forklifts	0.1121	1.4785	2.5065	3.7800e-003		0.0450	0.0450		0.0414	0.0414	0.0000	331.5222	331.5222	0.1072	0.0000	334.2028
Total	**0.1600**	**1.8686**	**2.8279**	**5.1600e-003**		**0.0590**	**0.0590**		**0.0542**	**0.0542**	**0.0000**	**452.4705**	**452.4705**	**0.1463**	**0.0000**	**456.1289**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Fire Pump	1	1	50	350	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Fire Pump - Diesel (300 - 600 HP)	2.8100e-003	0.0394	0.0366	7.0000e-005		2.1100e-003	2.1100e-003		2.1100e-003	2.1100e-003	0.0000	6.6640	6.6640	9.3000e-004	0.0000	6.6873
Total	**2.8100e-003**	**0.0394**	**0.0366**	**7.0000e-005**		**2.1100e-003**	**2.1100e-003**		**2.1100e-003**	**2.1100e-003**	**0.0000**	**6.6640**	**6.6640**	**9.3000e-004**	**0.0000**	**6.6873**

11.0 Vegetation

Golden Valley Industrial Facility

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	87.00	1000sqft	2.00	87,000.00	0
Unrefrigerated Warehouse-Rail	87.00	1000sqft	2.00	87,000.00	0
Other Asphalt Surfaces	2.08	Acre	2.08	90,604.80	0
Parking Lot	254.00	Space	2.29	101,600.00	0
City Park	4.48	Acre	4.48	195,148.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on site plan for project. Project split in half to model cars and trucks separately.

Construction Phase - Based on applicant provided information.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Trips and VMT - CalEEmod defaults. Odd trips rounded up to account for whole round trips.

On-road Fugitive Dust - CalEEmod defaults.

Demolition - Based on aerial of site.

Grading - CalEEmod defaults.

Architectural Coating - CalEEmod defaults.

Vehicle Trips - Based on traffic report. Land use "no-rail" represents passenger cars while "rail" represents trucks.

Road Dust - CalEEMod defaults.

Consumer Products - CalEEMod defaults.

Area Coating - CalEEMod defaults.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEmod defaults.

Water And Wastewater - CalEEmod defaults.

Solid Waste - CalEEmod defaults.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403.

Operational Off-Road Equipment - Based on SCAQMD High-Cube Warehouse Business Survey

Fleet Mix - Based on TIA and EMFAC vehicle mix.

Stationary Sources - Emergency Generators and Fire Pumps - Based on applicant provided information.

Stationary Sources - Emergency Generators and Fire Pumps EF - Tier 3 rated generator.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	300.00	125.00
tblConstructionPhase	NumDays	20.00	9.00
tblConstructionPhase	NumDays	30.00	90.00
tblConstructionPhase	NumDays	20.00	15.00
tblFleetMix	HHD	9.2090e-003	0.00
tblFleetMix	HHD	9.2090e-003	0.60
tblFleetMix	LDA	0.54	0.59
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.09
tblFleetMix	LHD2	6.4480e-003	0.00
tblFleetMix	LHD2	6.4480e-003	0.09
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.13	0.14
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	3.7210e-003	0.00
tblFleetMix	MH	3.7210e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.23
tblFleetMix	OBUS	8.1000e-004	0.00
tblFleetMix	OBUS	8.1000e-004	0.00

tblFleetMix	SBUS	7.5100e-004	0.00
tblFleetMix	SBUS	7.5100e-004	0.00
tblFleetMix	UBUS	5.0300e-004	0.00
tblFleetMix	UBUS	5.0300e-004	0.00
tblGrading	AcresOfGrading	270.00	90.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	124.00	200.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblStationaryGeneratorsPumpsEF	NOX_EF	2.85	2.80
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	4.4000e-004
tblStationaryGeneratorsPumpsEF	TOG_EF	2.4700e-003	4.4000e-004
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	350.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	19.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	47.00	48.00
tblVehicleTrips	CC_TL	8.40	40.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	6.90	0.00

tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	1.74	2.22
tblVehicleTrips	ST_TR	1.74	1.21
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	1.74	2.22
tblVehicleTrips	SU_TR	1.74	1.21
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	1.74	2.22
tblVehicleTrips	WD_TR	1.74	1.21

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3900	34.7037	28.8099	0.0648	19.8838	1.4266	21.1518	10.1632	1.3125	11.3298	0.0000	6,287.8086	6,287.8086	1.9517	0.0372	6,341.3302
2024	66.9853	17.2503	25.1698	0.0659	3.2270	0.6470	3.8740	0.8692	0.6086	1.4778	0.0000	6,600.4038	6,600.4038	0.7201	0.3074	6,709.9075
Maximum	**66.9853**	**34.7037**	**28.8099**	**0.0659**	**19.8838**	**1.4266**	**21.1518**	**10.1632**	**1.3125**	**11.3298**	**0.0000**	**6,600.4038**	**6,600.4038**	**1.9517**	**0.3074**	**6,709.9075**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3900	34.7037	28.8099	0.0648	9.0725	1.4266	10.3405	4.6068	1.3125	5.7734	0.0000	6,287.8086	6,287.8086	1.9517	0.0372	6,341.3302
2024	66.9853	17.2503	25.1698	0.0659	3.2270	0.6470	3.8740	0.8692	0.6086	1.4778	0.0000	6,600.4038	6,600.4038	0.7201	0.3074	6,709.9075
Maximum	**66.9853**	**34.7037**	**28.8099**	**0.0659**	**9.0725**	**1.4266**	**10.3405**	**4.6068**	**1.3125**	**5.7734**	**0.0000**	**6,600.4038**	**6,600.4038**	**1.9517**	**0.3074**	**6,709.9075**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.78**	**0.00**	**43.20**	**50.36**	**0.00**	**43.38**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Energy	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187
Mobile	0.6011	17.5651	9.4567	0.1140	5.4871	0.1502	5.6373	1.5183	0.1433	1.6617		12,244.4162	12,244.4162	0.4817	1.5778	12,726.6344
Offroad	0.8764	10.2391	15.4953	0.0282		0.3230	0.3230		0.2972	0.2972	0.0000	2,732.9528	2,732.9528	0.8839		2,755.0501
Stationary	0.1124	1.5772	1.4645	2.7600e-003		0.0845	0.0845		0.0845	0.0845		293.8299	293.8299	0.0412		294.8598
Total	**5.5783**	**29.4219**	**26.4945**	**0.1453**	**5.4871**	**0.5609**	**6.0480**	**1.5183**	**0.5282**	**2.0465**	**0.0000**	**15,319.5261**	**15,319.5261**	**1.4079**	**1.5787**	**15,825.1643**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Energy	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187
Mobile	0.6011	17.5651	9.4567	0.1140	5.4871	0.1502	5.6373	1.5183	0.1433	1.6617		12,244.4162	12,244.4162	0.4817	1.5778	12,726.6344
Offroad	0.8764	10.2391	15.4953	0.0282		0.3230	0.3230		0.2972	0.2972	0.0000	2,732.9528	2,732.9528	0.8839		2,755.0501
Stationary	0.1124	1.5772	1.4645	2.7600e-003		0.0845	0.0845		0.0845	0.0845		293.8299	293.8299	0.0412		294.8598
Total	**5.5783**	**29.4219**	**26.4945**	**0.1453**	**5.4871**	**0.5609**	**6.0480**	**1.5183**	**0.5282**	**2.0465**	**0.0000**	**15,319.5261**	**15,319.5261**	**1.4079**	**1.5787**	**15,825.1643**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2023	8/11/2023	5	9	
2	Site Preparation	Site Preparation	8/14/2023	8/25/2023	5	10	
3	Grading	Grading	8/28/2023	12/29/2023	5	90	

4	Building Construction	Building Construction	1/1/2024	6/21/2024	5	125	
5	Paving	Paving	6/24/2024	7/12/2024	5	15	
6	Architectural Coating	Architectural Coating	7/15/2024	8/16/2024	5	25	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 4.37

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 261,000; Non-Residential Outdoor: 87,000; Striped Parking Area: 11,532 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	4.00	20.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	236.00	92.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	48.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4594	0.0000	0.4594	0.0696	0.0000	0.0696			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**0.4594**	**0.9975**	**1.4569**	**0.0696**	**0.9280**	**0.9975**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.7900e-003	0.2677	0.0753	1.2700e-003	0.0389	2.0300e-003	0.0409	0.0107	1.9400e-003	0.0126		139.6579	139.6579	7.7600e-003	0.0222	146.4639
Vendor	4.4200e-003	0.1452	0.0572	7.3000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1800e-003		78.4124	78.4124	2.6400e-003	0.0114	81.8611
Worker	0.0511	0.0343	0.5613	1.5700e-003	0.1788	1.0000e-003	0.1799	0.0474	9.2000e-004	0.0484		158.3348	158.3348	3.8400e-003	3.6200e-003	159.5085
Total	**0.0603**	**0.4472**	**0.6937**	**3.5700e-003**	**0.2433**	**3.8800e-003**	**0.2472**	**0.0655**	**3.6700e-003**	**0.0691**		**376.4051**	**376.4051**	**0.0142**	**0.0372**	**387.8334**

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2067	0.0000	0.2067	0.0313	0.0000	0.0313			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**0.2067**	**0.9975**	**1.2042**	**0.0313**	**0.9280**	**0.9593**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.7900e-003	0.2677	0.0753	1.2700e-003	0.0389	2.0300e-003	0.0409	0.0107	1.9400e-003	0.0126		139.6579	139.6579	7.7600e-003	0.0222	146.4639
Vendor	4.4200e-003	0.1452	0.0572	7.3000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1800e-003		78.4124	78.4124	2.6400e-003	0.0114	81.8611
Worker	0.0511	0.0343	0.5613	1.5700e-003	0.1788	1.0000e-003	0.1799	0.0474	9.2000e-004	0.0484		158.3348	158.3348	3.8400e-003	3.6200e-003	159.5085
Total	**0.0603**	**0.4472**	**0.6937**	**3.5700e-003**	**0.2433**	**3.8800e-003**	**0.2472**	**0.0655**	**3.6700e-003**	**0.0691**		**376.4051**	**376.4051**	**0.0142**	**0.0372**	**387.8334**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4200e-003	0.1452	0.0572	7.3000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1800e-003		78.4124	78.4124	2.6400e-003	0.0114	81.8611
Worker	0.0575	0.0386	0.6314	1.7600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		178.1267	178.1267	4.3200e-003	4.0700e-003	179.4470
Total	**0.0619**	**0.1838**	**0.6886**	**2.4900e-003**	**0.2268**	**1.9800e-003**	**0.2288**	**0.0607**	**1.8500e-003**	**0.0626**		**256.5390**	**256.5390**	**6.9600e-003**	**0.0154**	**261.3081**

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8457	0.0000	8.8457	4.5461	0.0000	4.5461			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**8.8457**	**1.2660**	**10.1117**	**4.5461**	**1.1647**	**5.7108**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4200e-003	0.1452	0.0572	7.3000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1800e-003		78.4124	78.4124	2.6400e-003	0.0114	81.8611
Worker	0.0575	0.0386	0.6314	1.7600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		178.1267	178.1267	4.3200e-003	4.0700e-003	179.4470
Total	**0.0619**	**0.1838**	**0.6886**	**2.4900e-003**	**0.2268**	**1.9800e-003**	**0.2288**	**0.0607**	**1.8500e-003**	**0.0626**		**256.5390**	**256.5390**	**6.9600e-003**	**0.0154**	**261.3081**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**7.0826**	**1.4245**	**8.5071**	**3.4247**	**1.3105**	**4.7353**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4200e-003	0.1452	0.0572	7.3000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1800e-003		78.4124	78.4124	2.6400e-003	0.0114	81.8611
Worker	0.0639	0.0429	0.7016	1.9600e-003	0.2236	1.2600e-003	0.2248	0.0593	1.1600e-003	0.0604		197.9185	197.9185	4.8000e-003	4.5200e-003	199.3856
Total	**0.0683**	**0.1881**	**0.7587**	**2.6900e-003**	**0.2492**	**2.1100e-003**	**0.2513**	**0.0667**	**1.9700e-003**	**0.0686**		**276.3309**	**276.3309**	**7.4400e-003**	**0.0159**	**281.2466**

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1872	0.0000	3.1872	1.5411	0.0000	1.5411			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**3.1872**	**1.4245**	**4.6117**	**1.5411**	**1.3105**	**2.8517**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4200e-003	0.1452	0.0572	7.3000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1800e-003		78.4124	78.4124	2.6400e-003	0.0114	81.8611
Worker	0.0639	0.0429	0.7016	1.9600e-003	0.2236	1.2600e-003	0.2248	0.0593	1.1600e-003	0.0604		197.9185	197.9185	4.8000e-003	4.5200e-003	199.3856
Total	**0.0683**	**0.1881**	**0.7587**	**2.6900e-003**	**0.2492**	**2.1100e-003**	**0.2513**	**0.0667**	**1.9700e-003**	**0.0686**		**276.3309**	**276.3309**	**7.4400e-003**	**0.0159**	**281.2466**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0993	3.3548	1.2932	0.0165	0.5891	0.0195	0.6086	0.1696	0.0187	0.1883		1,777.5397	1,777.5397	0.0606	0.2577	1,855.8534
Worker	0.7032	0.4517	7.7098	0.0224	2.6379	0.0142	2.6521	0.6996	0.0130	0.7126		2,267.1652	2,267.1652	0.0513	0.0497	2,283.2464
Total	**0.8026**	**3.8065**	**9.0030**	**0.0389**	**3.2270**	**0.0337**	**3.2607**	**0.8692**	**0.0317**	**0.9009**		**4,044.7049**	**4,044.7049**	**0.1119**	**0.3074**	**4,139.0998**

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0993	3.3548	1.2932	0.0165	0.5891	0.0195	0.6086	0.1696	0.0187	0.1883		1,777.5397	1,777.5397	0.0606	0.2577	1,855.8534
Worker	0.7032	0.4517	7.7098	0.0224	2.6379	0.0142	2.6521	0.6996	0.0130	0.7126		2,267.1652	2,267.1652	0.0513	0.0497	2,283.2464
Total	**0.8026**	**3.8065**	**9.0030**	**0.0389**	**3.2270**	**0.0337**	**3.2607**	**0.8692**	**0.0317**	**0.9009**		**4,044.7049**	**4,044.7049**	**0.1119**	**0.3074**	**4,139.0998**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.7633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7515**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3200e-003	0.1459	0.0562	7.2000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1800e-003		77.2843	77.2843	2.6400e-003	0.0112	80.6893
Worker	0.0477	0.0306	0.5227	1.5200e-003	0.1788	9.6000e-004	0.1798	0.0474	8.8000e-004	0.0483		153.7061	153.7061	3.4800e-003	3.3700e-003	154.7964
Total	**0.0520**	**0.1765**	**0.5789**	**2.2400e-003**	**0.2045**	**1.8100e-003**	**0.2063**	**0.0548**	**1.6900e-003**	**0.0565**		**230.9905**	**230.9905**	**6.1200e-003**	**0.0146**	**235.4857**

3.6 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.7633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7515**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3200e-003	0.1459	0.0562	7.2000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1800e-003		77.2843	77.2843	2.6400e-003	0.0112	80.6893
Worker	0.0477	0.0306	0.5227	1.5200e-003	0.1788	9.6000e-004	0.1798	0.0474	8.8000e-004	0.0483		153.7061	153.7061	3.4800e-003	3.3700e-003	154.7964
Total	**0.0520**	**0.1765**	**0.5789**	**2.2400e-003**	**0.2045**	**1.8100e-003**	**0.2063**	**0.0548**	**1.6900e-003**	**0.0565**		**230.9905**	**230.9905**	**6.1200e-003**	**0.0146**	**235.4857**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	66.6572					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**66.8380**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3200e-003	0.1459	0.0562	7.2000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1800e-003		77.2843	77.2843	2.6400e-003	0.0112	80.6893
Worker	0.1430	0.0919	1.5681	4.5600e-003	0.5365	2.8800e-003	0.5394	0.1423	2.6500e-003	0.1449		461.1183	461.1183	0.0104	0.0101	464.3891
Total	**0.1474**	**0.2377**	**1.6243**	**5.2800e-003**	**0.5621**	**3.7300e-003**	**0.5659**	**0.1497**	**3.4600e-003**	**0.1531**		**538.4027**	**538.4027**	**0.0131**	**0.0213**	**545.0784**

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	66.6572					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**66.8380**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3200e-003	0.1459	0.0562	7.2000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1800e-003		77.2843	77.2843	2.6400e-003	0.0112	80.6893
Worker	0.1430	0.0919	1.5681	4.5600e-003	0.5365	2.8800e-003	0.5394	0.1423	2.6500e-003	0.1449		461.1183	461.1183	0.0104	0.0101	464.3891
Total	**0.1474**	**0.2377**	**1.6243**	**5.2800e-003**	**0.5621**	**3.7300e-003**	**0.5659**	**0.1497**	**3.4600e-003**	**0.1531**		**538.4027**	**538.4027**	**0.0131**	**0.0213**	**545.0784**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6011	17.5651	9.4567	0.1140	5.4871	0.1502	5.6373	1.5183	0.1433	1.6617		12,244.4162	12,244.4162	0.4817	1.5778	12,726.6344
Unmitigated	0.6011	17.5651	9.4567	0.1140	5.4871	0.1502	5.6373	1.5183	0.1433	1.6617		12,244.4162	12,244.4162	0.4817	1.5778	12,726.6344

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	193.00	193.00	193.00	827,143	827,143
Unrefrigerated Warehouse-Rail	105.00	105.00	105.00	1,528,800	1,528,800
Total	298.00	298.00	298.00	2,355,943	2,355,943

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-Rail	0.00	40.00	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Other Asphalt Surfaces	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Parking Lot	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Unrefrigerated Warehouse-No Rail	0.590674	0.066935	0.201597	0.140794	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-Rail	0.000000	0.000000	0.000000	0.000000	0.085714	0.085714	0.228571	0.600000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187
NaturalGas Unmitigated	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	204.986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Unrefrigerated Warehouse-Rail	204.986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Total		**4.4200e-003**	**0.0402**	**0.0338**	**2.4000e-004**		**3.0600e-003**	**3.0600e-003**		**3.0600e-003**	**3.0600e-003**		**48.2321**	**48.2321**	**9.2000e-004**	**8.8000e-004**	**48.5187**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.204986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Unrefrigerated Warehouse-Rail	0.204986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Total		**4.4200e-003**	**0.0402**	**0.0338**	**2.4000e-004**		**3.0600e-003**	**3.0600e-003**		**3.0600e-003**	**3.0600e-003**		**48.2321**	**48.2321**	**9.2000e-004**	**8.8000e-004**	**48.5187**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Unmitigated	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4566					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.5233					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0900e-003	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Total	**3.9840**	**4.0000e-004**	**0.0443**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0951**	**0.0951**	**2.5000e-004**		**0.1013**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4566					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.5233					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0900e-003	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Total	**3.9840**	**4.0000e-004**	**0.0443**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0951**	**0.0951**	**2.5000e-004**		**0.1013**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Tractors	1	8.00	365	200	0.44	Diesel
Rough Terrain Forklifts	6	8.00	365	100	0.40	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Off-Highway Tractors	0.2621	2.1377	1.7610	7.5500e-003		0.0763	0.0763		0.0702	0.0702	0.0000	730.5355	730.5355	0.2363		736.4423
Rough Terrain Forklifts	0.6144	8.1014	13.7343	0.0207		0.2467	0.2467		0.2270	0.2270	0.0000	2,002.4173	2,002.4173	0.6476		2,018.6078
Total	**0.8764**	**10.2391**	**15.4953**	**0.0282**		**0.3230**	**0.3230**		**0.2972**	**0.2972**	**0.0000**	**2,732.9528**	**2,732.9528**	**0.8839**		**2,755.0501**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Fire Pump	1	1	50	350	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Fire Pump - Diesel (300 - 600 HP)	0.1124	1.5772	1.4645	2.7600e-003		0.0845	0.0845		0.0845	0.0845		293.8299	293.8299	0.0412		294.8598
Total	**0.1124**	**1.5772**	**1.4645**	**2.7600e-003**		**0.0845**	**0.0845**		**0.0845**	**0.0845**		**293.8299**	**293.8299**	**0.0412**		**294.8598**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Golden Valley Industrial Facility

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	87.00	1000sqft	2.00	87,000.00	0
Unrefrigerated Warehouse-Rail	87.00	1000sqft	2.00	87,000.00	0
Other Asphalt Surfaces	2.08	Acre	2.08	90,604.80	0
Parking Lot	254.00	Space	2.29	101,600.00	0
City Park	4.48	Acre	4.48	195,148.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on site plan for project. Project split in half to model cars and trucks separately.

Construction Phase - Based on applicant provided information.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Trips and VMT - CalEEmod defaults. Odd trips rounded up to account for whole round trips.

On-road Fugitive Dust - CalEEmod defaults.

Demolition - Based on aerial of site.

Grading - CalEEmod defaults.

Architectural Coating - CalEEmod defaults.

Vehicle Trips - Based on traffic report. Land use "no-rail" represents passenger cars while "rail" represents trucks.

Road Dust - CalEEMod defaults.

Consumer Products - CalEEMod defaults.

Area Coating - CalEEMod defaults.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEmod defaults.

Water And Wastewater - CalEEmod defaults.

Solid Waste - CalEEmod defaults.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403.

Operational Off-Road Equipment - Based on SCAQMD High-Cube Warehouse Business Survey

Fleet Mix - Based on TIA and EMFAC vehicle mix.

Stationary Sources - Emergency Generators and Fire Pumps - Based on applicant provided information.

Stationary Sources - Emergency Generators and Fire Pumps EF - Tier 3 rated generator.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	300.00	125.00
tblConstructionPhase	NumDays	20.00	9.00
tblConstructionPhase	NumDays	30.00	90.00
tblConstructionPhase	NumDays	20.00	15.00
tblFleetMix	HHD	9.2090e-003	0.00
tblFleetMix	HHD	9.2090e-003	0.60
tblFleetMix	LDA	0.54	0.59
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.09
tblFleetMix	LHD2	6.4480e-003	0.00
tblFleetMix	LHD2	6.4480e-003	0.09
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.13	0.14
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	3.7210e-003	0.00
tblFleetMix	MH	3.7210e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.23
tblFleetMix	OBUS	8.1000e-004	0.00
tblFleetMix	OBUS	8.1000e-004	0.00

tblFleetMix	SBUS	7.5100e-004	0.00
tblFleetMix	SBUS	7.5100e-004	0.00
tblFleetMix	UBUS	5.0300e-004	0.00
tblFleetMix	UBUS	5.0300e-004	0.00
tblGrading	AcresOfGrading	270.00	90.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	124.00	200.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblStationaryGeneratorsPumpsEF	NOX_EF	2.85	2.80
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	4.4000e-004
tblStationaryGeneratorsPumpsEF	TOG_EF	2.4700e-003	4.4000e-004
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	350.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	19.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	47.00	48.00
tblVehicleTrips	CC_TL	8.40	40.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	6.90	0.00

tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	1.74	2.22
tblVehicleTrips	ST_TR	1.74	1.21
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	1.74	2.22
tblVehicleTrips	SU_TR	1.74	1.21
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	1.74	2.22
tblVehicleTrips	WD_TR	1.74	1.21

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3934	34.7149	28.7451	0.0647	19.8838	1.4266	21.1518	10.1632	1.3125	11.3298	0.0000	6,276.4651	6,276.4651	1.9517	0.0374	6,330.0788
2024	66.9936	17.4588	24.4821	0.0646	3.2270	0.6471	3.8741	0.8692	0.6087	1.4779	0.0000	6,472.1914	6,472.1914	0.7201	0.3111	6,582.8023
Maximum	**66.9936**	**34.7149**	**28.7451**	**0.0647**	**19.8838**	**1.4266**	**21.1518**	**10.1632**	**1.3125**	**11.3298**	**0.0000**	**6,472.1914**	**6,472.1914**	**1.9517**	**0.3111**	**6,582.8023**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3934	34.7149	28.7451	0.0647	9.0725	1.4266	10.3405	4.6068	1.3125	5.7734	0.0000	6,276.4651	6,276.4651	1.9517	0.0374	6,330.0788
2024	66.9936	17.4588	24.4821	0.0646	3.2270	0.6471	3.8741	0.8692	0.6087	1.4779	0.0000	6,472.1914	6,472.1914	0.7201	0.3111	6,582.8023
Maximum	**66.9936**	**34.7149**	**28.7451**	**0.0647**	**9.0725**	**1.4266**	**10.3405**	**4.6068**	**1.3125**	**5.7734**	**0.0000**	**6,472.1914**	**6,472.1914**	**1.9517**	**0.3111**	**6,582.8023**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.78**	**0.00**	**43.20**	**50.36**	**0.00**	**43.38**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Energy	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187
Mobile	0.5734	18.3643	9.0777	0.1132	5.4871	0.1503	5.6374	1.5183	0.1435	1.6618		12,163.0913	12,163.0913	0.4822	1.5814	12,646.4109
Offroad	0.8764	10.2391	15.4953	0.0282		0.3230	0.3230		0.2972	0.2972	0.0000	2,732.9528	2,732.9528	0.8839		2,755.0501
Stationary	0.1124	1.5772	1.4645	2.7600e-003		0.0845	0.0845		0.0845	0.0845		293.8299	293.8299	0.0412		294.8598
Total	**5.5506**	**30.2212**	**26.1156**	**0.1445**	**5.4871**	**0.5610**	**6.0481**	**1.5183**	**0.5283**	**2.0467**	**0.0000**	**15,238.2012**	**15,238.2012**	**1.4085**	**1.5823**	**15,744.9409**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Energy	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187
Mobile	0.5734	18.3643	9.0777	0.1132	5.4871	0.1503	5.6374	1.5183	0.1435	1.6618		12,163.0913	12,163.0913	0.4822	1.5814	12,646.4109
Offroad	0.8764	10.2391	15.4953	0.0282		0.3230	0.3230		0.2972	0.2972	0.0000	2,732.9528	2,732.9528	0.8839		2,755.0501
Stationary	0.1124	1.5772	1.4645	2.7600e-003		0.0845	0.0845		0.0845	0.0845		293.8299	293.8299	0.0412		294.8598
Total	**5.5506**	**30.2212**	**26.1156**	**0.1445**	**5.4871**	**0.5610**	**6.0481**	**1.5183**	**0.5283**	**2.0467**	**0.0000**	**15,238.2012**	**15,238.2012**	**1.4085**	**1.5823**	**15,744.9409**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2023	8/11/2023	5	9	
2	Site Preparation	Site Preparation	8/14/2023	8/25/2023	5	10	
3	Grading	Grading	8/28/2023	12/29/2023	5	90	

4	Building Construction	Building Construction	1/1/2024	6/21/2024	5	125	
5	Paving	Paving	6/24/2024	7/12/2024	5	15	
6	Architectural Coating	Architectural Coating	7/15/2024	8/16/2024	5	25	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 4.37

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 261,000; Non-Residential Outdoor: 87,000; Striped Parking Area: 11,532 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

Paving	Rollers		2	8.00	80	0.38
Architectural Coating	Air Compressors		1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	4.00	20.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	236.00	92.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	48.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4594	0.0000	0.4594	0.0696	0.0000	0.0696			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**0.4594**	**0.9975**	**1.4569**	**0.0696**	**0.9280**	**0.9975**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.4700e-003	0.2804	0.0764	1.2700e-003	0.0389	2.0300e-003	0.0409	0.0107	1.9400e-003	0.0126		139.8152	139.8152	7.7500e-003	0.0222	146.6283
Vendor	4.2300e-003	0.1524	0.0590	7.3000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1900e-003		78.5541	78.5541	2.6200e-003	0.0114	82.0116
Worker	0.0539	0.0375	0.5079	1.4800e-003	0.1788	1.0000e-003	0.1799	0.0474	9.2000e-004	0.0484		149.1466	149.1466	3.8900e-003	3.8400e-003	150.3869
Total	**0.0626**	**0.4703**	**0.6433**	**3.4800e-003**	**0.2433**	**3.8800e-003**	**0.2472**	**0.0655**	**3.6700e-003**	**0.0691**		**367.5159**	**367.5159**	**0.0143**	**0.0374**	**379.0268**

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2067	0.0000	0.2067	0.0313	0.0000	0.0313			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**0.2067**	**0.9975**	**1.2042**	**0.0313**	**0.9280**	**0.9593**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.4700e-003	0.2804	0.0764	1.2700e-003	0.0389	2.0300e-003	0.0409	0.0107	1.9400e-003	0.0126		139.8152	139.8152	7.7500e-003	0.0222	146.6283
Vendor	4.2300e-003	0.1524	0.0590	7.3000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1900e-003		78.5541	78.5541	2.6200e-003	0.0114	82.0116
Worker	0.0539	0.0375	0.5079	1.4800e-003	0.1788	1.0000e-003	0.1799	0.0474	9.2000e-004	0.0484		149.1466	149.1466	3.8900e-003	3.8400e-003	150.3869
Total	**0.0626**	**0.4703**	**0.6433**	**3.4800e-003**	**0.2433**	**3.8800e-003**	**0.2472**	**0.0655**	**3.6700e-003**	**0.0691**		**367.5159**	**367.5159**	**0.0143**	**0.0374**	**379.0268**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2300e-003	0.1524	0.0590	7.3000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1900e-003		78.5541	78.5541	2.6200e-003	0.0114	82.0116
Worker	0.0607	0.0422	0.5714	1.6600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		167.7899	167.7899	4.3800e-003	4.3200e-003	169.1853
Total	**0.0649**	**0.1946**	**0.6304**	**2.3900e-003**	**0.2268**	**1.9800e-003**	**0.2288**	**0.0607**	**1.8500e-003**	**0.0626**		**246.3440**	**246.3440**	**7.0000e-003**	**0.0157**	**251.1969**

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8457	0.0000	8.8457	4.5461	0.0000	4.5461			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**8.8457**	**1.2660**	**10.1117**	**4.5461**	**1.1647**	**5.7108**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2300e-003	0.1524	0.0590	7.3000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1900e-003		78.5541	78.5541	2.6200e-003	0.0114	82.0116
Worker	0.0607	0.0422	0.5714	1.6600e-003	0.2012	1.1300e-003	0.2023	0.0534	1.0400e-003	0.0544		167.7899	167.7899	4.3800e-003	4.3200e-003	169.1853
Total	**0.0649**	**0.1946**	**0.6304**	**2.3900e-003**	**0.2268**	**1.9800e-003**	**0.2288**	**0.0607**	**1.8500e-003**	**0.0626**		**246.3440**	**246.3440**	**7.0000e-003**	**0.0157**	**251.1969**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**7.0826**	**1.4245**	**8.5071**	**3.4247**	**1.3105**	**4.7353**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2300e-003	0.1524	0.0590	7.3000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1900e-003		78.5541	78.5541	2.6200e-003	0.0114	82.0116
Worker	0.0674	0.0469	0.6349	1.8400e-003	0.2236	1.2600e-003	0.2248	0.0593	1.1600e-003	0.0604		186.4332	186.4332	4.8600e-003	4.7900e-003	187.9837
Total	**0.0716**	**0.1993**	**0.6939**	**2.5700e-003**	**0.2492**	**2.1100e-003**	**0.2513**	**0.0667**	**1.9700e-003**	**0.0686**		**264.9873**	**264.9873**	**7.4800e-003**	**0.0162**	**269.9952**

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1872	0.0000	3.1872	1.5411	0.0000	1.5411			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**3.1872**	**1.4245**	**4.6117**	**1.5411**	**1.3105**	**2.8517**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2300e-003	0.1524	0.0590	7.3000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1900e-003		78.5541	78.5541	2.6200e-003	0.0114	82.0116
Worker	0.0674	0.0469	0.6349	1.8400e-003	0.2236	1.2600e-003	0.2248	0.0593	1.1600e-003	0.0604		186.4332	186.4332	4.8600e-003	4.7900e-003	187.9837
Total	**0.0716**	**0.1993**	**0.6939**	**2.5700e-003**	**0.2492**	**2.1100e-003**	**0.2513**	**0.0667**	**1.9700e-003**	**0.0686**		**264.9873**	**264.9873**	**7.4800e-003**	**0.0162**	**269.9952**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0949	3.5212	1.3350	0.0165	0.5891	0.0196	0.6087	0.1696	0.0187	0.1884		1,780.8064	1,780.8064	0.0603	0.2584	1,859.3162
Worker	0.7446	0.4938	6.9803	0.0211	2.6379	0.0142	2.6521	0.6996	0.0130	0.7126		2,135.6861	2,135.6861	0.0520	0.0527	2,152.6784
Total	**0.8394**	**4.0150**	**8.3153**	**0.0377**	**3.2270**	**0.0338**	**3.2608**	**0.8692**	**0.0318**	**0.9010**		**3,916.4925**	**3,916.4925**	**0.1124**	**0.3111**	**4,011.9946**

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0949	3.5212	1.3350	0.0165	0.5891	0.0196	0.6087	0.1696	0.0187	0.1884		1,780.8064	1,780.8064	0.0603	0.2584	1,859.3162
Worker	0.7446	0.4938	6.9803	0.0211	2.6379	0.0142	2.6521	0.6996	0.0130	0.7126		2,135.6861	2,135.6861	0.0520	0.0527	2,152.6784
Total	**0.8394**	**4.0150**	**8.3153**	**0.0377**	**3.2270**	**0.0338**	**3.2608**	**0.8692**	**0.0318**	**0.9010**		**3,916.4925**	**3,916.4925**	**0.1124**	**0.3111**	**4,011.9946**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.7633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7515**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1200e-003	0.1531	0.0580	7.2000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1900e-003		77.4264	77.4264	2.6200e-003	0.0112	80.8398
Worker	0.0505	0.0335	0.4732	1.4300e-003	0.1788	9.6000e-004	0.1798	0.0474	8.8000e-004	0.0483		144.7923	144.7923	3.5300e-003	3.5700e-003	145.9443
Total	**0.0546**	**0.1866**	**0.5313**	**2.1500e-003**	**0.2045**	**1.8100e-003**	**0.2063**	**0.0548**	**1.6900e-003**	**0.0565**		**222.2186**	**222.2186**	**6.1500e-003**	**0.0148**	**226.7841**

3.6 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.7633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7515**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1200e-003	0.1531	0.0580	7.2000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1900e-003		77.4264	77.4264	2.6200e-003	0.0112	80.8398
Worker	0.0505	0.0335	0.4732	1.4300e-003	0.1788	9.6000e-004	0.1798	0.0474	8.8000e-004	0.0483		144.7923	144.7923	3.5300e-003	3.5700e-003	145.9443
Total	**0.0546**	**0.1866**	**0.5313**	**2.1500e-003**	**0.2045**	**1.8100e-003**	**0.2063**	**0.0548**	**1.6900e-003**	**0.0565**		**222.2186**	**222.2186**	**6.1500e-003**	**0.0148**	**226.7841**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	66.6572					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**66.8380**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1200e-003	0.1531	0.0580	7.2000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1900e-003		77.4264	77.4264	2.6200e-003	0.0112	80.8398
Worker	0.1514	0.1004	1.4197	4.3000e-003	0.5365	2.8800e-003	0.5394	0.1423	2.6500e-003	0.1449		434.3768	434.3768	0.0106	0.0107	437.8329
Total	**0.1556**	**0.2535**	**1.4778**	**5.0200e-003**	**0.5621**	**3.7300e-003**	**0.5659**	**0.1497**	**3.4600e-003**	**0.1531**		**511.8032**	**511.8032**	**0.0132**	**0.0219**	**518.6727**

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	66.6572					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**66.8380**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1200e-003	0.1531	0.0580	7.2000e-004	0.0256	8.5000e-004	0.0265	7.3700e-003	8.1000e-004	8.1900e-003		77.4264	77.4264	2.6200e-003	0.0112	80.8398
Worker	0.1514	0.1004	1.4197	4.3000e-003	0.5365	2.8800e-003	0.5394	0.1423	2.6500e-003	0.1449		434.3768	434.3768	0.0106	0.0107	437.8329
Total	**0.1556**	**0.2535**	**1.4778**	**5.0200e-003**	**0.5621**	**3.7300e-003**	**0.5659**	**0.1497**	**3.4600e-003**	**0.1531**		**511.8032**	**511.8032**	**0.0132**	**0.0219**	**518.6727**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5734	18.3643	9.0777	0.1132	5.4871	0.1503	5.6374	1.5183	0.1435	1.6618		12,163.0913	12,163.0913	0.4822	1.5814	12,646.4109
Unmitigated	0.5734	18.3643	9.0777	0.1132	5.4871	0.1503	5.6374	1.5183	0.1435	1.6618		12,163.0913	12,163.0913	0.4822	1.5814	12,646.4109

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	193.00	193.00	193.00	827,143	827,143
Unrefrigerated Warehouse-Rail	105.00	105.00	105.00	1,528,800	1,528,800
Total	298.00	298.00	298.00	2,355,943	2,355,943

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-Rail	0.00	40.00	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Other Asphalt Surfaces	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Parking Lot	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Unrefrigerated Warehouse-No Rail	0.590674	0.066935	0.201597	0.140794	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-Rail	0.000000	0.000000	0.000000	0.000000	0.085714	0.085714	0.228571	0.600000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187
NaturalGas Unmitigated	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	204.986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Unrefrigerated Warehouse-Rail	204.986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Total		**4.4200e-003**	**0.0402**	**0.0338**	**2.4000e-004**		**3.0600e-003**	**3.0600e-003**		**3.0600e-003**	**3.0600e-003**		**48.2321**	**48.2321**	**9.2000e-004**	**8.8000e-004**	**48.5187**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.204986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Unrefrigerated Warehouse-Rail	0.204986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Total		**4.4200e-003**	**0.0402**	**0.0338**	**2.4000e-004**		**3.0600e-003**	**3.0600e-003**		**3.0600e-003**	**3.0600e-003**		**48.2321**	**48.2321**	**9.2000e-004**	**8.8000e-004**	**48.5187**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Unmitigated	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4566					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.5233					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0900e-003	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Total	**3.9840**	**4.0000e-004**	**0.0443**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0951**	**0.0951**	**2.5000e-004**		**0.1013**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4566					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.5233					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0900e-003	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Total	**3.9840**	**4.0000e-004**	**0.0443**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0951**	**0.0951**	**2.5000e-004**		**0.1013**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Tractors	1	8.00	365	200	0.44	Diesel
Rough Terrain Forklifts	6	8.00	365	100	0.40	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Off-Highway Tractors	0.2621	2.1377	1.7610	7.5500e-003		0.0763	0.0763		0.0702	0.0702	0.0000	730.5355	730.5355	0.2363		736.4423
Rough Terrain Forklifts	0.6144	8.1014	13.7343	0.0207		0.2467	0.2467		0.2270	0.2270	0.0000	2,002.4173	2,002.4173	0.6476		2,018.6078
Total	**0.8764**	**10.2391**	**15.4953**	**0.0282**		**0.3230**	**0.3230**		**0.2972**	**0.2972**	**0.0000**	**2,732.9528**	**2,732.9528**	**0.8839**		**2,755.0501**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Fire Pump	1	1	50	350	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Fire Pump - Diesel (300 - 600 HP)	0.1124	1.5772	1.4645	2.7600e-003		0.0845	0.0845		0.0845	0.0845		293.8299	293.8299	0.0412		294.8598
Total	**0.1124**	**1.5772**	**1.4645**	**2.7600e-003**		**0.0845**	**0.0845**		**0.0845**	**0.0845**		**293.8299**	**293.8299**	**0.0412**		**294.8598**

11.0 Vegetation

Golden Valley Industrial Facility LST

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	87.00	1000sqft	2.00	87,000.00	0
Unrefrigerated Warehouse-Rail	87.00	1000sqft	2.00	87,000.00	0
Other Asphalt Surfaces	2.08	Acre	2.08	90,604.80	0
Parking Lot	254.00	Space	2.29	101,600.00	0
City Park	4.48	Acre	4.48	195,148.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on site plan for project. Project split in half to model cars and trucks separately.

Construction Phase - Based on applicant provided information.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Trips and VMT - CalEEmod defaults. Odd trips rounded up to account for whole round trips.

On-road Fugitive Dust - CalEEmod defaults.

Demolition - Based on aerial of site.

Grading - CalEEmod defaults.

Architectural Coating - CalEEmod defaults.

Vehicle Trips - Based on traffic report. Land use "no-rail" represents passenger cars while "rail" represents trucks.

Road Dust - CalEEMod defaults.

Consumer Products - CalEEMod defaults.

Area Coating - CalEEMod defaults.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEmod defaults.

Water And Wastewater - CalEEmod defaults.

Solid Waste - CalEEmod defaults.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403.

Operational Off-Road Equipment - Based on SCAQMD High-Cube Warehouse Business Survey

Fleet Mix - Based on TIA and EMFAC vehicle mix.

Stationary Sources - Emergency Generators and Fire Pumps - Based on applicant provided information.

Stationary Sources - Emergency Generators and Fire Pumps EF - Tier 3 rated generator.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	9.00
tblConstructionPhase	NumDays	30.00	90.00
tblConstructionPhase	NumDays	300.00	125.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	20.00	25.00
tblFleetMix	HHD	9.2090e-003	0.00
tblFleetMix	HHD	9.2090e-003	0.60
tblFleetMix	LDA	0.54	0.59
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.09
tblFleetMix	LHD2	6.4480e-003	0.00
tblFleetMix	LHD2	6.4480e-003	0.09
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.13	0.14
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	3.7210e-003	0.00
tblFleetMix	MH	3.7210e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.23
tblFleetMix	OBUS	8.1000e-004	0.00
tblFleetMix	OBUS	8.1000e-004	0.00

tblFleetMix	SBUS	7.5100e-004	0.00
tblFleetMix	SBUS	7.5100e-004	0.00
tblFleetMix	UBUS	5.0300e-004	0.00
tblFleetMix	UBUS	5.0300e-004	0.00
tblGrading	AcresOfGrading	270.00	90.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	124.00	200.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblStationaryGeneratorsPumpsEF	NOX_EF	2.85	2.80
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	4.4000e-004
tblStationaryGeneratorsPumpsEF	TOG_EF	2.4700e-003	4.4000e-004
tblTripsAndVMT	HaulingTripLength	20.00	0.25
tblTripsAndVMT	HaulingTripLength	20.00	0.25
tblTripsAndVMT	HaulingTripLength	20.00	0.25
tblTripsAndVMT	HaulingTripLength	20.00	0.25
tblTripsAndVMT	HaulingTripLength	20.00	0.25
tblTripsAndVMT	HaulingTripLength	20.00	0.25
tblTripsAndVMT	HaulingTripNumber	19.00	20.00
tblTripsAndVMT	VendorTripLength	6.90	0.25
tblTripsAndVMT	VendorTripLength	6.90	0.25
tblTripsAndVMT	VendorTripLength	6.90	0.25
tblTripsAndVMT	VendorTripLength	6.90	0.25
tblTripsAndVMT	VendorTripLength	6.90	0.25
tblTripsAndVMT	VendorTripLength	6.90	0.25
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripLength	14.70	0.25
tblTripsAndVMT	WorkerTripLength	14.70	0.25
tblTripsAndVMT	WorkerTripLength	14.70	0.25
tblTripsAndVMT	WorkerTripLength	14.70	0.25
tblTripsAndVMT	WorkerTripLength	14.70	0.25
tblTripsAndVMT	WorkerTripLength	14.70	0.25
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	47.00	48.00
tblVehicleTrips	CC_TL	8.40	0.25
tblVehicleTrips	CC_TL	8.40	0.25
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	6.90	0.25
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	0.25
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00

tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	1.74	2.22
tblVehicleTrips	ST_TR	1.74	1.21
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	1.74	2.22
tblVehicleTrips	SU_TR	1.74	1.21
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	1.74	2.22
tblVehicleTrips	WD_TR	1.74	1.21

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3506	34.5739	28.1866	0.0622	19.6616	1.4247	20.9278	10.1037	1.3107	11.2686	0.0000	6,027.6613	6,027.6613	1.9468	3.6100e-003	6,077.1023
2024	66.8988	14.6685	18.1319	0.0297	0.0708	0.6158	0.6867	0.0199	0.5793	0.5991	0.0000	2,842.3094	2,842.3094	0.7159	0.0451	2,871.6332
Maximum	**66.8988**	**34.5739**	**28.1866**	**0.0622**	**19.6616**	**1.4247**	**20.9278**	**10.1037**	**1.3107**	**11.2686**	**0.0000**	**6,027.6613**	**6,027.6613**	**1.9468**	**0.0451**	**6,077.1023**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3506	34.5739	28.1866	0.0622	8.8503	1.4247	10.1165	4.5474	1.3107	5.7123	0.0000	6,027.6613	6,027.6613	1.9468	3.6100e-003	6,077.1023
2024	66.8988	14.6685	18.1319	0.0297	0.0708	0.6158	0.6867	0.0199	0.5793	0.5991	0.0000	2,842.3094	2,842.3094	0.7159	0.0451	2,871.6332
Maximum	**66.8988**	**34.5739**	**28.1866**	**0.0622**	**8.8503**	**1.4247**	**10.1165**	**4.5474**	**1.3107**	**5.7123**	**0.0000**	**6,027.6613**	**6,027.6613**	**1.9468**	**0.0451**	**6,077.1023**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.79**	**0.00**	**50.02**	**54.89**	**0.00**	**46.82**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Energy	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187
Mobile	0.3132	1.4083	1.9706	2.6700e-003	0.0603	2.2200e-003	0.0625	0.0164	2.0900e-003	0.0185		284.4554	284.4554	0.0275	0.0469	299.1307
Offroad	0.8764	10.2391	15.4953	0.0282		0.3230	0.3230		0.2972	0.2972	0.0000	2,732.9528	2,732.9528	0.8839		2,755.0501
Stationary	0.1124	1.5772	1.4645	2.7600e-003		0.0845	0.0845		0.0845	0.0845		293.8299	293.8299	0.0412		294.8598
Total	**5.2905**	**13.2652**	**19.0084**	**0.0339**	**0.0603**	**0.4129**	**0.4732**	**0.0164**	**0.3870**	**0.4033**	**0.0000**	**3,359.5653**	**3,359.5653**	**0.9538**	**0.0478**	**3,397.6607**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day							lb/day			
Area	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Energy	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187
Mobile	0.3132	1.4083	1.9706	2.6700e-003	0.0603	2.2200e-003	0.0625	0.0164	2.0900e-003	0.0185		284.4554	284.4554	0.0275	0.0469	299.1307
Offroad	0.8764	10.2391	15.4953	0.0282		0.3230	0.3230		0.2972	0.2972	0.0000	2,732.9528	2,732.9528	0.8839		2,755.0501
Stationary	0.1124	1.5772	1.4645	2.7600e-003		0.0845	0.0845		0.0845	0.0845		293.8299	293.8299	0.0412		294.8598
Total	**5.2905**	**13.2652**	**19.0084**	**0.0339**	**0.0603**	**0.4129**	**0.4732**	**0.0164**	**0.3870**	**0.4033**	**0.0000**	**3,359.5653**	**3,359.5653**	**0.9538**	**0.0478**	**3,397.6607**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2023	8/11/2023	5	9	
2	Site Preparation	Site Preparation	8/14/2023	8/25/2023	5	10	
3	Grading	Grading	8/28/2023	12/29/2023	5	90	

4	Building Construction	Building Construction	1/1/2024	6/21/2024	5	125	
5	Paving	Paving	6/24/2024	7/12/2024	5	15	
6	Architectural Coating	Architectural Coating	7/15/2024	8/16/2024	5	25	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 4.37

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 261,000; Non-Residential Outdoor: 87,000; Striped Parking Area: 11,532 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

Paving	Rollers		2	8.00	80	0.38
Architectural Coating	Air Compressors		1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	4.00	20.00	0.25	0.25	0.25	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	0.25	0.25	0.25	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	4.00	0.00	0.25	0.25	0.25	LD_Mix	HDT_Mix	HHDT
Building Construction	9	236.00	92.00	0.00	0.25	0.25	0.25	LD_Mix	HDT_Mix	HHDT
Paving	6	16.00	4.00	0.00	0.25	0.25	0.25	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	48.00	4.00	0.00	0.25	0.25	0.25	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4594	0.0000	0.4594	0.0696	0.0000	0.0696			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**0.4594**	**0.9975**	**1.4569**	**0.0696**	**0.9280**	**0.9975**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.4800e-003	0.0433	0.0344	7.0000e-005	5.3000e-004	5.0000e-005	5.8000e-004	1.5000e-004	5.0000e-005	2.0000e-004		7.9665	7.9665	2.8000e-004	1.2600e-003	8.3490
Vendor	2.7200e-003	0.0490	0.0379	8.0000e-005	1.0300e-003	5.0000e-005	1.0800e-003	3.1000e-004	5.0000e-005	3.6000e-004		9.0437	9.0437	3.1000e-004	1.4000e-003	9.4687
Worker	0.0209	7.4600e-003	0.0781	6.0000e-005	3.2000e-003	9.0000e-005	3.2900e-003	8.7000e-004	8.0000e-005	9.5000e-004		5.7119	5.7119	1.7700e-003	9.5000e-004	6.0400
Total	**0.0261**	**0.0997**	**0.1504**	**2.1000e-004**	**4.7600e-003**	**1.9000e-004**	**4.9500e-003**	**1.3300e-003**	**1.8000e-004**	**1.5100e-003**		**22.7221**	**22.7221**	**2.3600e-003**	**3.6100e-003**	**23.8577**

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2067	0.0000	0.2067	0.0313	0.0000	0.0313			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**0.2067**	**0.9975**	**1.2042**	**0.0313**	**0.9280**	**0.9593**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.4800e-003	0.0433	0.0344	7.0000e-005	5.3000e-004	5.0000e-005	5.8000e-004	1.5000e-004	5.0000e-005	2.0000e-004		7.9665	7.9665	2.8000e-004	1.2600e-003	8.3490
Vendor	2.7200e-003	0.0490	0.0379	8.0000e-005	1.0300e-003	5.0000e-005	1.0800e-003	3.1000e-004	5.0000e-005	3.6000e-004		9.0437	9.0437	3.1000e-004	1.4000e-003	9.4687
Worker	0.0209	7.4600e-003	0.0781	6.0000e-005	3.2000e-003	9.0000e-005	3.2900e-003	8.7000e-004	8.0000e-005	9.5000e-004		5.7119	5.7119	1.7700e-003	9.5000e-004	6.0400
Total	**0.0261**	**0.0997**	**0.1504**	**2.1000e-004**	**4.7600e-003**	**1.9000e-004**	**4.9500e-003**	**1.3300e-003**	**1.8000e-004**	**1.5100e-003**		**22.7221**	**22.7221**	**2.3600e-003**	**3.6100e-003**	**23.8577**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7200e-003	0.0490	0.0379	8.0000e-005	1.0300e-003	5.0000e-005	1.0800e-003	3.1000e-004	5.0000e-005	3.6000e-004		9.0437	9.0437	3.1000e-004	1.4000e-003	9.4687
Worker	0.0235	8.3900e-003	0.0878	6.0000e-005	3.6000e-003	1.0000e-004	3.7000e-003	9.8000e-004	9.0000e-005	1.0700e-003		6.4259	6.4259	1.9900e-003	1.0700e-003	6.7950
Total	**0.0263**	**0.0573**	**0.1257**	**1.4000e-004**	**4.6300e-003**	**1.5000e-004**	**4.7800e-003**	**1.2900e-003**	**1.4000e-004**	**1.4300e-003**		**15.4696**	**15.4696**	**2.3000e-003**	**2.4700e-003**	**16.2637**

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8457	0.0000	8.8457	4.5461	0.0000	4.5461			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**8.8457**	**1.2660**	**10.1117**	**4.5461**	**1.1647**	**5.7108**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7200e-003	0.0490	0.0379	8.0000e-005	1.0300e-003	5.0000e-005	1.0800e-003	3.1000e-004	5.0000e-005	3.6000e-004		9.0437	9.0437	3.1000e-004	1.4000e-003	9.4687
Worker	0.0235	8.3900e-003	0.0878	6.0000e-005	3.6000e-003	1.0000e-004	3.7000e-003	9.8000e-004	9.0000e-005	1.0700e-003		6.4259	6.4259	1.9900e-003	1.0700e-003	6.7950
Total	**0.0263**	**0.0573**	**0.1257**	**1.4000e-004**	**4.6300e-003**	**1.5000e-004**	**4.7800e-003**	**1.2900e-003**	**1.4000e-004**	**1.4300e-003**		**15.4696**	**15.4696**	**2.3000e-003**	**2.4700e-003**	**16.2637**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**7.0826**	**1.4245**	**8.5071**	**3.4247**	**1.3105**	**4.7353**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7200e-003	0.0490	0.0379	8.0000e-005	1.0300e-003	5.0000e-005	1.0800e-003	3.1000e-004	5.0000e-005	3.6000e-004		9.0437	9.0437	3.1000e-004	1.4000e-003	9.4687
Worker	0.0262	9.3300e-003	0.0976	7.0000e-005	4.0000e-003	1.1000e-004	4.1100e-003	1.0900e-003	1.0000e-004	1.1900e-003		7.1399	7.1399	2.2100e-003	1.1900e-003	7.5500
Total	**0.0289**	**0.0583**	**0.1355**	**1.5000e-004**	**5.0300e-003**	**1.6000e-004**	**5.1900e-003**	**1.4000e-003**	**1.5000e-004**	**1.5500e-003**		**16.1836**	**16.1836**	**2.5200e-003**	**2.5900e-003**	**17.0187**

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1872	0.0000	3.1872	1.5411	0.0000	1.5411			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**3.1872**	**1.4245**	**4.6117**	**1.5411**	**1.3105**	**2.8517**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7200e-003	0.0490	0.0379	8.0000e-005	1.0300e-003	5.0000e-005	1.0800e-003	3.1000e-004	5.0000e-005	3.6000e-004		9.0437	9.0437	3.1000e-004	1.4000e-003	9.4687
Worker	0.0262	9.3300e-003	0.0976	7.0000e-005	4.0000e-003	1.1000e-004	4.1100e-003	1.0900e-003	1.0000e-004	1.1900e-003		7.1399	7.1399	2.2100e-003	1.1900e-003	7.5500
Total	**0.0289**	**0.0583**	**0.1355**	**1.5000e-004**	**5.0300e-003**	**1.6000e-004**	**5.1900e-003**	**1.4000e-003**	**1.5000e-004**	**1.5500e-003**		**16.1836**	**16.1836**	**2.5200e-003**	**2.5900e-003**	**17.0187**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0618	1.1231	0.8616	1.9000e-003	0.0237	1.2500e-003	0.0249	7.0600e-003	1.2000e-003	8.2600e-003		204.9209	204.9209	7.1800e-003	0.0317	214.5564
Worker	0.2858	0.1016	1.1035	8.1000e-004	0.0472	1.2700e-003	0.0484	0.0128	1.1700e-003	0.0140		81.6897	81.6897	0.0241	0.0134	86.2692
Total	**0.3476**	**1.2247**	**1.9650**	**2.7100e-003**	**0.0708**	**2.5200e-003**	**0.0734**	**0.0199**	**2.3700e-003**	**0.0222**		**286.6105**	**286.6105**	**0.0313**	**0.0451**	**300.8255**

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0618	1.1231	0.8616	1.9000e-003	0.0237	1.2500e-003	0.0249	7.0600e-003	1.2000e-003	8.2600e-003		204.9209	204.9209	7.1800e-003	0.0317	214.5564
Worker	0.2858	0.1016	1.1035	8.1000e-004	0.0472	1.2700e-003	0.0484	0.0128	1.1700e-003	0.0140		81.6897	81.6897	0.0241	0.0134	86.2692
Total	**0.3476**	**1.2247**	**1.9650**	**2.7100e-003**	**0.0708**	**2.5200e-003**	**0.0734**	**0.0199**	**2.3700e-003**	**0.0222**		**286.6105**	**286.6105**	**0.0313**	**0.0451**	**300.8255**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.7633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7515**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6900e-003	0.0488	0.0375	8.0000e-005	1.0300e-003	5.0000e-005	1.0800e-003	3.1000e-004	5.0000e-005	3.6000e-004		8.9096	8.9096	3.1000e-004	1.3800e-003	9.3285
Worker	0.0194	6.8900e-003	0.0748	5.0000e-005	3.2000e-003	9.0000e-005	3.2800e-003	8.7000e-004	8.0000e-005	9.5000e-004		5.5383	5.5383	1.6300e-003	9.0000e-004	5.8488
Total	**0.0221**	**0.0557**	**0.1123**	**1.3000e-004**	**4.2300e-003**	**1.4000e-004**	**4.3600e-003**	**1.1800e-003**	**1.3000e-004**	**1.3100e-003**		**14.4479**	**14.4479**	**1.9400e-003**	**2.2800e-003**	**15.1773**

3.6 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.7633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7515**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6900e-003	0.0488	0.0375	8.0000e-005	1.0300e-003	5.0000e-005	1.0800e-003	3.1000e-004	5.0000e-005	3.6000e-004		8.9096	8.9096	3.1000e-004	1.3800e-003	9.3285
Worker	0.0194	6.8900e-003	0.0748	5.0000e-005	3.2000e-003	9.0000e-005	3.2800e-003	8.7000e-004	8.0000e-005	9.5000e-004		5.5383	5.5383	1.6300e-003	9.0000e-004	5.8488
Total	**0.0221**	**0.0557**	**0.1123**	**1.3000e-004**	**4.2300e-003**	**1.4000e-004**	**4.3600e-003**	**1.1800e-003**	**1.3000e-004**	**1.3100e-003**		**14.4479**	**14.4479**	**1.9400e-003**	**2.2800e-003**	**15.1773**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	66.6572					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**66.8380**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6900e-003	0.0488	0.0375	8.0000e-005	1.0300e-003	5.0000e-005	1.0800e-003	3.1000e-004	5.0000e-005	3.6000e-004		8.9096	8.9096	3.1000e-004	1.3800e-003	9.3285
Worker	0.0581	0.0207	0.2244	1.6000e-004	9.5900e-003	2.6000e-004	9.8500e-003	2.6000e-003	2.4000e-004	2.8400e-003		16.6149	16.6149	4.8900e-003	2.7100e-003	17.5463
Total	**0.0608**	**0.0695**	**0.2619**	**2.4000e-004**	**0.0106**	**3.1000e-004**	**0.0109**	**2.9100e-003**	**2.9000e-004**	**3.2000e-003**		**25.5245**	**25.5245**	**5.2000e-003**	**4.0900e-003**	**26.8748**

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	66.6572					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**66.8380**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6900e-003	0.0488	0.0375	8.0000e-005	1.0300e-003	5.0000e-005	1.0800e-003	3.1000e-004	5.0000e-005	3.6000e-004		8.9096	8.9096	3.1000e-004	1.3800e-003	9.3285
Worker	0.0581	0.0207	0.2244	1.6000e-004	9.5900e-003	2.6000e-004	9.8500e-003	2.6000e-003	2.4000e-004	2.8400e-003		16.6149	16.6149	4.8900e-003	2.7100e-003	17.5463
Total	**0.0608**	**0.0695**	**0.2619**	**2.4000e-004**	**0.0106**	**3.1000e-004**	**0.0109**	**2.9100e-003**	**2.9000e-004**	**3.2000e-003**		**25.5245**	**25.5245**	**5.2000e-003**	**4.0900e-003**	**26.8748**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3132	1.4083	1.9706	2.6700e-003	0.0603	2.2200e-003	0.0625	0.0164	2.0900e-003	0.0185		284.4554	284.4554	0.0275	0.0469	299.1307
Unmitigated	0.3132	1.4083	1.9706	2.6700e-003	0.0603	2.2200e-003	0.0625	0.0164	2.0900e-003	0.0185		284.4554	284.4554	0.0275	0.0469	299.1307

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	193.14	193.14	193.14	17,576	17,576
Unrefrigerated Warehouse-Rail	105.27	105.27	105.27	9,580	9,580
Total	298.41	298.41	298.41	27,155	27,155

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	0.25	0.25	0.25	0.00	100.00	0.00	100	0	0
Unrefrigerated Warehouse-Rail	0.00	0.25	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Other Asphalt Surfaces	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Parking Lot	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Unrefrigerated Warehouse-No Rail	0.590674	0.066935	0.201597	0.140794	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-Rail	0.000000	0.000000	0.000000	0.000000	0.085714	0.085714	0.228571	0.600000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187
NaturalGas Unmitigated	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	204.986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Unrefrigerated Warehouse-Rail	204.986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Total		**4.4200e-003**	**0.0402**	**0.0338**	**2.4000e-004**		**3.0600e-003**	**3.0600e-003**		**3.0600e-003**	**3.0600e-003**		**48.2321**	**48.2321**	**9.2000e-004**	**8.8000e-004**	**48.5187**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.204986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Unrefrigerated Warehouse-Rail	0.204986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Total		**4.4200e-003**	**0.0402**	**0.0338**	**2.4000e-004**		**3.0600e-003**	**3.0600e-003**		**3.0600e-003**	**3.0600e-003**		**48.2321**	**48.2321**	**9.2000e-004**	**8.8000e-004**	**48.5187**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Unmitigated	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4566					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.5233					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0900e-003	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Total	**3.9840**	**4.0000e-004**	**0.0443**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0951**	**0.0951**	**2.5000e-004**		**0.1013**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4566					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.5233					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0900e-003	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Total	**3.9840**	**4.0000e-004**	**0.0443**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0951**	**0.0951**	**2.5000e-004**		**0.1013**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Tractors	1	8.00	365	200	0.44	Diesel
Rough Terrain Forklifts	6	8.00	365	100	0.40	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Off-Highway Tractors	0.2621	2.1377	1.7610	7.5500e-003		0.0763	0.0763		0.0702	0.0702	0.0000	730.5355	730.5355	0.2363		736.4423
Rough Terrain Forklifts	0.6144	8.1014	13.7343	0.0207		0.2467	0.2467		0.2270	0.2270	0.0000	2,002.4173	2,002.4173	0.6476		2,018.6078
Total	**0.8764**	**10.2391**	**15.4953**	**0.0282**		**0.3230**	**0.3230**		**0.2972**	**0.2972**	**0.0000**	**2,732.9528**	**2,732.9528**	**0.8839**		**2,755.0501**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Fire Pump	1	1	50	350	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Fire Pump - Diesel (300 - 600 HP)	0.1124	1.5772	1.4645	2.7600e-003		0.0845	0.0845		0.0845	0.0845		293.8299	293.8299	0.0412		294.8598
Total	**0.1124**	**1.5772**	**1.4645**	**2.7600e-003**		**0.0845**	**0.0845**		**0.0845**	**0.0845**		**293.8299**	**293.8299**	**0.0412**		**294.8598**

11.0 Vegetation

Golden Valley Industrial Facility LST

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	87.00	1000sqft	2.00	87,000.00	0
Unrefrigerated Warehouse-Rail	87.00	1000sqft	2.00	87,000.00	0
Other Asphalt Surfaces	2.08	Acre	2.08	90,604.80	0
Parking Lot	254.00	Space	2.29	101,600.00	0
City Park	4.48	Acre	4.48	195,148.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on site plan for project. Project split in half to model cars and trucks separately.

Construction Phase - Based on applicant provided information.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Off-road Equipment - CalEEmod defaults.

Trips and VMT - CalEEmod defaults. Odd trips rounded up to account for whole round trips.

On-road Fugitive Dust - CalEEmod defaults.

Demolition - Based on aerial of site.

Grading - CalEEmod defaults.

Architectural Coating - CalEEmod defaults.

Vehicle Trips - Based on traffic report. Land use "no-rail" represents passenger cars while "rail" represents trucks.

Road Dust - CalEEMod defaults.

Consumer Products - CalEEMod defaults.

Area Coating - CalEEMod defaults.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEmod defaults.

Water And Wastewater - CalEEmod defaults.

Solid Waste - CalEEmod defaults.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403.

Operational Off-Road Equipment - Based on SCAQMD High-Cube Warehouse Business Survey

Fleet Mix - Based on TIA and EMFAC vehicle mix.

Stationary Sources - Emergency Generators and Fire Pumps - Based on applicant provided information.

Stationary Sources - Emergency Generators and Fire Pumps EF - Tier 3 rated generator.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	9.00
tblConstructionPhase	NumDays	30.00	90.00
tblConstructionPhase	NumDays	300.00	125.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	20.00	25.00
tblFleetMix	HHD	9.2090e-003	0.00
tblFleetMix	HHD	9.2090e-003	0.60
tblFleetMix	LDA	0.54	0.59
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.09
tblFleetMix	LHD2	6.4480e-003	0.00
tblFleetMix	LHD2	6.4480e-003	0.09
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.13	0.14
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	3.7210e-003	0.00
tblFleetMix	MH	3.7210e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.23
tblFleetMix	OBUS	8.1000e-004	0.00
tblFleetMix	OBUS	8.1000e-004	0.00

tblFleetMix	SBUS	7.5100e-004	0.00
tblFleetMix	SBUS	7.5100e-004	0.00
tblFleetMix	UBUS	5.0300e-004	0.00
tblFleetMix	UBUS	5.0300e-004	0.00
tblGrading	AcresOfGrading	270.00	90.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	124.00	200.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblStationaryGeneratorsPumpsEF	NOX_EF	2.85	2.80
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	4.4000e-004
tblStationaryGeneratorsPumpsEF	TOG_EF	2.4700e-003	4.4000e-004
tblTripsAndVMT	HaulingTripLength	20.00	0.25
tblTripsAndVMT	HaulingTripLength	20.00	0.25
tblTripsAndVMT	HaulingTripLength	20.00	0.25
tblTripsAndVMT	HaulingTripLength	20.00	0.25
tblTripsAndVMT	HaulingTripLength	20.00	0.25
tblTripsAndVMT	HaulingTripLength	20.00	0.25
tblTripsAndVMT	HaulingTripNumber	19.00	20.00
tblTripsAndVMT	VendorTripLength	6.90	0.25
tblTripsAndVMT	VendorTripLength	6.90	0.25
tblTripsAndVMT	VendorTripLength	6.90	0.25
tblTripsAndVMT	VendorTripLength	6.90	0.25
tblTripsAndVMT	VendorTripLength	6.90	0.25
tblTripsAndVMT	VendorTripLength	6.90	0.25
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripLength	14.70	0.25
tblTripsAndVMT	WorkerTripLength	14.70	0.25
tblTripsAndVMT	WorkerTripLength	14.70	0.25
tblTripsAndVMT	WorkerTripLength	14.70	0.25
tblTripsAndVMT	WorkerTripLength	14.70	0.25
tblTripsAndVMT	WorkerTripLength	14.70	0.25
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	47.00	48.00
tblVehicleTrips	CC_TL	8.40	0.25
tblVehicleTrips	CC_TL	8.40	0.25
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	6.90	0.25
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	0.25
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00

tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	1.74	2.22
tblVehicleTrips	ST_TR	1.74	1.21
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	1.74	2.22
tblVehicleTrips	SU_TR	1.74	1.21
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	1.74	2.22
tblVehicleTrips	WD_TR	1.74	1.21

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3484	34.5778	28.2034	0.0623	19.6616	1.4247	20.9278	10.1037	1.3107	11.2686	0.0000	6,027.5624	6,027.5624	1.9470	3.7200e-003	6,077.0391
2024	66.8940	14.7490	18.3440	0.0297	0.0708	0.6159	0.6868	0.0199	0.5794	0.5992	0.0000	2,842.8169	2,842.8169	0.7161	0.0464	2,872.6189
Maximum	**66.8940**	**34.5778**	**28.2034**	**0.0623**	**19.6616**	**1.4247**	**20.9278**	**10.1037**	**1.3107**	**11.2686**	**0.0000**	**6,027.5624**	**6,027.5624**	**1.9470**	**0.0464**	**6,077.0391**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3484	34.5778	28.2034	0.0623	8.8503	1.4247	10.1165	4.5474	1.3107	5.7123	0.0000	6,027.5624	6,027.5624	1.9470	3.7200e-003	6,077.0391
2024	66.8940	14.7490	18.3440	0.0297	0.0708	0.6159	0.6868	0.0199	0.5794	0.5992	0.0000	2,842.8169	2,842.8169	0.7161	0.0464	2,872.6189
Maximum	**66.8940**	**34.5778**	**28.2034**	**0.0623**	**8.8503**	**1.4247**	**10.1165**	**4.5474**	**1.3107**	**5.7123**	**0.0000**	**6,027.5624**	**6,027.5624**	**1.9470**	**0.0464**	**6,077.0391**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.79**	**0.00**	**50.02**	**54.89**	**0.00**	**46.82**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Energy	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187
Mobile	0.2916	1.5095	2.1627	2.7000e-003	0.0603	2.3500e-003	0.0626	0.0164	2.2100e-003	0.0186		287.3965	287.3965	0.0297	0.0483	302.5426
Offroad	0.8764	10.2391	15.4953	0.0282		0.3230	0.3230		0.2972	0.2972	0.0000	2,732.9528	2,732.9528	0.8839		2,755.0501
Stationary	0.1124	1.5772	1.4645	2.7600e-003		0.0845	0.0845		0.0845	0.0845		293.8299	293.8299	0.0412		294.8598
Total	**5.2689**	**13.3663**	**19.2006**	**0.0339**	**0.0603**	**0.4131**	**0.4733**	**0.0164**	**0.3871**	**0.4034**	**0.0000**	**3,362.5064**	**3,362.5064**	**0.9560**	**0.0492**	**3,401.0725**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Energy	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187
Mobile	0.2916	1.5095	2.1627	2.7000e-003	0.0603	2.3500e-003	0.0626	0.0164	2.2100e-003	0.0186		287.3965	287.3965	0.0297	0.0483	302.5426
Offroad	0.8764	10.2391	15.4953	0.0282		0.3230	0.3230		0.2972	0.2972	0.0000	2,732.9528	2,732.9528	0.8839		2,755.0501
Stationary	0.1124	1.5772	1.4645	2.7600e-003		0.0845	0.0845		0.0845	0.0845		293.8299	293.8299	0.0412		294.8598
Total	**5.2689**	**13.3663**	**19.2006**	**0.0339**	**0.0603**	**0.4131**	**0.4733**	**0.0164**	**0.3871**	**0.4034**	**0.0000**	**3,362.5064**	**3,362.5064**	**0.9560**	**0.0492**	**3,401.0725**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2023	8/11/2023	5	9	
2	Site Preparation	Site Preparation	8/14/2023	8/25/2023	5	10	
3	Grading	Grading	8/28/2023	12/29/2023	5	90	

4	Building Construction	Building Construction	1/1/2024	6/21/2024	5	125	
5	Paving	Paving	6/24/2024	7/12/2024	5	15	
6	Architectural Coating	Architectural Coating	7/15/2024	8/16/2024	5	25	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 4.37

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 261,000; Non-Residential Outdoor: 87,000; Striped Parking Area: 11,532 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	4.00	20.00	0.25	0.25	0.25	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	0.25	0.25	0.25	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	4.00	0.00	0.25	0.25	0.25	LD_Mix	HDT_Mix	HHDT
Building Construction	9	236.00	92.00	0.00	0.25	0.25	0.25	LD_Mix	HDT_Mix	HHDT
Paving	6	16.00	4.00	0.00	0.25	0.25	0.25	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	48.00	4.00	0.00	0.25	0.25	0.25	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4594	0.0000	0.4594	0.0696	0.0000	0.0696			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**0.4594**	**0.9975**	**1.4569**	**0.0696**	**0.9280**	**0.9975**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.1600e-003	0.0465	0.0356	8.0000e-005	5.3000e-004	5.0000e-005	5.8000e-004	1.5000e-004	5.0000e-005	2.0000e-004		8.1239	8.1239	2.6000e-004	1.2900e-003	8.5133
Vendor	2.4600e-003	0.0520	0.0399	9.0000e-005	1.0300e-003	6.0000e-005	1.0900e-003	3.1000e-004	6.0000e-005	3.6000e-004		9.1858	9.1858	3.0000e-004	1.4200e-003	9.6176
Worker	0.0194	8.1200e-003	0.0898	5.0000e-005	3.2000e-003	9.0000e-005	3.2900e-003	8.7000e-004	8.0000e-005	9.5000e-004		5.5192	5.5192	2.0100e-003	1.0100e-003	5.8703
Total	**0.0240**	**0.1067**	**0.1653**	**2.2000e-004**	**4.7600e-003**	**2.0000e-004**	**4.9600e-003**	**1.3300e-003**	**1.9000e-004**	**1.5100e-003**		**22.8288**	**22.8288**	**2.5700e-003**	**3.7200e-003**	**24.0013**

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2067	0.0000	0.2067	0.0313	0.0000	0.0313			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**0.2067**	**0.9975**	**1.2042**	**0.0313**	**0.9280**	**0.9593**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.1600e-003	0.0465	0.0356	8.0000e-005	5.3000e-004	5.0000e-005	5.8000e-004	1.5000e-004	5.0000e-005	2.0000e-004		8.1239	8.1239	2.6000e-004	1.2900e-003	8.5133
Vendor	2.4600e-003	0.0520	0.0399	9.0000e-005	1.0300e-003	6.0000e-005	1.0900e-003	3.1000e-004	6.0000e-005	3.6000e-004		9.1858	9.1858	3.0000e-004	1.4200e-003	9.6176
Worker	0.0194	8.1200e-003	0.0898	5.0000e-005	3.2000e-003	9.0000e-005	3.2900e-003	8.7000e-004	8.0000e-005	9.5000e-004		5.5192	5.5192	2.0100e-003	1.0100e-003	5.8703
Total	**0.0240**	**0.1067**	**0.1653**	**2.2000e-004**	**4.7600e-003**	**2.0000e-004**	**4.9600e-003**	**1.3300e-003**	**1.9000e-004**	**1.5100e-003**		**22.8288**	**22.8288**	**2.5700e-003**	**3.7200e-003**	**24.0013**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4600e-003	0.0520	0.0399	9.0000e-005	1.0300e-003	6.0000e-005	1.0900e-003	3.1000e-004	6.0000e-005	3.6000e-004		9.1858	9.1858	3.0000e-004	1.4200e-003	9.6176
Worker	0.0218	9.1400e-003	0.1011	6.0000e-005	3.6000e-003	1.0000e-004	3.7000e-003	9.8000e-004	9.0000e-005	1.0700e-003		6.2091	6.2091	2.2600e-003	1.1400e-003	6.6041
Total	**0.0242**	**0.0612**	**0.1410**	**1.5000e-004**	**4.6300e-003**	**1.6000e-004**	**4.7900e-003**	**1.2900e-003**	**1.5000e-004**	**1.4300e-003**		**15.3948**	**15.3948**	**2.5600e-003**	**2.5600e-003**	**16.2218**

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8457	0.0000	8.8457	4.5461	0.0000	4.5461			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**8.8457**	**1.2660**	**10.1117**	**4.5461**	**1.1647**	**5.7108**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4600e-003	0.0520	0.0399	9.0000e-005	1.0300e-003	6.0000e-005	1.0900e-003	3.1000e-004	6.0000e-005	3.6000e-004		9.1858	9.1858	3.0000e-004	1.4200e-003	9.6176
Worker	0.0218	9.1400e-003	0.1011	6.0000e-005	3.6000e-003	1.0000e-004	3.7000e-003	9.8000e-004	9.0000e-005	1.0700e-003		6.2091	6.2091	2.2600e-003	1.1400e-003	6.6041
Total	**0.0242**	**0.0612**	**0.1410**	**1.5000e-004**	**4.6300e-003**	**1.6000e-004**	**4.7900e-003**	**1.2900e-003**	**1.5000e-004**	**1.4300e-003**		**15.3948**	**15.3948**	**2.5600e-003**	**2.5600e-003**	**16.2218**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**7.0826**	**1.4245**	**8.5071**	**3.4247**	**1.3105**	**4.7353**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4600e-003	0.0520	0.0399	9.0000e-005	1.0300e-003	6.0000e-005	1.0900e-003	3.1000e-004	6.0000e-005	3.6000e-004		9.1858	9.1858	3.0000e-004	1.4200e-003	9.6176
Worker	0.0242	0.0102	0.1123	7.0000e-005	4.0000e-003	1.1000e-004	4.1100e-003	1.0900e-003	1.0000e-004	1.1900e-003		6.8990	6.8990	2.5100e-003	1.2600e-003	7.3379
Total	**0.0267**	**0.0622**	**0.1522**	**1.6000e-004**	**5.0300e-003**	**1.7000e-004**	**5.2000e-003**	**1.4000e-003**	**1.6000e-004**	**1.5500e-003**		**16.0847**	**16.0847**	**2.8100e-003**	**2.6800e-003**	**16.9556**

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1872	0.0000	3.1872	1.5411	0.0000	1.5411			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**3.1872**	**1.4245**	**4.6117**	**1.5411**	**1.3105**	**2.8517**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4600e-003	0.0520	0.0399	9.0000e-005	1.0300e-003	6.0000e-005	1.0900e-003	3.1000e-004	6.0000e-005	3.6000e-004		9.1858	9.1858	3.0000e-004	1.4200e-003	9.6176
Worker	0.0242	0.0102	0.1123	7.0000e-005	4.0000e-003	1.1000e-004	4.1100e-003	1.0900e-003	1.0000e-004	1.1900e-003		6.8990	6.8990	2.5100e-003	1.2600e-003	7.3379
Total	**0.0267**	**0.0622**	**0.1522**	**1.6000e-004**	**5.0300e-003**	**1.7000e-004**	**5.2000e-003**	**1.4000e-003**	**1.6000e-004**	**1.5500e-003**		**16.0847**	**16.0847**	**2.8100e-003**	**2.6800e-003**	**16.9556**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0557	1.1947	0.9064	1.9400e-003	0.0237	1.3500e-003	0.0250	7.0600e-003	1.2900e-003	8.3500e-003		208.1927	208.1927	6.9100e-003	0.0323	217.9868
Worker	0.2635	0.1106	1.2708	7.8000e-004	0.0472	1.2700e-003	0.0484	0.0128	1.1700e-003	0.0140		78.9252	78.9252	0.0273	0.0142	83.8244
Total	**0.3192**	**1.3053**	**2.1772**	**2.7200e-003**	**0.0708**	**2.6200e-003**	**0.0735**	**0.0199**	**2.4600e-003**	**0.0223**		**287.1180**	**287.1180**	**0.0342**	**0.0464**	**301.8112**

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0557	1.1947	0.9064	1.9400e-003	0.0237	1.3500e-003	0.0250	7.0600e-003	1.2900e-003	8.3500e-003		208.1927	208.1927	6.9100e-003	0.0323	217.9868
Worker	0.2635	0.1106	1.2708	7.8000e-004	0.0472	1.2700e-003	0.0484	0.0128	1.1700e-003	0.0140		78.9252	78.9252	0.0273	0.0142	83.8244
Total	**0.3192**	**1.3053**	**2.1772**	**2.7200e-003**	**0.0708**	**2.6200e-003**	**0.0735**	**0.0199**	**2.4600e-003**	**0.0223**		**287.1180**	**287.1180**	**0.0342**	**0.0464**	**301.8112**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.7633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7515**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4200e-003	0.0519	0.0394	8.0000e-005	1.0300e-003	6.0000e-005	1.0900e-003	3.1000e-004	6.0000e-005	3.6000e-004		9.0519	9.0519	3.0000e-004	1.4000e-003	9.4777
Worker	0.0179	7.5000e-003	0.0862	5.0000e-005	3.2000e-003	9.0000e-005	3.2800e-003	8.7000e-004	8.0000e-005	9.5000e-004		5.3509	5.3509	1.8500e-003	9.6000e-004	5.6830
Total	**0.0203**	**0.0594**	**0.1256**	**1.3000e-004**	**4.2300e-003**	**1.5000e-004**	**4.3700e-003**	**1.1800e-003**	**1.4000e-004**	**1.3100e-003**		**14.4027**	**14.4027**	**2.1500e-003**	**2.3600e-003**	**15.1607**

3.6 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.7633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7515**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4200e-003	0.0519	0.0394	8.0000e-005	1.0300e-003	6.0000e-005	1.0900e-003	3.1000e-004	6.0000e-005	3.6000e-004		9.0519	9.0519	3.0000e-004	1.4000e-003	9.4777
Worker	0.0179	7.5000e-003	0.0862	5.0000e-005	3.2000e-003	9.0000e-005	3.2800e-003	8.7000e-004	8.0000e-005	9.5000e-004		5.3509	5.3509	1.8500e-003	9.6000e-004	5.6830
Total	**0.0203**	**0.0594**	**0.1256**	**1.3000e-004**	**4.2300e-003**	**1.5000e-004**	**4.3700e-003**	**1.1800e-003**	**1.4000e-004**	**1.3100e-003**		**14.4027**	**14.4027**	**2.1500e-003**	**2.3600e-003**	**15.1607**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	66.6572					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**66.8380**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4200e-003	0.0519	0.0394	8.0000e-005	1.0300e-003	6.0000e-005	1.0900e-003	3.1000e-004	6.0000e-005	3.6000e-004		9.0519	9.0519	3.0000e-004	1.4000e-003	9.4777
Worker	0.0536	0.0225	0.2585	1.6000e-004	9.5900e-003	2.6000e-004	9.8500e-003	2.6000e-003	2.4000e-004	2.8400e-003		16.0526	16.0526	5.5500e-003	2.8800e-003	17.0490
Total	**0.0560**	**0.0744**	**0.2979**	**2.4000e-004**	**0.0106**	**3.2000e-004**	**0.0109**	**2.9100e-003**	**3.0000e-004**	**3.2000e-003**		**25.1045**	**25.1045**	**5.8500e-003**	**4.2800e-003**	**26.5267**

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	66.6572					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**66.8380**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4200e-003	0.0519	0.0394	8.0000e-005	1.0300e-003	6.0000e-005	1.0900e-003	3.1000e-004	6.0000e-005	3.6000e-004		9.0519	9.0519	3.0000e-004	1.4000e-003	9.4777
Worker	0.0536	0.0225	0.2585	1.6000e-004	9.5900e-003	2.6000e-004	9.8500e-003	2.6000e-003	2.4000e-004	2.8400e-003		16.0526	16.0526	5.5500e-003	2.8800e-003	17.0490
Total	**0.0560**	**0.0744**	**0.2979**	**2.4000e-004**	**0.0106**	**3.2000e-004**	**0.0109**	**2.9100e-003**	**3.0000e-004**	**3.2000e-003**		**25.1045**	**25.1045**	**5.8500e-003**	**4.2800e-003**	**26.5267**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2916	1.5095	2.1627	2.7000e-003	0.0603	2.3500e-003	0.0626	0.0164	2.2100e-003	0.0186		287.3965	287.3965	0.0297	0.0483	302.5426
Unmitigated	0.2916	1.5095	2.1627	2.7000e-003	0.0603	2.3500e-003	0.0626	0.0164	2.2100e-003	0.0186		287.3965	287.3965	0.0297	0.0483	302.5426

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	193.14	193.14	193.14	17,576	17,576
Unrefrigerated Warehouse-Rail	105.27	105.27	105.27	9,580	9,580
Total	298.41	298.41	298.41	27,155	27,155

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	0.25	0.25	0.25	0.00	100.00	0.00	100	0	0
Unrefrigerated Warehouse-Rail	0.00	0.25	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Other Asphalt Surfaces	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Parking Lot	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Unrefrigerated Warehouse-No Rail	0.590674	0.066935	0.201597	0.140794	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-Rail	0.000000	0.000000	0.000000	0.000000	0.085714	0.085714	0.228571	0.600000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187
NaturalGas Unmitigated	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003		48.2321	48.2321	9.2000e-004	8.8000e-004	48.5187

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	204.986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Unrefrigerated Warehouse-Rail	204.986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Total		**4.4200e-003**	**0.0402**	**0.0338**	**2.4000e-004**		**3.0600e-003**	**3.0600e-003**		**3.0600e-003**	**3.0600e-003**		**48.2321**	**48.2321**	**9.2000e-004**	**8.8000e-004**	**48.5187**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.204986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Unrefrigerated Warehouse-Rail	0.204986	2.2100e-003	0.0201	0.0169	1.2000e-004		1.5300e-003	1.5300e-003		1.5300e-003	1.5300e-003		24.1160	24.1160	4.6000e-004	4.4000e-004	24.2593
Total		**4.4200e-003**	**0.0402**	**0.0338**	**2.4000e-004**		**3.0600e-003**	**3.0600e-003**		**3.0600e-003**	**3.0600e-003**		**48.2321**	**48.2321**	**9.2000e-004**	**8.8000e-004**	**48.5187**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Unmitigated	3.9840	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4566					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.5233					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0900e-003	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Total	**3.9840**	**4.0000e-004**	**0.0443**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0951**	**0.0951**	**2.5000e-004**		**0.1013**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4566					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.5233					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0900e-003	4.0000e-004	0.0443	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0951	0.0951	2.5000e-004		0.1013
Total	**3.9840**	**4.0000e-004**	**0.0443**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0951**	**0.0951**	**2.5000e-004**		**0.1013**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Tractors	1	8.00	365	200	0.44	Diesel
Rough Terrain Forklifts	6	8.00	365	100	0.40	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Off-Highway Tractors	0.2621	2.1377	1.7610	7.5500e-003		0.0763	0.0763		0.0702	0.0702	0.0000	730.5355	730.5355	0.2363		736.4423
Rough Terrain Forklifts	0.6144	8.1014	13.7343	0.0207		0.2467	0.2467		0.2270	0.2270	0.0000	2,002.4173	2,002.4173	0.6476		2,018.6078
Total	**0.8764**	**10.2391**	**15.4953**	**0.0282**		**0.3230**	**0.3230**		**0.2972**	**0.2972**	**0.0000**	**2,732.9528**	**2,732.9528**	**0.8839**		**2,755.0501**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Fire Pump	1	1	50	350	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Fire Pump - Diesel (300 - 600 HP)	0.1124	1.5772	1.4645	2.7600e-003		0.0845	0.0845		0.0845	0.0845		293.8299	293.8299	0.0412		294.8598
Total	**0.1124**	**1.5772**	**1.4645**	**2.7600e-003**		**0.0845**	**0.0845**		**0.0845**	**0.0845**		**293.8299**	**293.8299**	**0.0412**		**294.8598**

11.0 Vegetation

1. Electric Lift Vehicles - Energy Consumption

Vehicle Category	Lift Capacity	Electric Motors	Drive Motor Capacity		Facility Operation	Vehicle Operation				Electric Energy Consumption per Unit		Units	Total Energy Consumption	
	(lbs)		(hp)	(kW)	(hrs/day)	Load Factor[4]	(days/week)	(weeks/yr)	(hrs/year)	(kWhr/day/Unit)	(kWhr/yr/Unit)		(kWhr/day)	(kWhr/yr)
Pallet Jack[1]	3,300	Drive Motor Capacity		0.7	8	0.2	7	52	582.4	1.12	407.68		0.00	0.00
		Lift Motor Capacity		0.8	8	0.05	7	52	145.6	0.32	116.48		0.00	0.00
Small Forklift[2]	3,086-4,409	Drive Motor Capacity		11	8	0.2	7	52	582.4	17.60	6,406.40	16	281.60	102,502.40
		Lift Motor Capacity		10	8	0.05	7	52	145.6	4.00	1,456.00		64.00	23,296.00
Large Forklift[3]	7,000-11,000	Drive Motor Capacity	24	18	8	0.2	7	52	582.4	28.80	10,483.20		0.00	0.00
		Lift Motor Capacity	27	20	8	0.05	7	52	145.6	8.00	2,912.00		0.00	0.00
												Total	345.60	125,798.40

[1] Based on Global Industrial™ 3300 LB. CAPACITY SELF-PROPELLED ELECTRIC POWER PALLET JACK TRUCK

https://www.globalindustrial.com/p/material-handling/pallet-trucks-jacks/self-propelled/global-industrial-self-propelled-electric-power-pallet-jack-truck-3300-lb-cap?infoParam.campaignId=T9F&gclid=CjwKCAjw_sn8BRBrEiwAnUGJDsnUx19IvgquuJTz2DOx51UqkSAlg9VO22XpkzJZWyI-FmMiqFRaeRoCOqEQAvD_BwE

[2] Based on CAT Model EP12ANT - EP20ANT
https://www.catlifttruck.com/lift-trucks/counterbalance-forklift-trucks/electric-powered-lift-trucks/ep14-20acnt

[3] Based on CAT Model 2EPC7000 - 2EP11000
https://www.logisnextamericas.com/-/media/mcfa/sites/portal/files/forklifts/cat-lift-trucks/sales%20literature/clt-i-2epc7000-2ep11000-english.pdf

[4] Drive motor load factor based on CalEEMod User Manual Table 3.3 for offroad forklift load factor
Lift motor load factor set equal of 25% of drive motor capacity factor based on engineering estimate.

2. Electric Lift Vehicles - Greenhouse Gas (GHG) Emissions

Vehicle Category	Lift Capacity	Electric Motors	Total Energy Consumption		GHG Intensity Factors				Annual GHG Emissions			
	(lbs)		(kWhr/day)	(kWhr/yr)	CO2	CH4	N2O	CO_2e[1]	CO2	CH4	N2O	CO_2e
					(lb/MWhr)				(Metric TPY)			
Pallet Jack	3,300	Drive Motor Capacity	0	0.00	390.98	0.033	0.004	392.997	0	0	0	0
		Lift Motor Capacity	0	0.00	390.98	0.033	0.004	392.997	0	0	0	0
Small Forklift	3,086-4,409	Drive Motor Capacity	281.6	102,502.40	390.98	0.033	0.004	392.997	18.18	0.00	0.00	18.27
		Lift Motor Capacity	64	23,296.00	390.98	0.033	0.004	392.997	4.13	0.00	0.00	4.15
Large Forklift	7,000-11,000	Drive Motor Capacity	0	0.00	390.98	0.033	0.004	392.997	0.00	0.00	0.00	0.00
		Lift Motor Capacity	0	0.00	390.98	0.033	0.004	392.997	0.00	0.00	0.00	0.00
								Total	22.31	0.00	0.00	22.42

[1] Based on CalEEMod 2020.4.0 default GHG intensity.

APPENDIX C

Biological Resources Technical Report: 26313 Golden Valley Road Project

Biological Resources Technical Report

26313 Golden Valley Road Project

MARCH 2023

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
CAGN	coastal California gnatcatcher
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
Esri	Environmental Systems Research Institute
FESA	Federal Endangered Species Act
GIS	geographic information system
HCP	habitat conservation plan
IPaC	Information for Planning and Conservation System
NCCP	natural community conservation plan
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OHWM	ordinary high water mark
SSC	California Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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1 Introduction

This report presents the findings of a biological resources constraints assessment conducted by Dudek for the proposed 26313 Golden Valley Road Project (Project). The purpose of this assessment was to evaluate the existing biological conditions and potential impacts to sensitive biological resources associated with the proposed Project, including a 500-foot buffer (Study Area). This report is prepared at a level of detail sufficient to address California Environmental Quality Act (CEQA) requirements, specifically the biological thresholds of significance included in Appendix G, as well as identifying the potential need for permits for sensitive resources protected under federal and state regulations.

1.1 Project Location

The project is located at 26313 Golden Valley Road in Santa Clarita, California, west of Golden Valley Road and south of Centre Pointe Parkway, as shown in Figure 1, Project Location. The project is situated within Sections 24 and 25 of Township 04 North, Range 16 West[1] on the *Newhall* U.S. Geological Survey (USGS) 7.5-minute quadrangle map. A driveway from Golden Valley Road provides access to the project site.

1.2 Project Description

The proposed Project is a part of an entitlement effort of a Tentative Tract Map for the merger and re-subdivision of an existing 12.84-acre site for a mixed-use project. The proposed Project includes the construction of a building for mixed industrial and office use with a total 2-story building square footage of 174,000. The plan currently provides for 254 overall parking stalls, 156 warehouse stalls and 36 office parking stalls. Access to the site would be through the two proposed driveways at the northeast and southeast corners of the site at Golden Valley Road.

The proposed Project will also include the construction of required utility services, water, sewer, and water quality treatment basins to serve the building and support the proposed Project. Proposed ground disturbance includes significant grading and terracing of the hillside areas located in the western portion of the proposed Project site, moderate grading and terracing in the northern and southern portions and fill of the cut soils within the eastern canyon portion of the proposed Project site. The ground disturbance is anticipated to extend up to 67 feet below current ground surface within the hillside portions of the proposed Project site and since at least 35 feet of fill soil is proposed to be deposited from the hillside portions to the current canyon portion, no ground disturbance within native soils is expected to occur within the Project areas proposed for building construction, utility, water quality treatment basin and retaining wall installation, landscaping and paving.

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[1] United States Public Land Survey System

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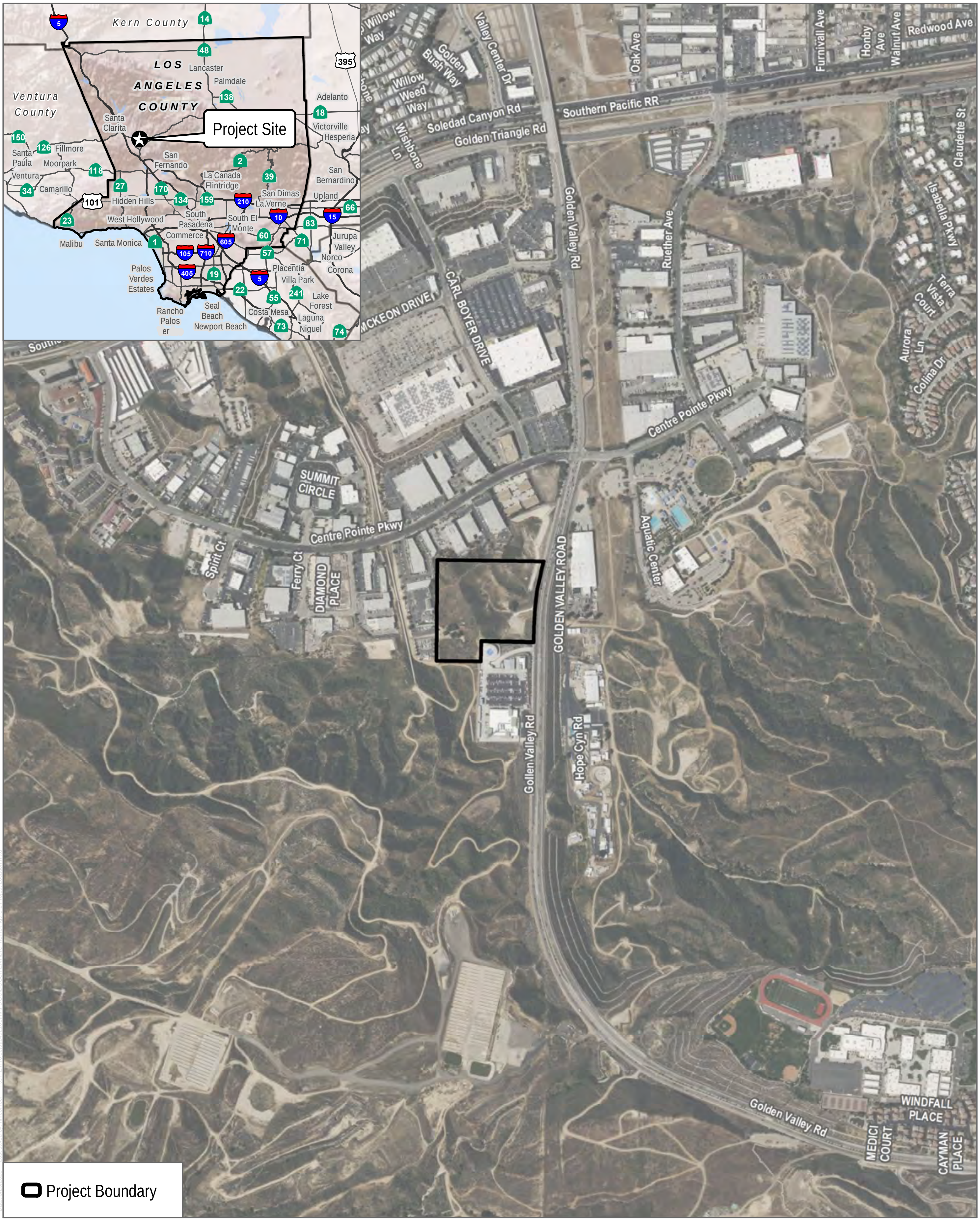

SOURCE: Bing Maps; Los Angeles County 2023

0 500 1,000 Feet

FIGURE 1

Project Location

26313 Golden Valley Road Project

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2 Regulatory Context

This section describes the regulatory framework relevant to the Project.

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. FESA is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and to provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. FESA defines an endangered species as “any species that is in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as “any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Under FESA, it is unlawful to take any listed species; “take” is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”

FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement. Upon development of a habitat conservation plan, USFWS can issue incidental take permits for listed species.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the “indiscriminate slaughter” of migratory birds by market hunters and others (16 USC 703–712). Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds. The Migratory Bird Treaty Act protects more than 800 species. Two species of eagles that are native to the United States—bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*)—were granted additional protection within the United States under the Bald and Golden Eagle Protection Act (16 USC 668–668d) to prevent these species from becoming extinct.

2.1.3 Section 404 of the Clean Water Act

The objective of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the nation’s waters. Under Section 404 of the CWA, the USACE has the authority to regulate activities that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the United States. The USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or function.

2.1.4 Section 401 of the Clean Water Act

The State Water Resources Control Board has authority over wetlands through Section 401 of the CWA, as well as the Porter–Cologne Act, California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredge or fill material into waters of the United States) first obtain certification from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the State Water Resources Control Board to the nine regional boards. The Los Angeles Regional Water Quality Control Board has authority for Section 401 compliance in the project area. A request for certification is submitted to the regional board at the same time that an application is filed with the USACE.

2.2 State Regulations

2.2.1 California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA), which prohibits the take of plant and animal species designated by the Fish and Game Commission as endangered or threatened in California. Under CESA Section 86, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053 stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy."

CESA defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." CESA defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the Commission as rare on or before January 1, 1985, is a threatened species." A candidate species is defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the Commission has published a notice of proposed regulation to add the species to either list." CESA does not list invertebrate species.

2.2.2 California Fish and Game Code Sections 3503, 3511, 3513, 3801, 4700, 5050, and 5515

Section 2081(b) and (c) of the California Fish and Game Code authorizes take of endangered, threatened, or candidate species if take is incidental to otherwise lawful activity and if specific criteria are met. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed species that are also state-listed species. In certain circumstances, Section 2080.1 of CESA allows CDFW to adopt a federal incidental take statement or a 10(a) permit as its own, based on its findings that the federal permit adequately protects the species and is consistent with state law. A Section 2081(b) permit may not authorize the take of “fully protected” species or “specified birds” (California Fish and Game Code Sections 3505, 3511, 4700, 5050, 5515, and 5517). If a project is planned in an area where a fully protected species or a specified bird occurs, an applicant must design the project to avoid take.

2.2.3 California Environmental Quality Act

CEQA requires identification of a project’s potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. CEQA also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

Special-Status Plants and Wildlife

The CEQA Guidelines define endangered animals or plants as species or subspecies whose “survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors” (14 CCR 15380[b][1]). A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not currently threatened with extinction, exists “in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered ‘threatened’ as that term is used in the federal Endangered Species Act.” Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing as defined further in CEQA Guidelines Section 15380(c).

Special-Status Vegetation Communities

Section IV, Appendix G (Environmental Checklist Form) of the CEQA Guidelines (14 CCR 15000 et seq.) requires an evaluation of impacts to “any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or the USFWS.”

2.2.4 California Fish and Game Code, Sections 1600–1616

California Fish and Game Code, Sections 1600–1616, mandates that “it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.”

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. CDFW takes jurisdiction to the top of bank of the stream, or the limit of the adjacent riparian vegetation, which may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional. The CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code, Sections 1600–1616, the CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. The CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects. Applications to the CDFW must include a complete certified CEQA document.

2.2.5 Porter–Cologne Water Quality Control Act

Pursuant to provisions of the Porter–Cologne Water Quality Act, the Regional Water Quality Control Board regulates discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code, Section 13260[a]). The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050[e]).

2.3 State Regulations

2.3.1 Lancaster Municipal Code Chapter 15.66 - Biological Impact Fee

Lancaster Municipal Code Chapter 15.66 – Biological Impact Fee, establishes a biological impact fee to mitigate long-term incremental impacts of new development on biological resources on a regional basis. The fee is based upon expected regional effects from new development and fees necessary to contribute to the City's "fair share" to mitigate impacts on a regional basis. The fee applies to all new development of vacant land including land subdivisions, new development approvals, and request for approval extensions.

3 Methods

Data regarding biological resources present within the Study Area were obtained through a review of pertinent literature, field reconnaissance, and a jurisdictional waters delineation.

3.1 Literature Review

The following data sources were reviewed to assist with the assessment of biological resources:

- CDFW California Natural Diversity Database (CNDDB) (CDFW 2023a)
- USFWS Information for Planning and Consultation (IPaC) (USFWS 2023a)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (Inventory) (CNPS 2023a)
- U.S. Department of Agriculture (USDA) NRCS Web Soil Survey (USDA 2023a)
- CDFW Biogeographic Information and Observation System (CDFW 2023b)

Prior to conducting the field investigation, the CNDDB and CNPS Inventory were queried based on the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map for Lancaster West, California where the Study Area is located, as well as the surrounding eight USGS 7.5-minute quadrangle maps (i.e., Little Buttes, Rosamond, Rosamond Lake, Del Sur, Lancaster East, Sleepy Valley, Ritter Ridge, and Palmdale). The purpose of this review was to determine whether special-status plant and wildlife species are known to occur in the vicinity of or within the Study Area.

Other literature reviewed included A Manual of California Vegetation, Online Edition (CNPS 2023b); the California Natural Community list (CDFW 2023f); State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2023c); State and Federally Listed Endangered and Threatened Animals of California (CDFW 2023d); and the CDFW California Wildlife Habitat Relationships Life History Accounts and Range Maps (CDFW 2023e). The following available resources were reviewed to assess the potential for jurisdictional waters: aerial photographs (Google Earth 2023; NETR 2023); the USGS Newhall 7.5-minute topographic quadrangle map (USGS 2018); the National Hydrography Dataset (NHD) and Watershed Boundary Dataset (USGS 2023); and the USFWS National Wetland Inventory (NWI) (USFWS 2023b).

3.2 General Field Reconnaissance

Dudek biologist Tracy Park performed the field survey on June 25, 2021. Temperatures during the survey were between 88- and 90-degrees Fahrenheit, clear skies, and wind speeds ranging between 1 and 8 miles per hour. The general biological survey was conducted on foot using meandering transects. All plant and wildlife species encountered within the project site were identified and recorded. The potential for special-status plant and wildlife species to occur within the project site was evaluated based on the observed vegetation communities, soils present, and surrounding features. Vegetation communities and land covers on-site were mapped directly in the field.

Vegetation Community and Land Cover Mapping

Vegetation communities and land uses within the Study Area were mapped in the field using the Environmental Systems Research Institute (Esri) Collector, a mobile data collection application, on a digital aerial-based background (Esri 2023). Following completion of the fieldwork, all vegetation linework was finalized using Esri ArcGIS software and GIS coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover type within the Study Area was determined. Vegetation communities within the Study Area were mapped using CDFW's List of Vegetation Alliances and Associations (or California Natural Community List) (CDFW 2023f), which is based on A Manual of California Vegetation, Second Edition (Sawyer et al. 2009) and A Manual of California Vegetation, Online Edition (CNPS 2023b), where feasible, with modifications made to accommodate the lack of conformity of the observed communities (e.g., developed/disturbed land cover types) using Oberbauer et al. (2008) and Jones and Stokes (1993). Vegetation communities were classified based on site factors, descriptions, distribution, and characteristic species present within an area. Each natural community was mapped to the association level, where feasible. Special-status vegetation communities are those communities identified as high priority for inventory in the California Natural Communities List (CDFW 2023f) by a state rarity ranking of S1, S2, or S3.

Plants

All plant species encountered during the field surveys were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (CRPR) follow the CNPS Inventory (CNPS 2023a). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2023), and common names follow the USDA NRCS Plants Database (USDA 2023b). Potential for special-status plant species to occur within the Study Area was assessed based on known geographic and elevation ranges as well as habitat and soil conditions that are known to support species occurring in the region.

Wildlife

All wildlife species, as detected during the field survey—by sight, calls, tracks, scat, or other signs—were identified and recorded. Binoculars were used to aid in the identification of observed wildlife. No trapping or focused surveys for special-status species or nocturnal species was conducted. In addition to species observed, expected wildlife usage of the Study Area was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. Latin and common names for wildlife species referred to in this report follow Crother (2017) for reptiles and amphibians, American Ornithologists' Union Checklist (AOU 2018) for birds, Wilson and Reeder (2005) for mammals, and Moyle (2002) for fish. Potential for special-status wildlife species to occur within the Study Area was assessed based on known geographic ranges, the presence/absence of suitable habitat, and other natural history elements that might predict their occurrence.

3.3 Special-Status Plant and Wildlife Species Assessment

The potential for occurrence of plant and wildlife species was summarized according to the following categories. Because not all species are accommodated precisely by a given category (i.e., category definitions may be too restrictive), an expanded rationale for each category assignment is provided:

- Known to occur: the species has been documented on the property by a reliable source.
- High potential to occur: the species has not been documented on the property but is known to recently occur in the vicinity and suitable habitat is present.

- Moderate potential to occur: the species has not been documented on the property or in the vicinity, but the site is within the known range of the species and suitable habitat for the species is present.
- Low potential to occur: the species has not been documented in the vicinity or on the property, but the site is within the known range of the species; however, suitable habitat for the species on site is of low quality.
- Not expected to occur: the property is outside the known geographic or elevational range of the species and/or the site does not support suitable habitat for the species.

Special-Status Plant Species

Endangered, rare, or threatened plant species as defined in Section 15380(b) of the CEQA Guidelines (14 CCR 15000 et seq.) are referred to as "special-status plant species" and, as used in this report, include (1) plant species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and the FESA (CDFW 2023c); and/or (2) plant species with a CRPR 1 or 2 as designated by the CNPS (2023a). Species with CRPR 3 or 4 generally do not qualify for protection under CEQA; therefore, are not analyzed in this report.

For each special-status plant species known to occur in the vicinity of or within the Study Area, a determination was made regarding the potential for the species to occur within the Study Area based on site-specific information gathered during the field reconnaissance, such as the location of the site, vegetation communities and soils present, current site conditions, and each species' known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period.

Special-Status Wildlife Species

Endangered, rare, or threatened wildlife species as defined in CEQA Guidelines, Section 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status wildlife species" and, as used in this report, include (1) wildlife species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and FESA (CDFW 2023d); (2) California Species of Special Concern (SSC) as designated by CDFW (2023g); and (3) mammals and birds that are fully protected species as described in the California Fish and Game Code, Sections 4700 and 3511 (CDFW 2023h).

For each special-status wildlife species listed, a determination was made regarding potential use within the Study Area based on site-specific information gathered during the field reconnaissance, such as the location of the site, vegetation communities and soils present, current site conditions, and each species' known range, habitat preferences, and knowledge of the species' relative distributions in the area.

3.4 Coastal California Gnatcatcher Protocol Survey

Dudek biologists Tommy Molioo (Permit No. TE02412D-0) and Melissa Blundell (TE97717A) conducted protocol-level coastal California gnatcatcher (*Polioptila californica californica*; CAGN) focus surveys (USFWS 1997) from December 2022 to March 2023. Surveys were conducted in weather conditions and time frames appropriate for the detection of CAGN (Table 1). Digital mobile maps and 200-scale topographic plots of vegetation polygons were utilized to navigate the Survey Area. Appropriate binoculars were used for visual detection and identification of wildlife. Vocalizations were played every 50–100 feet to induce responses from potentially present CAGN. Vocalizations would have ceased upon detection of CAGN to minimize harassment.

Table 1. Protocol Coastal California Gnatcatcher Protocol Survey Dates and Conditions

Survey	Date	Time	Personnel	Conditions
1	12/05/2022	0734–0956	MB	43–60°F; 0% cloud cover; 0–2 mph wind
2	12/17/2022	0705–0852	MB	45–55°F; 0% cloud cover;0–1 mph wind
3	01/06/2023	0730–0922	MB	40–53°F; 0% cloud cover; 0–1 mph wind
4	01/18/2023	0741–0937	MB	37–54°F; 10% cloud cover; 0–1 mph wind
5	01/28/2023	0743–0953	MB	41–54°F; 10% cloud cover; 0–2 mph wind
6	02/09/2023	0900-1000	TM	62–66°F; 0% cloud cover; 2–4 mph wind
7	02/20/2023	0740–0943	MB	50–56°F; 60–70% cloud cover; 0–3 mph wind
8	03/02/2023	0744–0958	MB	65°F–67°F; 0%–10% cloud cover; 1–4 mph wind
9	03/13/2023	0900-1000	TM	50–53°F; 10% cloud cover; 0–2 mph wind

Survey Personnel: MB = Melissa Blundell; TM = Tommy Molioo.
Notes: °F = degrees Fahrenheit; mph = miles per hour.

4 Environmental Setting

The proposed Project site is located within the low foothills overlooking the confluence of the upper Santa Clara River (Soledad Canyon) which approximately 0.8 miles to the south. The surrounding uses along Golden Valley Road and Sierra Highway consist of mostly established residential uses, schools, and neighborhood commercial retail centers.

4.1 Land Use

Most of the site is currently vacant except for the single-family residence and accessory structures that are located near the southerly portion of the property along Golden Valley Road. The subject property is designated as Mixed-Use Neighborhood Planned Development Overlay Zone. The proposed uses are consistent with both City General Plan, Unified Development Code, and Zoning designations. Adjacent uses include residential uses to the immediate north and east, vacant land to the south, and residential uses/Golden Valley High School to the west.

4.2 Topography

The topography of the study area is variable with slopes intervening graded and/or developed areas. The project site itself contains a small ridge along its northern boundary and within the western portion of the project site, with its highest point at 1,490 feet above mean sea level (AMSL) (Google 2023). The southwestern corner and eastern portion of the project site are relatively flat, much of which has been previously graded, with its lowest point at 1,370 feet AMSL (Google 2023).

4.3 Soils

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2023a), two soil types have been identified in the study area: Yolo loam, 2 to 9 percent slopes and Saugus loam, 30 to 50 percent slopes, eroded. The two soil types are described below according to its official soil description (USDA 2023c).

Yolo Loam, 2 to 9 percent slopes: This soil mapping unit is nearly level to slightly sloping and is found on narrow alluvial fans near Saugus and Newhall. The primary soil type within this mapping unit is Yolo loam, which is a well-drained soil formed in alluvium of sedimentary rock. This mapping unit also includes the upper edges of alluvial fans with 10% to 12% slopes that is comprised of a small amount of fine gravel throughout, as well as small areas with a sandy loam or pebbly and stony surface layer. Other soil types present within this mapping unit in small areas include Metz loamy sand and Sorrento loam.

Saugus Loam, 30 to 50 percent slopes, eroded: This soil mapping unit is moderately to strongly sloping and is found on uplands. The primary soil type within this mapping unit is Saugus loam, which is a well-drained soil formed in weakly consolidated sediment with some pebbles and cobblestones. Other soil types present within this mapping unit in small areas include Castaic-Balcom silty clay loams, 30% to 50% slopes, and Castaic and Saugus soils, 30% to 65% slopes, eroded. This soil mapping unit is located on hillsides along the southern extent of the project site.

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5 Results

Representative photos of the Study Area and the biological resources described in this chapter are included in Appendix A, Photo Exhibit.

5.1 Vegetation Communities and Land Covers

Four vegetation communities and three land cover types were identified within the study area during the survey: California sagebrush–California buckwheat scrub (*Artemisia californica–Eriogonum fasciculatum* Association), chamise chaparral (*Adenostoma fasciculatum* Association), upland mustards (*Hirschfeldia incana* Association), wild oats grasslands (*Avena barbata–Avena fatua* Association), ornamental plantings, disturbed habitat, and urban/developed land. These vegetation communities and land cover types are described below, their acreages are presented in Table 1, and their spatial distributions are presented in Figure 2.

A total of one vegetation community and two land cover types were mapped in the study area during the surveys. These vegetation communities and land cover types are described below, their acreages are presented in Table 2, and their spatial distributions are presented in Figure 2, Vegetation Communities and Land Cover Types.

Table 2. Vegetation Communities and Land Covers in the Study Area

Common Name	Alliance[1]	Association	Ranking[2] (Global/State)	Study Area (Acres)	Project Site (Acres)
Native Vegetation Communities					
California sagebrush–California buckwheat scrub	*Artemisia californica* Shrubland	*Artemisia californica-Eriogonum fasciculatum*	G4S4	7.85	4.50
Chamise chaparral	*Adenostoma fasciculatum* Shrubland	*Adenostoma fasciculatum*	G4S4	6.06	1.22
			Total Native Vegetation[3]	*13.91*	*5.72*
Naturalized Vegetation Communities					
Upland mustards or star-thistle fields	*Brassica nigra–Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural	*Hirschfeldia incana* Provisional Semi-natural	NA[4]	3.95	1.84
Wild oats grasslands	*Avena* spp.-*Bromus* spp. Herbaceous Semi-Natural	*Avena barbata–Avena fatua*	NA	0.30	0.30
			Total Naturalized Vegetation	*4.25*	*2.15*
Land Cover Type					
Disturbed habitat	NA	NA	NA	10.81	4.46
Ornamental plantings	NA	NA	NA	0.69	<0.00

Table 2. Vegetation Communities and Land Covers in the Study Area

Common Name	Alliance[1]	Association	Ranking[2] (Global/State)	Study Area (Acres)	Project Site (Acres)
Urban/Developed	NA	NA	NA	37.17	0.53
			Total Land Cover Type	*48.66*	*4.99*
			Totals	**66.83**	**12.86**

Notes:

[1] The term semi-natural stands vs. alliance is used in the Manual of California Vegetation to distinguish between natural vegetation communities and vegetation types dominated by non-native plants (Sawyer et al. 2009).

[2] The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = global, N = national, and S = subnational). The numbers have the following meaning (NatureServe 2022): 1 = critically imperiled; 2 = imperiled; 3 = vulnerable to extirpation or extinction; 4 = apparently secure; 5 = demonstrably widespread, abundant, and secure;

[3] Totals may not sum due to rounding

[4] NA = not applicable

5.1.1 Native Vegetation Communities

California Sagebrush–California Buckwheat Scrub

California sagebrush–California buckwheat scrub (*Artemisia californica–Eriogonum fasciculatum* Association) has California sagebrush and California buckwheat as co-dominant species in the shrub canopy and can include chamise (*Adenostoma fasciculatum*), coyote brush (*Baccharis pilularis*), bush monkeyflower (*Diplacus aurantiacus*), California brittle bush (*Encelia californica*), brittle bush (*Encelia farinosa*), Menzies' goldenbush (*Isocoma menziesii*), deerweed (*Acmispon glaber*), bush mallow (*Malacothamnus fasciculatus*), white sage (*Salvia apiana*), or black sage (*Salvia mellifera*) (CNPS 2023b). This community typically occurs on variable slopes usually steep and rarely flooded (CNPS 2023b). This association is mapped on slopes within the project site and on the other side of Golden Valley Road (Figure 2). A high cover of shortpod mustard (*Hirschfeldia incana*) was observed within the California sagebrush–California buckwheat scrub on site.

Chamise Chaparral

Chamise chaparral (*Adenostoma fasciculatum* Association) include chamise as the dominant species in the shrub canopy and can include manzanitas (*Arctostaphylos* spp.), ceanothus (*Ceanothus* spp.), bush monkeyflower, California yerba santa (*Eriodictyon californicum*), California buckwheat, chaparral yucca (*Hesperoyucca whipplei*), toyon (*Heteromeles arbutifolia*), Inland scrub oak (*Quercus berberidifolia*), interior live oak (*Quercus wislizeni*), white sage, purple sage (*Salvia leucophylla*), black sage, and poison oak (*Toxicodendron diversilobum*) (CNPS 2023b). This community can be found widely throughout the state, commonly in areas with shallow soils over colluvium or bedrock (CNPS 2023b). This association is mapped in the southwestern corner of the project site and slopes further southwest in the study area (Figure 2).

SOURCE: Bing Maps; Los Angeles County 2023

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FIGURE 2

Vegetation Communities and Land Cover

26313 Golden Valley Road Project

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5.1.2 Naturalized Vegetation Communities

Upland Mustards

Upland mustards (*Hirschfeldia incana* Association) features shortpod mustard as the dominant species in the herbaceous layer (CNPS 2023b). Upland mustards occur in fallow fields, rangelands, grasslands, roadsides, levee slopes, disturbed coastal scrub, disturbed riparian areas, and generally within disturbed areas (CNPS 2023b). This association is mapped on open areas on slopes throughout the project site and study area.

4.1.4 Wild Oats Grasslands

Wild oat grasslands (*Avena barbata–Avena fatua* Association) feature slender oats or wild oats as the dominant species in the herbaceous layer (CNPS 2023b). Wild oat grasslands occur in foothills, disturbed areas, rangelands, and openings in woodlands (CNPS 2023b). This association is mapped on a shallow slope in the center of the project site.

5.1.3 Disturbed and Developed Land Cover Types

Disturbed Habitat

Although not recognized by the Manual of California Vegetation, Online Edition (CNPS 2023b) or the Natural Communities List (CDFW 2023f), disturbed habitat is described in the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). Disturbed habitat is described as areas generally lacking vegetation due to high levels of existing or historical human disturbance and are no longer recognizable as a native or naturalized vegetation association. Areas mapped as disturbed habitat may include unpaved roads, trails, and graded areas (Oberbauer et al. 2008). Vegetation in these areas, if present at all, is usually sparse and dominated by non-native weedy herbaceous species (Oberbauer et al. 2008). Areas mapped as disturbed habitat within the Study Area contained non-native ruderal[2] species and were found along the southern and western border between the developed road and industrial building.

Parks and Ornamental Plantings

Although not recognized by the Manual of California Vegetation (CNPS 2023b) or the Natural Communities List (CDFW 2023f), parks and ornamental plantings (or ornamental vegetation) is described in *Methods Used to Survey the Vegetation of Orange County Parks and Open Space Areas and The Irvine Company Property* (Jones and Stokes 1993). This mapping unit is described as vegetation comprised of non-native trees, shrubs, flowers, and turf grass introduced for landscaping purposes. This mapping unit type typically occurs in greenbelts, parks, and horticultural plantings (Jones and Stokes 1993). Ornamental vegetation is found between the project site and adjacent development at the northwestern corner of the property.

Urban/Developed

Although not recognized by the Manual of California Vegetation (CNPS 2023b) or the Natural Communities List (CDFW 2023f), the urban/developed mapping unit (or developed land) is described in Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). This mapping unit is described as areas supporting human-made structures, including homes, yards, sidewalks, and other highly modified lands supporting structures associated with dwellings or

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[2]

other permanent structures. Vegetation in these areas, if present at all, is typically associated with ornamental landscaping that has been included in the development footprint (Oberbauer et al. 2008). Developed lands in the Study Area include the industrial warehouse building to the west, residential property, and paved road that is West H Avenue to the south.

5.2 Wildlife

Thirty-one species of birds were observed during the initial survey and protocol CAGN surveys, and are listed in Appendix B, Wildlife Compendium. Additional birds may be present as residents or transients during foraging or migration. No amphibian species were observed or are expected. Common side-blotched lizard (*Uta stansburiana*) was the only common reptile observed. Western fence lizard (*Sceloporus occidentalis*) and Pacific rattlesnake (*Crotalus oreganus*) would also be common reptiles expected to occur in the study area. Coyote (*Canis latrans*) sign was observed, though common mammal species that could occur within the study area include California ground squirrel (*Otospermophilus beecheyi*) and desert cottontail (*Sylvilagus audubonii*), with the possibility of bats foraging over the study area.

5.3 Special-Status Species Assessment

Twenty-six special-status plant and 44 wildlife species have recorded occurrences in the USGS *Newhall* 7.5-minute quadrangle and eight surrounding quadrangles (CDFW 2023a, CNPS 2023a) or are included in the IPaC report for the study area (USFWS 2023a). Each special-status plant species is assessed in Appendix C and wildlife in Appendix D. The project site is not within any designated critical habitat (USFWS 2023b).

5.3.1 Special-Status Plants

No special-status plant species were observed in the study area during the survey, but one species, slender mariposa lily (*Calochortus clavatus* var. *gracilis*), has a moderate potential to occur. One species, San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), have a low potential to occur, but are discussed further due to their status as species listed under the California endangered species act.

Slender Mariposa Lily

Slender mariposa lily is a CRPR 1B.2 and Los Angeles County sensitive species known to occur in the surrounding vicinity that typically blooms from March to June. This species is a perennial bulbiferous herb, endemic to California, and is found in chaparral, coastal scrub, and valley and foothill grasslands between 1,050 and 3,281 feet AMSL (Calflora 2023). The project site contains coastal scrub and grasslands on slopes that could provide suitable habitat and the species has numerous records on the Whittaker Bermite property to the southwest (CDFW 2023a). Therefore, slender mariposa lily has a moderate potential to occur.

San Fernando Valley Spineflower

San Fernando Valley spineflower is a CRPR 1B.1 and listed as endangered under CESA, and typically blooms from April to June. This species is an annual herb found in coastal scrub between 295 and 1,640 feet AMSL (Calflora 2023). The project site contains coastal scrub that would provide suitable habitat; however, the species does not have any modern records east of Interstate 5 despite numerous modern development projects occurring that would have had rare plants surveys, including the large property to the southwest of the Project site where numerous slender mariposa lily were recorded in 2010 (CDFW 2023a) in what is assumed to be a focused rare plant effort. San Fernando Valley spineflower has a low potential to occur based upon suitable habitat being present and the Study Area being within the historic range of the species, but the species is not expected to occur.

5.3.2 Special-Status Wildlife

One special-status wildlife reptile species, coastal whiptail (*Aspidoscelis tigris stejnegeri*), was observed in the project site during the survey. One bird species, CAGN, was initially determined to have a moderate potential to occur, so protocol surveys for the species were conducted (see section 3.4).

Coastal Whiptail

Coastal whiptail is a CDFW SSC. This species is slim bodied lizard with a long slender tail and can be found in a variety of habitats, including hot and dry open areas with sparse vegetation such as chaparral, woodland, and riparian areas (Nafis 2023). This species was observed within the wild oat grassland mapped within the project and may occur in areas mapped as California sagebrush–California buckwheat scrub, chamise chaparral, upland mustards, and disturbed habitat within the project site.

Coastal California Gnatcatcher

Coastal California gnatcatcher is a CDFW SSC and listed as threatened under FESA. This species is a resident songbird in California that generally prefers open sage scrub with low-growing, drought-deciduous shrubs, including California sagebrush, California buckwheat, and sages (*Salvia* spp.) as a dominant or co-dominant species (Mock 2004). The typical breeding season for CAGN extends from approximately mid-February through August 30. Although much of the coastal scrub within the study area consists of fragmented stands of coastal scrub too disturbed to support this species, some portions of California sagebrush–California buckwheat scrub in the western extent of the project site could provide suitable habitat for this species. Additionally, there is a 2019 record of the species approximately 0.25 miles to the southwest of the project site. (CDFW 2023a).

Initially, it was determined that CAGN had a moderate potential for this species, so protocol surveys were conducted to determine presence or absence of the species. No CAGN were observed or audibly detected during the nine survey passes. No sign of nesting or foraging CAGN were observed. CAGN is currently considered absent from the Study Area, and it is not expected to occur on the Project site.

5.4 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Corridors can also be aquatic resources that provide passage for fish. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as steppingstones for wildlife dispersal.

On a regional level, the Study Area does not occur within any designated wildlife corridors or habitat linkages identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008) or CDFW's California Essential Habitat Connectivity Project (Spencer et al. 2010), as shown in the CDFW BIOS (CDFW 2023b). On a local level, the project site is located adjacent to a main thoroughfare (i.e., Golden Valley Road), has chain-link fences around the perimeter, and has urban development on most sides of it. As such, it is expected that the study area provides limited connectivity to other undeveloped areas with naturalized habitat. Bat roosting opportunities would be limited to the large trees located in the study area, but trees within the project site do not contain suitable cavities for maternity or overwintering roosts and are exposed to noise disturbance from the adjacent main thoroughfare and industrial businesses. In addition, no diagnostic signs of bird rookeries (e.g., numerous nests, whitewash) or large maternal or overwintering bat roosts (e.g., large concentrations of guano or guano odors) were identified in the study area. Therefore, it is unlikely for the project site to support wildlife nursery sites. The study area does contain vegetation that could provide nesting habitat for birds protected under the MBTA and California Fish and Game Code Sections 3503, 3503.5, and 3513. These include common resident species such as mourning dove, house finch, and northern mockingbird.

5.5 Jurisdictional Wetlands and Waters

Formal jurisdictional delineations for the study area were not conducted since no features were identified in the desktop review of the aerial imagery (Google 2023) USGS *Newhall* 7.5-minute topographic quadrangle map (USGS 2018), the NHD (USGS 2023); and the USFWS NWI (USFWS 2023c). There is an inlet onsite that connects to a concrete channel in northeastern portion of the Project site that continues to the north to a detention basin. There are no hydrological features at the inlet that would indicate water ponding or flowing into the inlet (see Photo. Based upon past aerial imagery, the Project site had significant earthwork on the eastern side adjacent to Golden Valley Road that was done in conjunction with construction of the modern Golden Valley Road (Google 2023, NETR 2023). Based on historic aerial imagery, a small riverine feature was present within the current footprint of Golden Valley Road, but the construction removed the feature and it assumed that all water flow is within the existing storm water system beneath the road. The concrete channel conveys water to the downstream basin to the north.

5.6 City of Santa Clarita Protected Oaks

The City of Santa Clarita Oak Tree Ordinance No. 89-10, provides means of regulating impacts and preservation of all oak trees within the City limits. Trees protected under this ordinance include all oak trees (*Quercus* spp.). No oak trees were documented within the project site during the reconnaissance survey. Eight (three with trunks with an estimated diameter at 4.5 feet above grade of greater than 12 inches and five that are less than 12 inches), non-native Aleppo pine (*Pinus halepensis*) were identified on the Project site, and there is several coast live oak (*Quercus agrifolia*) located on the property to the west of the Project site within the Study Area.

5.7 Local, Regional, or State Habitat Conservation Plans

The Study Area is not within any habitat conservation plan (HCP), natural community conservation plan (NCCP), or other approved local, regional, or state habitat conservation plan (CDFW 2019).

6 Project Impacts

This chapter addresses direct and indirect impacts to biological resources that would result from implementation of the proposed project.

6.1 Definition of Impacts

6.1.1 Direct Permanent Impacts

Direct permanent impacts refer to the absolute and permanent physical loss of a biological resource due to clearing, grading, and/or construction of structures, which can be determined in four ways: (1) permanent loss of vegetation communities, land covers, and general wildlife and their habitat; (2) permanent loss of or harm to individuals of special-status plant and wildlife species; (3) permanent loss of suitable habitat for special-status species; and (4) permanent loss of wildlife movement and habitat connectivity.

6.1.2 Direct Temporary Impacts

Direct temporary impacts refer to a temporal loss of vegetation communities and land covers resulting from vegetation and land cover clearing. The main criterion for direct temporary impacts is that impacts would occur for a short period of time and would be reversible. Areas currently supporting native vegetation temporarily disturbed by construction activities would be restored and revegetated with a native species mix similar to that which existed prior to disturbance following completion of work in the area such that full biological function can be restored. Areas not currently supporting native vegetation would be adequately restored to prevent adverse effects such as erosion or establishment of invasive species following construction.

6.1.3 Indirect Impacts

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the direct construction disturbance zone that may occur during construction (i.e., short-term construction related indirect impacts) or later in time as a result of the development (i.e., long-term, or operational, indirect impacts). Indirect impacts may affect areas within the defined study area, but outside the construction disturbance zone. Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects related to the human occupation of developed areas (i.e., development-related long-term effects) that are adjacent to naturalized areas.

For the proposed Project, it is assumed that the potential indirect impacts resulting from construction activities include fugitive dust from earthmoving activities, leaks or spills from construction equipment, noise from construction activities, and general human presence that may temporarily disrupt species and habitat vitality, as well construction-related soil erosion and runoff that could affect downstream resources.

6.1.4 Explanation of Findings of Significance

Impacts to sensitive vegetation communities or riparian habitat, special-status plant species, special-status wildlife species, wildlife corridors and habitat connectivity, and regional resource planning must be analyzed to determine whether such impacts are significant. CEQA Guidelines Section 15064(b) states that an ironclad definition of "significant" effect is not possible because the significance of an activity may vary with the setting. However, CEQA Guidelines Section 15065(a) lists impacts that are helpful in defining whether a project may have a significant effect on the environment. Mandatory findings of significance occur when there is substantial evidence that a project could: (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, or (5) reduce the number or restrict the range of a rare or endangered plant or animal.

The following are the significance thresholds for biological resources provided in the CEQA Appendix G environmental checklist, which states that a project would potentially have a significant effect if it:

Impact BIO-1. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?

Impact BIO-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, or regulations, or by CDFW or USFWS?

Impact BIO-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?

Impact BIO-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 impedes the use of native wildlife nursery sites?

Impact BIO-5. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact BIO-6. 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?

The evaluation of whether or not an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact and the offsetting benefits of mitigation are the primary determinants of whether or not that impact can be mitigated to a less-than-significant level.

There are no local ordinances protecting biological resources and the Project will not impact an HCP.

6.2 Impact BIO-1: Special-Status Species

Direct Impacts

Special-Status Plants

One special-status plant species, slender mariposa lily, has a moderate potential to occur in the Study Area. The species could occur in the undeveloped northwest portion of the Project site. The species could be directly impacted during vegetation removal and grading; however, this portion of the Project site is not expected to support a large population of the species due to the limited suitable habitat present (approximately 11 acres) and the density of the shrubs that compose those habitats limiting interspatial potential for the species to occur. As such, impacts to slender mariposa lily would be less than significant with the implementation of Mitigation Measure- (MM-) BIO-1 (Pre-Construction Rare Plant Survey and Seed Collection).

Special-Status Wildlife

One reptile species (coastal whiptail) occurs on the Project site. Project-related impacts could be considered significant if the impact causes the greater population of the species to drop below self-sustaining levels. The species is vulnerable to mortality or injury during vegetation and ground disturbing activities associated with construction in the native vegetation communities. It is highly unlikely that short-term construction activities could cause the greater population of these special-status species to drop below self-sustaining levels due to the relatively small area of construction activity and the short-term nature of the construction schedule. However, mortality or injury to individual species is a reasonable possibility, so direct permanent impacts are possible and would be significant. Implementation of MM-BIO-2 (Pre-construction Wildlife Survey) and MM-BIO-3 (Biological Monitoring) would reduce impacts to less than significant.

Indirect Impacts

Special-Status Plants

Any special-status plants in the areas adjacent to the Project site could be inadvertently impacted should construction workers or vehicles stray out of the Project footprint. Invasive plant species could be introduced by the Project during construction and installing the landscaping that could alter the habitat for special-status plants in the Project vicinity. Invasive plants could compete with special-status plants for resources (i.e., water) and space. These indirect impacts could be significant without mitigation. Implementation of MM-BIO-4 (Demarcation of Disturbance Limits) would avoid and minimize Project activities outside of the Project footprint. MM-BIO-5 (Invasive Plant Species Prevention), would avoid and minimize the introduction of invasive plant species. Implementation of MM-BIO-4 and MM-BIO-5 would reduce indirect impacts to special-status plants to less than significant.

Special-Status Wildlife

Indirect short-term and long-term impacts to special-status wildlife species may include both habitat degradation and effects on individuals. Indirect construction impacts to wildlife habitat may include fugitive dust; runoff, sedimentation, chemical pollution, and erosion; litter; and accidental clearing, grading, and trampling, as well as attracting predators. Trash and other garbage associated with construction activities can degrade vegetation communities and wildlife habitat and can attract nuisance and pest species that affect several of the wildlife guilds. Trash and debris include discarded construction-related materials, such as packaging materials, which may be dispersed into natural areas by wind. Trash generated by construction personnel, such as food packaging and cigarette butts, also can be dispersed by wind and water into natural areas. Additionally, invasive plant species could be introduced by the Project during construction and installing the landscaping that could alter the habitat for special-status wildlife. These indirect impacts could be significant without mitigation. Implementation of MM-BIO-4 and MM-BIO-5 would reduce indirect impacts to special-status wildlife to less than significant.

6.3 Impact BIO-2: Riparian Habitat and Sensitive Communities

Riparian habitats or sensitive vegetation communities were not identified on the Project site, as shown in Table 3 and Figure 3, and no impacts would occur to these resources.

Table 3. Vegetation Communities and Land Covers in the Study Area

Common Name	Alliance[1]	Association	Ranking[2] (Global/State)	Project Impacts (Acres)
California sagebrush–California buckwheat scrub	*Artemisia californica* Shrubland	*Artemisia californica-Eriogonum fasciculatum*	G4S4	4.37
Chamise chaparral	*Adenostoma fasciculatum* Shrubland	*Adenostoma fasciculatum*	G4S4	1.20
Total Native Vegetation[3]				*5.58*
Naturalized Vegetation Communities				
Upland mustards or star-thistle fields	*Brassica nigra–Centaurea* (*solstitialis, melitensis*) Herbaceous Semi-Natural	*Hirschfeldia incana* Provisional Semi-natural	NA[4]	1.84
Wild oats grasslands	*Avena* spp.-*Bromus* spp. Herbaceous Semi-Natural	*Avena barbata–Avena fatua*	NA	0.30
Total Naturalized Vegetation				*2.14*
Land Cover Type				
Disturbed habitat	NA	NA	NA	4.34
Ornamental plantings	NA	NA	NA	—
Urban/Developed	NA	NA	NA	0.45
Total Land Cover Type				*4.79*
Totals				**12.51**

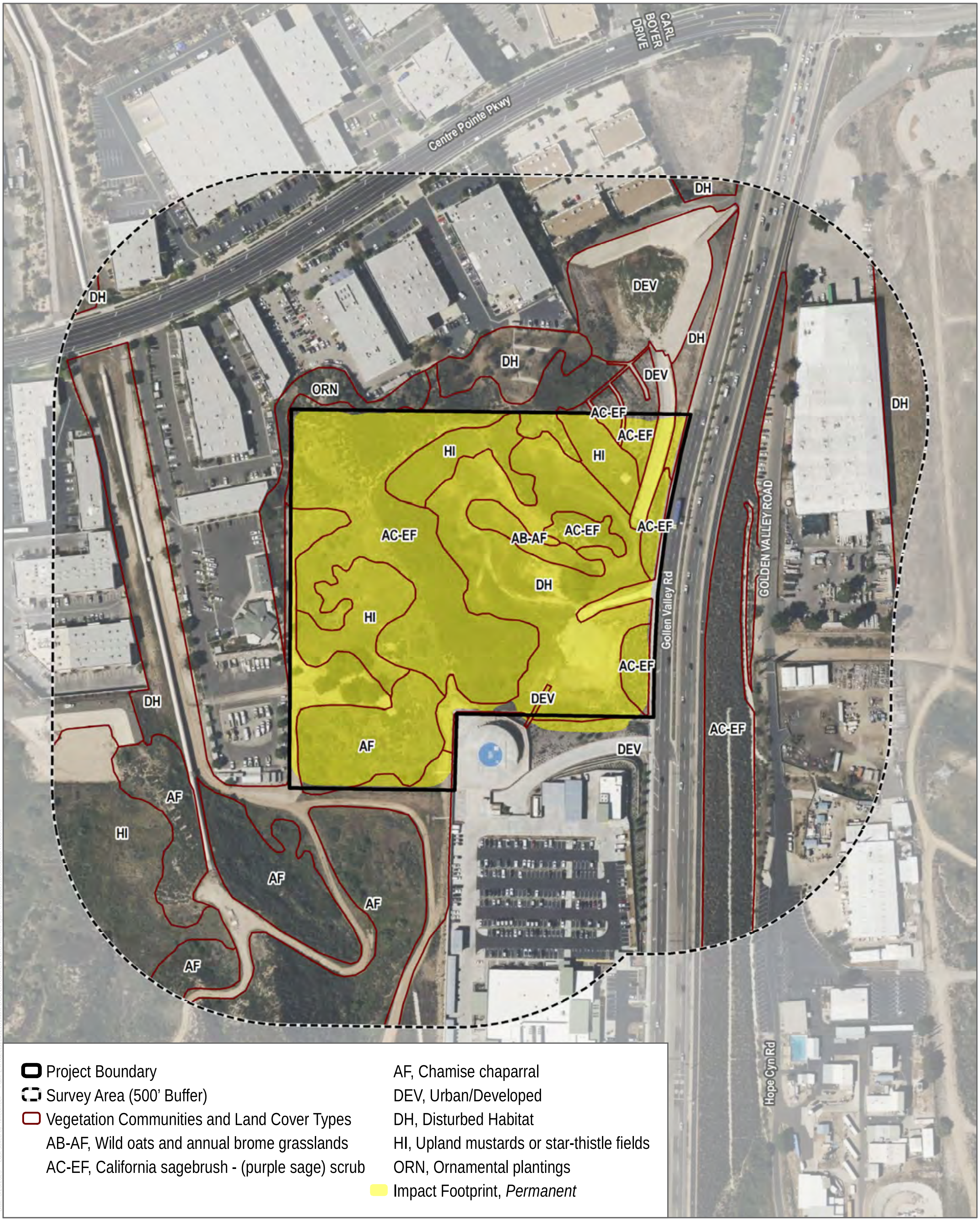
Notes:

[1] The term semi-natural stands vs. alliance is used in the Manual of California Vegetation to distinguish between natural vegetation communities and vegetation types dominated by non-native plants (Sawyer et al. 2009).

[2] The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = global, N = national, and S = subnational). The numbers have the following meaning (NatureServe 2022): 1 = critically imperiled; 2 = imperiled; 3 = vulnerable to extirpation or extinction; 4 = apparently secure; 5 = demonstrably widespread, abundant, and secure;

[3] Totals may not sum due to rounding

[4] NA = not applicable



SOURCE: Bing Maps; Los Angeles County 2023

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0 135 270 Feet

FIGURE 3

Impacts to Vegetation Communities and Land Cover

26313 Golden Valley Road Project

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6.4 Impact BIO-3: Jurisdictional Wetlands and Waters

Direct Impacts

Jurisdictional wetlands and waters were not identified on the Project site. Therefore, there would be no direct impacts to jurisdictional wetlands and waters. Portions of the concrete channel would be removed by the Project, but the proposed storm water system for the project would connect to the channel and water from the impervious portions of the Project site would go downstream to the offsite detention basin.

Indirect Impacts

Potential temporary indirect impacts could result from construction activities and would include impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/ jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. These potential impacts could be cumulatively significant. Implementation of MM-BIO-6 (Stormwater Pollution Prevention Plan Preparation and Implementation) would reduce the impacts to less than significant. The Project design includes water quality treatment basins that would improve water quality before it flows downstream to the offsite detention basin.

6.5 Impact BIO-4: Wildlife Corridors and Nurseries

The Project site does not function as a wildlife corridor or habitat linkage and does not occur within any designated wildlife corridors of habitat linkages. Direct or indirect impacts to wildlife corridors and habitat connectivity are not anticipated; and would therefore, be less than significant.

The Project would be required to comply with the MBTA and sections 3503, 3503.5, and 3513 of the California Fish and Game Code by preventing the disturbance of nesting birds during construction activities. This would generally involve clearing a project site of all vegetation outside the nesting season (from September 1 through January 31) or if construction would commence within the nesting season (which generally runs from February 1 through August 31 and as early as February 1 for raptors), conducting a pre-construction nesting bird survey to determine the presence of nesting birds or active nests at a construction site. Any active nests and nesting birds must be protected from disturbance by construction activities through buffers between nest sites and construction activities. The buffer areas may be removed only after the birds have fledged. Compliance with the MBTA would ensure that the implementation of the Project would not interfere with the nesting of any native bird species. Therefore, direct and indirect impacts would be less than significant due to compliance with regulations. The implementation of MM-BIO-7 (Nesting Bird Avoidance) would reduce impacts to less than significant.

6.6 Impact BIO-5: City Protected Oaks

The City of Santa Clarita's Oak Tree Ordinance (Ordinance 88-34) is the only local policy or ordinance that protects biological resources within the City. There are no oaks located on the Project site, with only eight non-native Aleppo pine being removed. As such, there would be no impact.

6.7 Impact BIO-6: HCP/NCCP

The Study Area is not within any HCP, NCCP, or other approved local, regional, or state HCP (CDFW 2019). The Study Area is not located within a County of Los Angeles designated Significant Ecological Area (County of Los Angeles 2022). As such, there is no impacts to HCP, NCCP, or other approved local, regional, or state HCP.

7 Mitigation Measures

The following mitigation measures shall be implemented during the proposed Project to reduce the significant impacts identified in Chapter 6 to a less-than-significant level. Significant direct and indirect impacts to special-status species and sensitive vegetation communities can be mitigated to less than significant with implementation of the following measures:

Direct Impacts to Special-Status Plants

MM-BIO-1 **Pre-Construction Rare Plant Survey and Seed Collection.** Prior to issuance of a grading permit, the Applicant shall have a qualified biologist (the Applicant shall submit the qualifications of the biologist to the City for review and approval) conduct a focused rare plant survey for slender mariposa lily within the undeveloped portion of the Project site during the appropriate blooming period (March through June). The survey will consist of three passes, with one in April, May, and June. Reference site checks will be made for the species to determine if the species are blooming in the Project vicinity. The surveys will conform to CNPS' Botanical Survey Guidelines; CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities; and USFWS' Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants. The results of the surveys will be documented in a report and submitted to the City.

Should any of the species be found at a count of 20 or higher, then construction of the occupied location shall be delayed until the individuals have gone to seed. Seeds shall be collected once the seed has matured, but prior to the seed capsules opening to disperse the seed. Seeds shall be stored in breathable paper bags in a cool, dry, and dark place. The seeds will then be donated to a City-approved local conservation organization (e.g., Friends of the Santa Clara River) to be used in restoration projects.

Direct Impacts to Special-Status Wildlife

MM-BIO-2 **Pre-construction Wildlife Survey.** Prior to issuance of a grading permit, a qualified Biologist (the Applicant shall submit the qualifications of the biologist to the City for review and approval) shall conduct a survey of the proposed impact areas and 50-foot buffer within 72 hours of the proposed activities. Any coastal whiptail will be relocated to a City-approved offsite location in suitable habitat for each species. The results of the survey will be documented in letter report that will be submitted to the City.

M-BIO-3 **Biological Monitoring.** Prior to the issuance of a grading permit, the Applicant shall submit the qualifications of the biologist(s) to the City for review and approval. The Applicant shall fund a City-approved, Biological Monitor during Project construction to monitor construction activities and to ensure compliance with all mitigation measures. The Biological Monitor shall be present on site during all native vegetation removal and initial ground disturbance activities in undeveloped areas. Each day prior to the commencement of activities, the Biological Monitor shall be responsible for conducting a pre-construction clearance survey and any wildlife (common or special-status) will be relocated offsite to a City-approved area.

Indirect Impacts to Special-Status Species

MM-BIO-4 **Demarcation of Disturbance Limits.** Prior to commencement of earthwork, the construction limits shall be clearly demarcated using high visibility construction fence), as recommended by Biological Monitor. All construction activities including equipment staging and maintenance shall be conducted within the marked disturbance limits to prevent inadvertent disturbance to sensitive vegetation communities outside the limits of work. The fencing shall be maintained throughout construction and any windblown trash generated by the project that collects on the fence will be regularly removed.

MM-BIO-5 **Invasive Plant Species Prevention.** The Project shall not include invasive plant species listed on the California Invasive Plant Council inventory in Project landscaping palettes. Project landscape palettes shall be reviewed and approved by the City to ensure that invasive plant species are excluded. In addition, to prevent the spread of invasive plant species during construction and until the establishment of common landscaped areas associated with the Project (for a period of up to five years):

- All equipment shall be washed prior to entering and prior to leaving the Project site in an upland location where any seed material from invasive species will be contained.
- All vegetative material removed from the Project impact footprint shall be transported in a covered vehicle and will be disposed of at a certified disposal site.

MM-BIO-6 **Stormwater Pollution Prevention Plan.** Prior to issuance of a grading permits for construction activity that would require more than one acre of earthwork, the Project Applicant shall develop a Stormwater Pollution Prevention Plan (SWPPP) to require erosion and sediment control Best Management Practices (BMPs) to be implemented during construction and submit the SWPPP to the City for review and approval. For construction activities on individual lots that are less than one acre in size, a site-specific listing of BMPs shall be prepared utilizing the appropriate and feasible measures included in the primary SWPPP document and shall be submitted to the City for review and approval prior to the issuance of a grading permit. The site-specific SWPPP shall include but not be limited to: (1) the regular use of water trucks or other means of site irrigation to minimize fugitive dust during earthmoving and prevent fugitive dust from escaping the property boundary; (2) prohibition of vehicle fueling on-site; (3) requirement that secondary containment be utilized for the temporary use all hazardous materials during construction activities and such containment shall be located as far as feasible from jurisdictional resources; and (4) work on the concrete channel should be conducted April 16 through October 14, which is outside of the rainy season.

MM-BIO-7 **Nesting Bird Avoidance.** Project construction shall be conducted in compliance with the conditions set forth in the MBTA and California Fish and Game Code to protect active bird/raptor nests. To the maximum extent feasible, vegetation removal shall occur during the non-breeding season for nesting birds (generally late September to early March) and nesting raptors (generally early July to late January) to avoid impacts to nesting birds and raptors. If the project requires that work be initiated during the breeding season for nesting birds (March 1–September 30) and nesting raptors (February 1–June 30), in order to avoid direct impacts on active nests, a pre-construction survey shall be conducted in the Study Area by qualified Biologists (someone who has more than three years of experience of conducting nesting bird surveys in the project region) for nesting birds and/or raptors within three days prior to project activities. If the Biologist does not find any active nests within or immediately adjacent to the impact areas, the vegetation clearing/construction work shall be allowed to proceed.

If the Biologist finds an active nest within or immediately adjacent to the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the Biologist shall delineate an appropriate buffer zone around the nest depending on the sensitivity of the species and the nature of the construction activity. To protect any nest site, the following restrictions to construction activities shall be required until nests are no longer active, as determined by a qualified Biologist (someone who has more than three years of experience of conducting nesting bird surveys and monitoring active nests during construction): (1) clearing limits shall be established within a buffer around any occupied nest; and (2) access and surveying shall be restricted within the buffer of any occupied nest, unless otherwise determined by a qualified Biologist (someone who has more than five years of experience of conducting nesting bird surveys and monitoring active nests during construction). The buffer shall be up to 300 feet for non-raptor nesting birds and up to 500 feet for nesting raptors, based upon the Biologist's determination of potential effect of project activities on the nest. Construction can proceed into the buffer when the qualified Biologist has determined that the nest is no longer active.

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Appendix A

Photo Exhibit

Photo 1: View of southeastern portion of the Project site from the driveway. Facing southwest.

Photo 2: View of northern portion the Project site. Facing west-northwest with an Aleppo pine (*Pinus halepensis*) on the left.

Photo 3: View of the inlet that connects to the concrete channel to the north with a graded area in the foreground. Facing southeast.

Photo 4: View of northeastern corner of the Project site. Facing northwest, with the concrete channel on the right.

Photo 5: View of southwestern portion of the Project site. Facing west.

Photo 6: View of northern portion of the Project site. Facing northeast.

Photo 7: View of detention basin north of the Project site. Facing north-northeast.

Photo 8: View of chamise chaparral to the southwest of the Project site. Facing southwest.

Appendix B

Wildlife Compendia

Wildlife Species

Reptiles

PHRYNOSOMATIDAE—IGUANID LIZARDS

Uta stansburiana—common side-blotched lizard

Birds

AEGITHALIDAE—LONG-TAILED TITS & BUSHTITS

Psaltriparus minimus—bushtit

ACCIPITRIDAE—HAWKS

Accipiter cooperii—Cooper's hawk

Buteo jamaicensis—red-tailed hawk

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove

CORVIDAE—JAYS AND CROWS

Aphelocoma californica—California scrub-jay

Corvus corax—common raven

FALCONIDAE—CARACARAS & FALCONS

Falco sparverius—American kestrel

FRINGILLIDAE—FINCHES

Carpodacus mexicanus—house finch

Carduelis psaltria—lesser goldfinch

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow

MIMIDAE—MOCKINGBIRDS & THRASHERS

Mimus polyglottos—northern mockingbird

Toxostoma redivivum—California thrasher

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

PASSERELLIDAE—NEW WORLD SPARROWS

Aimophila ruficeps—rufous-crowned sparrow

Chondestes grammacus—lark sparrow
Junco hyemalis—dark-eyed junco
Melozone crissalis—California towhee
Pipilo maculatus—spotted towhee
Zonotrichia leucophrys—white-crowned sparrow

PICIDAE—WOODPECKERS & ALLIES

Colaptes auratus—northern flicker
Dryobates nuttallii—Nuttall's woodpecker

POLIOPTILIDAE—GNATCATCHERS

Polioptila caerulea—blue-gray gnatcatcher

SYLVIIDAE—SYLVIID WARBLERS

Chamaea fasciata—wrentit

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna’s hummingbird
Selasphorus sasin—Allen's hummingbird

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

TURDIDAE—THRUSHES

Turdus migratorius—American robin

TYRANNIDAE—TYRANT FLYCATCHERS

Myiarchus cinerascens—ash-throated flycatcher
Sayornis saya—Say's phoebe
Tyrannus vociferans—Cassin's kingbird

Mammals

SCIURIDAE—SQUIRRELS

Canis latrans—coyote

* signifies introduced (non-native) species

Appendix C

Assessment of Special-Status Plant Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Arenaria paludicola	marsh sandwort	FE/SE/1B.1	Marshes and swamps (freshwater or brackish); sandy, openings/perennial stoloniferous herb/May–Aug/5–560	Not expected to occur. The site is outside of the species' known elevation range.
Berberis nevinii	Nevin's barberry	FE/SE/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub; sandy or gravelly/perennial evergreen shrub/(Feb)Mar–June/225–2,705	Not expected to occur. This species is a conspicuous perennial shrub that would have been observed, if present, during the site visit.
Calochortus clavatus var. *gracilis*	slender mariposa lily	None/None/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland/perennial bulbiferous herb/Mar–June (Nov)/1045–3280	Moderate potential to occur. Suitable habitat (*Artemisia californica-Eriogonum fasciculatum-Salvia mellifera* association, *Artemisia californica-Eriogonum fasciculatum* association, and *Avena barbata* semi-natural association) is present on most of the slopes in the Study Area and there are recent records in the vicinity.
Calochortus fimbriatus	late-flowered mariposa lily	None/None/1B.3	Chaparral, Cismontane woodland, Riparian woodland; often serpentinite/perennial bulbiferous herb/June–Aug/900–6,250	Not expected to occur. Suitable micro-habitat (serpentinite soils) for the species is not present in the Study Area.
Calochortus palmeri var. *palmeri*	Palmer's mariposa lily	None/None/1B.2	Chaparral, Lower montane coniferous forest, Meadows and seeps; mesic/perennial bulbiferous herb/Apr–July/2,325–7,840	Not expected to occur. The site is outside of the species' known elevation range.
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	None/SE/1B.1	Coastal scrub (sandy), Valley and foothill grassland/annual herb/ Apr–July/490–4,000	Low potential to occur. Suitable habitat is present in the Study Area and the historic range of the species, but the species does not have any modern records east of Interstate 5 despite numerous modern development projects occurring that would have had rare plants surveys, including the adjacent Whittaker Bermite site.

Scientific Name	Common Name	Status¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Chorizanthe parryi var. *parryi*	Parry's spineflower	None/None/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; sandy or rocky, openings/annual herb/Apr–June/900–4,000	Not expected to occur. Suitable micro-habitat (sandy or rocky soils) for the species is not present in the Study Area.
Deinandra minthornii	Santa Susana tarplant	None/SR/1B.2	Chaparral, Coastal scrub; rocky, often on sandstone /perennial deciduous shrub/July–Nov/915–2495	Not expected to occur. Suitable micro-habitat (sandstone) for the species is not present in the Study Area.
Dodecahema leptoceras	slender-horned spineflower	FE/SE/1B.1	Chaparral, Cismontane woodland, Coastal scrub (alluvial fan); sandy or gravelly/annual herb/Apr–June/655–2,490	Not expected to occur. Suitable micro-habitat (alluvial fans) for the species is not present in the Study Area.
Dudleya densiflora	San Gabriel Mountains dudleya	None/None/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland; granitic, cliffs and canyon walls/perennial herb/Mar–June/801–2,000	Not expected to occur. Suitable micro-habitat (granitic, cliffs and canyon walls) for the species is not present in the Study Area.
Helianthus inexpectatus	Newhall sunflower	None/None/1B.1	Marshes and swamps, Riparian woodland; freshwater seeps/perennial rhizomatous herb/Aug–Oct/1,000–1,000	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Horkelia cuneata var. *puberula*	mesa horkelia	None/None/1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub; sandy or gravelly/perennial herb/ Feb–July (Sep)/225–2,655	Not expected to occur. Suitable micro-habitat (sandy or gravelly soils) for the species is not present in the Study Area.
Lepechinia rossii	Ross' pitcher sage	None/None/1B.2	Chaparral/perennial shrub/May–Sep/1,000–2,590	Not expected to occur. The Study Area is located outside of the known distribution (i.e., Jepson-designated California floristic provinces) for this species (Jepson Flora Project 2021).
Lupinus paynei	Payne's bush lupine	None/None/1B.1	Coastal scrub, Riparian scrub, Valley and foothill grassland; Sandy/perennial shrub/Mar–Apr (May–July)/720–1,375	Not expected to occur. This species is a conspicuous perennial shrub that would have been observed, if present, during the site visit.

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Malacothamnus davidsonii	Davidson's bush-mallow	None/None/1B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/perennial deciduous shrub/June–Jan/605–3,740	Not expected to occur. This species is a conspicuous perennial shrub that would have been observed, if present, during the site visit.
Navarretia fossalis	spreading navarretia	FT/None/1B.1	Chenopod scrub, Marshes and swamps (assorted shallow freshwater), Playas, Vernal pools; alkali or clay soil with hydrological regimes similar to vernal pools/annual herb/Apr–June/95–2,145	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Navarretia ojaiensis	Ojai navarretia	None/None/1B.1	Chaparral (openings), Coastal scrub (openings), Valley and foothill grassland; clay/annual herb/May–July/900–2,030	Not expected to occur. The Study Area lacks suitable soils to support this species.
Navarretia setiloba	Piute Mountains navarretia	None/None/1B.1	Cismontane woodland, Pinyon and juniper woodland, Valley and foothill grassland; depressions in clay or gravelly loam/annual herb/Apr–July/935–6,885	Not expected to occur. The Study Area lacks suitable soils to support this species.
Opuntia basilaris var. *brachyclada*	short-joint beavertail	None/None/1B.2	Chaparral, Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/perennial stem succulent/Apr–June(Aug)/1,390–5,905	Not expected to occur. This species is a conspicuous perennial cactus that would have been observed, if present, during the site visit.
Orcuttia californica	California Orcutt grass	FE/SE/1B.1	Vernal pools/annual herb/Apr–Aug/45–2,165	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Physalis lobata	lobed ground-cherry	None/None/2B.3	Mojavean desert scrub (decomposed granitic), Playas/perennial herb/(May)Sep–Jan/1,640–2,620	Not expected to occur. The site is outside of the species' known elevation range.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland; sandy, gravelly benches, dry stream bottoms, canyon bottoms/perennial herb/(July)Aug–Nov(Dec)/0–6,885	Not expected to occur. The Study Area lacks suitable habitat for this species.
Senecio aphanactis	chaparral ragwort	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub; alkaline flats or dry open rocky areas/annual herb/Jan–Apr(May)/45–2,620	Not expected to occur. The Study Area lacks suitable habitat for this species.

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Silene occidentalis ssp. *longistipitata*	long-stiped campion	None/None/1B.2	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest/perennial herb/June–Aug/3,280–6,560	Not expected to occur. The site is outside of the species' known elevation range.
Streptanthus campestris	southern jewelflower	None/None/1B.3	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland; rocky/perennial herb/(Apr)May–July/2,950–7,545	Not expected to occur. The site is outside of the species' known elevation range.
Symphyotrichum greatae	Greata's aster	None/None/1B.3	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Riparian woodland; mesic/perennial rhizomatous herb/June–Oct/980–6,590	Not expected to occur. Suitable habitat for the species is not present in the Study Area.

Notes:

[1] Status Abbreviations

Federal and State Statuses

FE: Federally listed as endangered

FT: Federally listed as threatened

SE: State listed as endangered

ST: State listed as threatened

SR: State designated as rare

CRPR: California Rare Plant Rank

CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere

CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere

CRPR 2A: Plants presumed extirpated in California but common elsewhere

CRPR 2B: Plants rare, threatened, or endangered in California but more common elsewhere

– .1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)

– .2: Moderately threatened in California (20% - 80% of occurrences threatened/moderate degree and immediacy of threat)

– .3: Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat)

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Appendix D

Assessment of Special-Status Wildlife Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Status¹ (Federal/State)	Habitat	Potential to Occur
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/CSE	Open grassland and scrub communities supporting suitable floral resources.	Low potential to forage, not expected to nest. The species may forage within the project site as there is scrub habitat with suitable floral resources; however, this species would not be expected to nest within the project footprint due to lack of existing rodent burrows and other refugia.
Branchinecta lynchi	vernal pool fairy shrimp	FT/None	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	Not expected to occur. Suitable habitat for the species is not present in the study area.
Danaus plexippus pop. 1	monarch	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	Not expected to occur. Suitable overwintering habitat for this species is not present in the study area.
Euphydryas editha quino	quino checkerspot butterfly	FE/None	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include *Plantago erecta, Antirrhinum coulterianum*, and *Plantago patagonica* (Silverado Occurrence Complex)	Not expected to occur. The study area does not contain host plant species. In addition, this species is considered extirpated from Los Angeles County by the USFWS (CDFW 2021a; USFWS 2019).
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. Suitable habitat for the species is not present in the study area.
Fish				
Catostomus santaanae	Santa Ana sucker	FT/None	Small, shallow, cool, clear streams less than 7 meters (23 feet) in width and a few centimeters to more than a meter (1.5 inches to more than 3 feet) in depth; substrates are generally coarse gravel, rubble, and boulder	Not expected to occur. Suitable habitat for the species is not present in the study area.
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	FE/FP, SE	Slow-moving and backwater areas	Not expected to occur. Suitable habitat for the species is not present in the study area.

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Gila orcuttii	arroyo chub	None/SSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters (16 inches); substrates of sand or mud	Not expected to occur. Suitable habitat for the species is not present in the study area.
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	None/SSC	Headwaters of the Santa Ana and San Gabriel Rivers; may be extirpated from the Los Angeles River system	Not expected to occur. Suitable habitat for the species is not present in the study area.
Amphibians				
Anaxyrus californicus	arroyo toad	FE/SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Not expected to occur. Suitable habitat for the species is not present in the study area.
Rana boylii	foothill yellow-legged frog	None/SE, SSC	Rocky streams and rivers with open banks in forest, chaparral, and woodland	Not expected to occur. Suitable habitat for the species is not present in the study area.
Rana draytonii	California red-legged frog	FT/SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	Not expected to occur. Suitable habitat for the species is not present in the study area.
Rana muscosa	mountain yellow-legged frog	FE/SE	Lakes, ponds, meadow streams, isolated pools, and open riverbanks; rocky canyons in narrow canyons and in chaparral	Not expected to occur. Suitable habitat for the species is not present in the study area.

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Spea hammondii	western spadefoot	None/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	Not expected to occur. Suitable habitat for the species is not present in the study area.
Taricha torosa (Monterey Co. south only)	California newt	None/SSC	Wet forests, oak forests, chaparral, and rolling grassland	Not expected to occur. Suitable habitat for the species is not present in the study area.
Reptiles				
Actinemys marmorata	northwestern pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Not expected to occur. Suitable habitat for the species is not present in the study area.
Anniella spp.	California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and moist sandy or loose, loamy soils	Low potential to occur in the study area. The species could occur on the hillsides southwest of the project site; however, the scrub and chaparral habitats do not provide the leaf litter associated with burrowing by the species and moist sandy or loose, loamy soils are not present.
Arizona elegans occidentalis	California glossy snake	None/SSC	Commonly occurs in desert regions throughout southern California. Prefers open sandy areas with scattered brush. Also found in rocky areas.	Not expected to occur in the study area. The project site lacks suitable soils for this species. Additionally, there is only one historic record of the species in the Santa Clarita Valley.
Aspidoscelis tigris stejnegeri	coastal whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Present on site. This species was observed in the wild oat grassland on site.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	Not expected to occur. The project site lacks suitable soils for this species.

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not expected to occur. Suitable habitat for the species is not present in the study area.
Birds				
Ammodramus savannarum (nesting)	grasshopper sparrow	None/SSC	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	Not expected to occur. Marginal habitat is present but the human activity within the project site diminishes its potential for use by the species.
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Not expected to occur for nesting in the study area but may occur as a transient. Marginal habitat is present but the human activity within the project site diminishes its potential for use by the species. Additionally, no suitable burrows were observed on site.
Buteo swainsoni (nesting)	Swainson's hawk	BCC/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	Not expected to occur for nesting in the study area but may occur as a transient.
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur. Suitable habitat for the species is not present in the study area.
Elanus leucurus (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Not expected to occur for nesting but may forage in the study area.
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. Suitable habitat for the species is not present in the study area.

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Gymnogyps californianus	California condor	FE/FP, SE	Nests in rock formations, deep caves, and occasionally in cavities in giant sequoia trees (Sequoiadendron giganteus); forages in relatively open habitats where large animal carcasses can be detected	Not expected to occur for breeding or foraging but may be transient over the study area.
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Not expected to occur. Suitable habitat for the species is not present in the study area.
Lanius ludovicianus (nesting)	loggerhead shrike	BCC/SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches	Low potential to occur. The species may forage or occur as a transient, but it would not be expected to nest due to human activity associated with Golden Valley Road and adjacent commercial and industrial businesses.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Not expected to occur. The coastal scrub communities in the study area could provide habitat for the species; however, protocol surveys for the species were negative for the species.
Riparia riparia (nesting)	bank swallow	None/ST	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	Not expected to occur. Suitable habitat for the species is not present in the study area.
Setophaga petechia (nesting)	yellow warbler	BCC/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	Not expected to occur. Suitable habitat for the species is not present in the study area.

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Not expected to occur. Suitable habitat for the species is not present in the study area.
Mammals				
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Low potential to occur for roosting and may forage over the study area. Suitable roosting habitat (trees) for the species is present in the study area; however, human activity associated with Golden Valley Road and adjacent commercial and industrial businesses is expected to lower the potential for the trees to be used.
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	Not expected to occur for roosting but may forage over the study area. Suitable roosting habitat for the species is not present in the study area.
Euderma maculatum	spotted bat	None/SSC	Foothills, mountains, desert regions of southern California, including arid deserts, grasslands, and mixed-conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes	Not expected to occur for roosting but may forage over the study area. Suitable roosting habitat for the species is not present in the study area.
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, and tunnels	Not expected to occur for roosting but may forage over the study area. Suitable roosting habitat for the species is not present in the study area.

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/SSC	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Low potential to occur. The project site is surrounded by development and too steep to support this species.
Macrotus californicus	Californian leaf-nosed bat	None/SSC	Riparian woodlands, desert wash, desert scrub; roosts in mines and caves, occasionally buildings	Not expected to occur for roosting but may forage over the study area. Suitable roosting habitat for the species is not present in the study area.
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Low potential to occur on the project site. Although this species has a moderate potential to occur on the hillsides southwest of the project site, middens for this species was not observed within the project site.
Onychomys torridus ramona	southern grasshopper mouse	None/SSC	Grassland and sparse coastal scrub	Not expected to occur. The study area is too fragmented and disturbed to support this species, which requires relatively large expanses of habitat (NatureServe 2021).
Puma concolor (Southern California/ Central Coast Evolutionarily Significant Unit)	mountain lion	None/CST	Scrubs, chaparral, riparian, woodland, and forest; rests in rocky areas and on cliffs and ledges that provide cover; most abundant in riparian areas and brushy stages of most habitats throughout California, except deserts	Low potential to occur in the study area as a transient. The species is expected to occur in the study area, specifically the hills southeast of the project site, as a transient during foraging, movement through its home range, or during the dispersal of young; however, the fences around the property would limit it use by the species. Natal dens of the species are not expected since females typically avoid areas of human activity (Center for Biological Diversity and the Mountain Lion Foundation 2019).
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Low potential to occur in the study area. The species could occur on the hillside in the south and east portions of the study area. Human activity lowers the potential suitability of the habitat for this asocial species.

Notes:

[1] Status Abbreviations

Federal Statuses

BCC: Bird of Conservation Concern (U.S. Fish and Wildlife Service)

FDL: Federally de-listed

FE: Federally listed as endangered

FT: Federally listed as threatened

State Statuses

FP: California Fully Protected Species

CSE: Candidate for State Endangered

CST: Candidate for State Threatened

SDL: State de-listed

SE: State listed as endangered

SSC: California Species of Special Concern (California Department of Fish and Wildlife)

ST: State listed as threatened

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MEMORANDUM

To:	Bo Prock - Pacific Industrial
From:	Michael Cady – Senior Biologist
Subject:	Rare Plant Survey for 26313 Golden Valley Road Project
Date:	April 25, 2023
Attachment(s):	A. Figures; B. Photo Exhibit; C. Plant Compendium

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This report presents the findings of a rare plant survey conducted by Dudek for the proposed 26313 Golden Valley Road Project (Project). Dudek had previously provided a biological resources assessment for the Project in 2021 that included a literature/database review and reconnaissance survey to map the vegetation communities. The project is located at 26313 Golden Valley Road in Santa Clarita, California, west of Golden Valley Road and south of Centre Pointe Parkway, as shown in Figure 1 (Attachment A). The project is situated within Sections 24 and 25 of Township 04 North, Range 16 West[1] on the *Newhall* U.S. Geological Survey (USGS) 7.5-minute quadrangle map. A driveway from Golden Valley Road provides access to the project site.

Existing Conditions

The proposed Project site is located within the low foothills overlooking the confluence of the upper Santa Clara River (Soledad Canyon) which approximately 0.8 miles to the south. The surrounding uses along Golden Valley Road and Sierra Highway consist of mostly established residential uses, schools, and neighborhood commercial retail centers.

Vegetation Communities and Land Covers

During the 2021 survey, four vegetation communities and three land cover types were identified within the Project site and 500-foot buffer: California sagebrush–California buckwheat scrub (*Artemisia californica–Eriogonum fasciculatum* Association[2]), chamise chaparral (*Adenostoma fasciculatum* Association), upland mustards (*Hirschfeldia incana* Association), wild oats grasslands (*Avena barbata–Avena fatua* Association), ornamental plantings, disturbed habitat, and urban/developed land. These vegetation communities and land cover types spatial distributions are presented in Figure 2. In 2023, the upland mustard and disturbed habitat had a dominant understory of red brome (*Bromus madritensis* ssp. *rubens*) that inhibited growth of most herbaceous annuals.

Soils

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2023a), two soil types have been identified in the study area: Yolo loam, 2 to 9 percent slopes and Saugus loam, 30 to 50 percent slopes, eroded.

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[1] United States Public Land Survey System
[2] CNPS. 2023b. A Manual of California Vegetation, Online Edition. https://www.cnps.org/vegetation.

Focal Species

Dudek's 2021 biological resources assessment concluded that slender mariposa lily (*Calochortus clavatus* var. *gracilis*), a species with a California Rare Plant Rank of 1B.2[3], had a moderate potential to occur on the Project site. This species is a perennial bulbiferous herb, endemic to California, and is found in chaparral, coastal scrub, and valley and foothill grasslands between 1,050 and 3,281 feet AMSL. The species typically blooms from March to June.[4]

Methodology

A reference site check for slender mariposa lily was conducted on April 12, 2023 by Dudek Biologist Tracy Park at the Newhall Ranch Project that is located approximately 4.5 miles to the west of the Project site. The species was found to still be in a vegetive state (leaves and stalks), but identifiable above the non-native grasses. Dudek Senior Biologist Michael Cady then conducted a focused survey on the Project site for rare plants on April 24, 2023 for the species. Mr. Cady has conducted and identified the species in its various stages on numerous projects in the Santa Clarita Valley since 2004. The survey was conducted by walking the Project site using transects spaced no more than three meters apart (where possible). Binoculars (8x42) were used to survey areas where the steep terrain or dense shrubs made foot travel unsafe. Focus was made on the areas that had a lower density of red brome, which included the margins and interspatial portions of the shrub dominated habitat and ridgelines. Additional focus was placed on areas that supported blue dicks (*Dipterostemon capitatum*), which is from a corm (short squat stems filled with food storage tissue) like slender mariposa lily.

Results

No slender mariposa lily or other rare plants were identified during the survey. A total of 63 species of native or naturalized plants, 43 native (68%) and 20 non-native (32%), was recorded on the site (see Attachment C).

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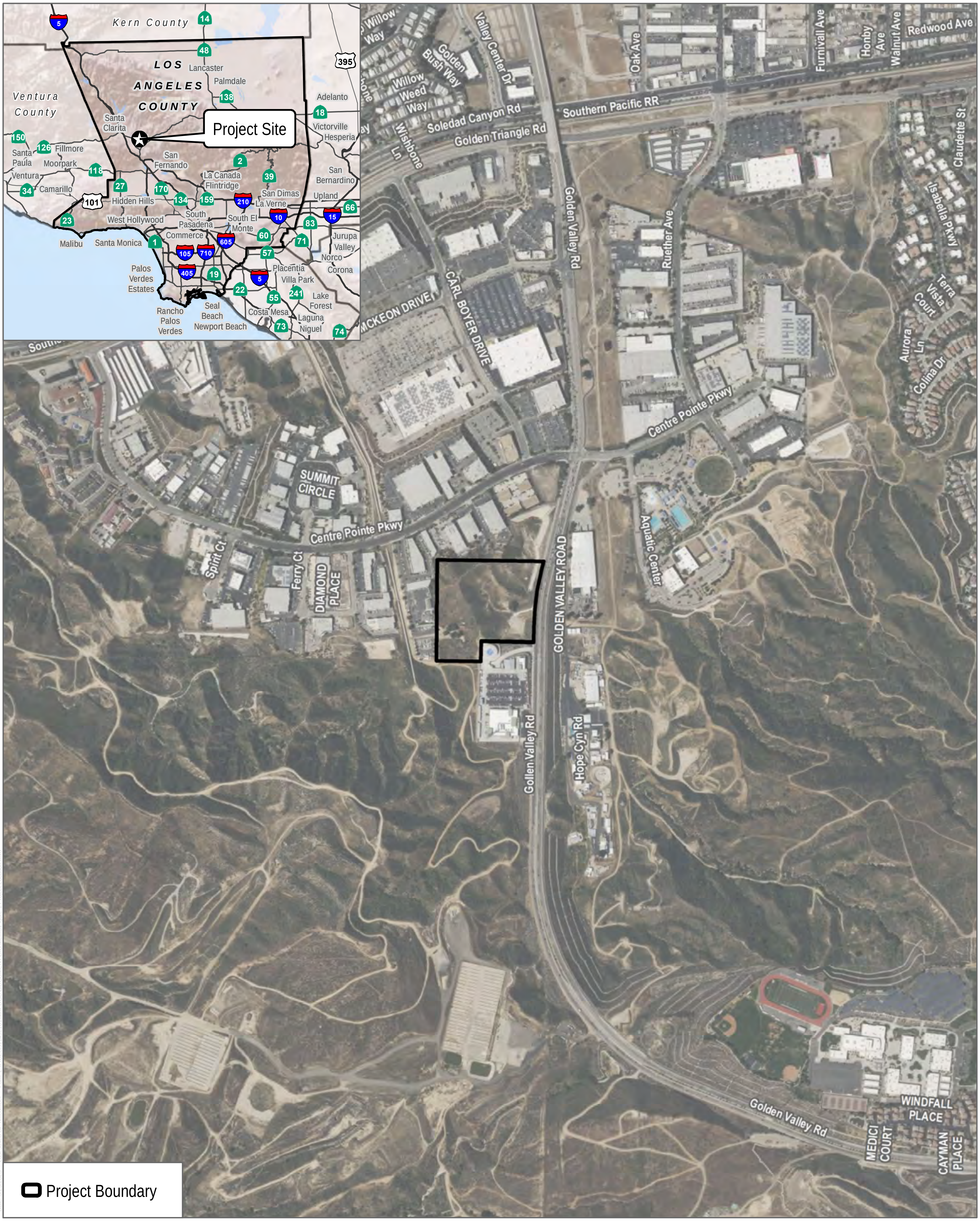
[3] CNPS (California Native Plant Society). 2023. Inventory of Rare and Endangered Plants. Online Ed. Version 8-03 0.45. Sacramento, California: CNPS. http://www.rareplants.cnps.org/advanced.html.

[4] Calflora. 2023. What Grows Here, online database viewer. https://www.calflora.org/entry/wgh.html.

Attachment A

Figures

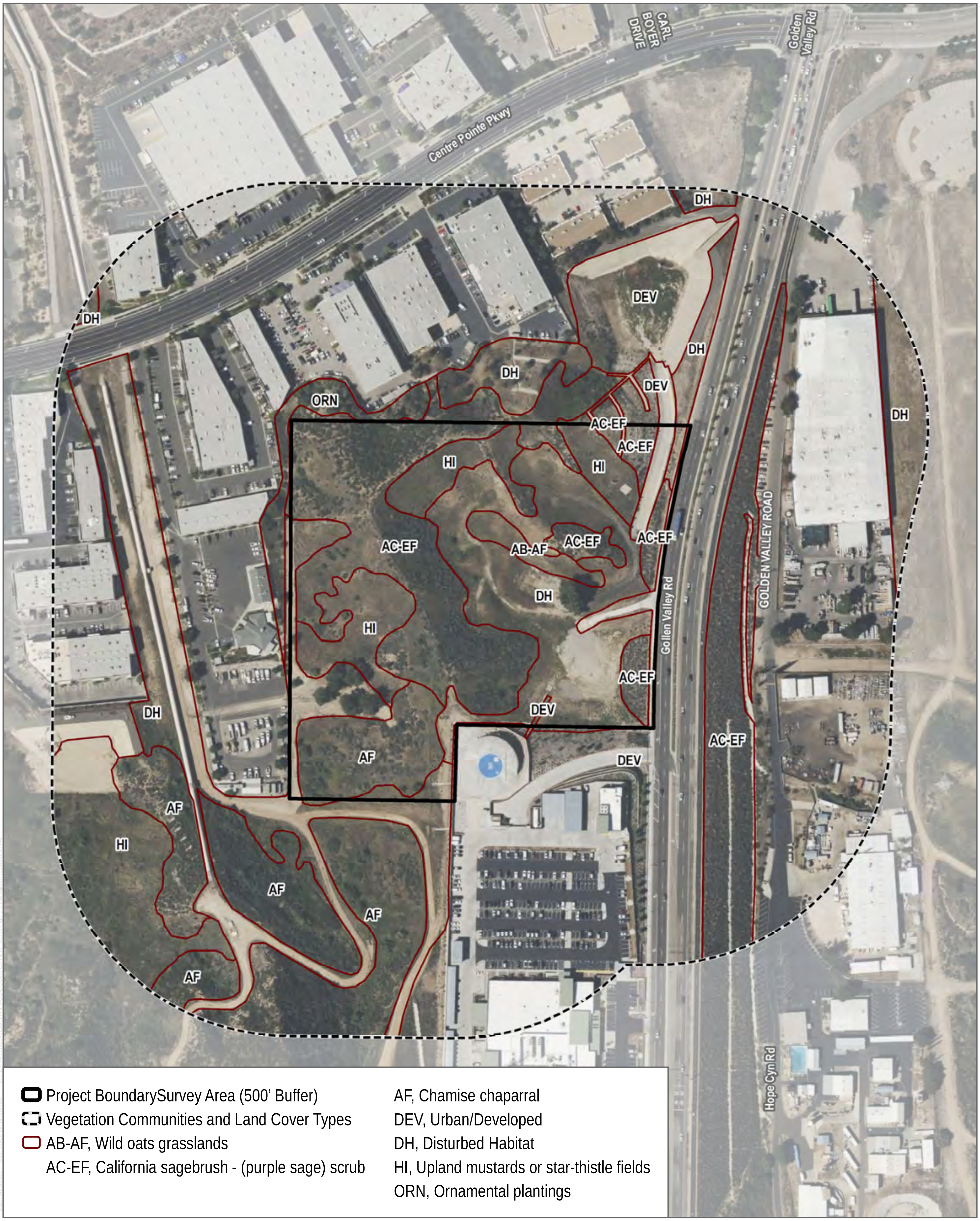


SOURCE: Bing Maps; Los Angeles County 2023

FIGURE 1

Project Location

Biological Resources Constraints Analysis for 26313 Golden Valley Road, Santa Clarita, California



SOURCE: Bing Maps; Los Angeles County 2023

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FIGURE 2

Biological Resources

Biological Resources Constraints Analysis for 26313 Golden Valley Road, Santa Clarita, California

Attachment B

Photo Exhibit

Photo 1: Known slender mariposa lily population at Newhall Ranch that was used as a reference population.

Photo 2: Southeast corner of the Project site looking west.

Photo 3: Middle of the Project site looking east-southeast.

Photo 4: Southwestern portion of the Project site looking north.

Photo 5: Northeast corner of the Project site looking east-northeast.

Photo 6: Northwest portion of the Project site looking west-northwest.

Photo 7: Northwest portion of the Project site looking east-northeast.

Photo 8: Southwestern portion of the Project site looking west-northwest.

Attachment C

Plant Compendium

Angiosperms (Dicots)

ADOXACEAE—MUSKROOT FAMILY

Sambucus nigra—blue elderberry

ASTERACEAE – SUNFLOWER FAMILY

Ambrosia psilostachya—western ragweed
Artemisia californica—California sagebrush
Deinandra fasciculata—clustered tarweed
Dittrichia graveolens—stinkwort*
Encelia californica—California brittle bush
Encelia farinosa—brittle bush
Gazania linearis—treasureflower*[1]
Lasthenia californica—California goldfields
Pseudognaphalium microcephalum—Wright's cudweed
Senecio vulgaris—old-man-in-the-Spring*
Silybum marianum—blessed milkthistle*

BORAGINACEAE—BORAGE FAMILY

Amsinckia intermedia—common fiddleneck
Amsinckia menziesii—Menzies' fiddleneck
Cryptantha intermedia—Clearwater cryptantha
Cryptantha muricata—pointed cryptantha
Emmenanthe penduliflora—whisperingbells
Eucrypta chrysanthemifolia—spotted hideseed
Pectocarya penicillata—sleeping combseed
Phacelia distans—distant phacelia
Plagiobothrys canescens—valley popcornflower

BRASSICACEAE—MUSTARD FAMILY

Brassica nigra—black mustard*
Hirschfeldia incana—shortpod mustard*

CACTACEAE—CACTUS FAMILY

Opuntia basilaris—beavertail pricklypear
Opuntia ficus-indica—Barbary fig*

CUCURBITACEAE—GOURD FAMILY

Marah macrocarpa—Cucamonga manroot

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[1] Non-native

EUPHORBIACEAE—SPURGE FAMILY

Croton setiger—dove weed

Euphorbia albomarginata—whitemargin sandmat

Ricinus communis—castorbean*

FABACEAE—LEGUME FAMILY

Acmispon americanus—Spanish clover

Acmispon glaber—deer *weed*

Acmispon micranthus—San Diego bird's-foot trefoil

Acmispon strigosus—strigose bird's-foot trefoil

Lupinus bicolor—miniature lupine

Lupinus concinnus—bajada lupine

Lupinus hirsutissimus—stinging annual lupine

Lupinus succulentus—hollowleaf annual lupine

Melilotus indicus—annual yellow sweetclover*

Trifolium willdenovii—tomcat clover

GERANIACEAE—GERANIUM FAMILY

Erodium botrys—longbeak stork's bill*

Erodium cicutarium—redstem stork's bill*

LAMIACEAE—MINT FAMILY

Marrubium vulgare—horehound*

Salvia apiana—white sage

Salvia columbariae—chia

Salvia mellifera—black sage

Trichostema micranthum—small-flowered bluecurls

MALVACEAE—MALLOW FAMILY

Malacothamnus fasciculatus—bush mallow

Malva parviflora—cheeseweed mallow*

NYCTAGINACEAE—FOUR O'CLOCK FAMILY

Mirabilis laevis—desert wishbone-bush

PAPAVERACEAE—POPPY FAMILY

Eschscholzia californica—California poppy

POLYGONACEAE—BUCKWHEAT FAMILY

Eriogonum fasciculatum—California buckwheat

ROSACEAE—ROSE FAMILY

Adenostoma fasciculatum—chamise

SOLANACEAE—NIGHTSHADE FAMILY

Nicotiana glauca—tree tobacco*

Solanum americanum—American black nightshade

Solanum xanti—chaparral nightshade

GYMNOSPERMS AND GNETOPHYTES

PINACEAE—PINE FAMILY

Pinus halepensis—Aleppo pine*

MONOCOTS

AGAVACEAE—AGAVE FAMILY

Hesperoyucca whipplei—chaparral yucca

POACEAE—GRASS FAMILY

Avena barbata—slender oat*

Avena fatua—wild oat*

Bromus diandrus—ripgut brome*

Bromus madritensis ssp. rubens—red brome*

Hordeum murinum—mouse barley*

THEMIDACEAE—BRODIAEA FAMILY

Dipterostemon capitatus—bluedicks

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April 4, 2023 14921

U.S. Fish and Wildlife Service
Attention: Recovery Permit Coordinator
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003-7726

Subject: 2023 Focused California Gnatcatcher Survey 45-Day Report for the 26313 Golden Valley Road Project,City of Santa Clarita, California

Dear Recovery Permit Coordinator:

This report documents protocol-level presence/absence surveys conducted for the coastal California gnatcatcher (*Polioptila californica californica*; CAGN) for the proposed Golden Valley Road Project (Project). The coastal California gnatcatcher is a federally listed threatened species and classified as a species of special concern by the California Department of Fish and Wildlife (CDFW 2023). Coastal California gnatcatchers are almost exclusively restricted to coastal sage scrub in southern California and northern Baja California (Reid T.S. and D.D. Murphy 1995). They generally occur on slopes less than 40% (Atwood 1990), at elevations below 950 feet above mean sea level (AMSL) but have been observed greater than 2,000 feet AMSL (Atwood and Bolsinger 1992). The primary threats to CAGN are loss, degradation, and fragmentation of coastal sage scrub habitat as well as nest parasitism (Braden et al. 1997; Reid T.S. and D.D. Murphy 1995).

Location and Existing Conditions

Focused surveys were conducted throughout all suitable CAGN habitat plus a 500-foot buffer (study area). The study area center is at latitude 34.409718°N, longitude -118.504558°W and is mapped on Sections 24 and 25 of Township 4 North, Range 16 West (Attachment A: Figures 1 and 2). The study area is depicted on the Newhall, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map, on Assessor Parcel Number (APN): 2836-016-083.

The 12.84-acre mixed-use Project site is in the Santa Clarita Valley within northwestern Los Angeles County, California, south of the Santa Clara River and northwest of the San Gabriel Mountains. The Project site is generally comprised of undeveloped land with a mix of unvegetated graded areas and remnant patches of natural vegetation, surrounded by development. Scattered trash was found throughout the study area.

The study area (Figure 2) consists of 7.85 acres of suitable CAGN habitat, which was determined by the presence of California sagebrush–California buckwheat scrub (*Artemisia californica–Eriogonum fasciculatum*) vegetation association (USFWS, 1997). Suitable CAGN habitat is generally characterized by stands of California sagebrush intermixed with native shrubs and non-native herbaceous species.

The topography of the study area is variable with slopes intervening graded and/or developed areas. The project site itself contains a small ridge along its northern boundary and within the western portion of the site, with its highest point at 1,490 feet AMSL. The southwestern corner and eastern portion of the project site are relatively flat, much of which has been previously graded, with its lowest point at 1,370 feet AMSL.

Vegetation Communities

The study area is characterized by native upland vegetation communities, non-native grassland, and disturbed land, with one vegetation community identified as potentially suitable CAGN habitat. This community is described in detail below.

Artemisia californica–Eriogonum fasciculatum Association

California sagebrush–California buckwheat scrub (*Artemisia californica–Eriogonum fasciculatum* Association) has California sagebrush and California buckwheat as co-dominant species in the shrub canopy and can include chamise (*Adenostoma fasciculatum*), coyote brush (*Baccharis pilularis*), bush monkeyflower (*Diplacus aurantiacus*), California brittle bush (*Encelia californica*), brittle bush (*Encelia farinosa*), Menzies' goldenbush (*Isocoma menziesii*), deerweed (*Acmispon glaber*), bush mallow (*Malacothamnus fasciculatus*), white sage (*Salvia apiana*), or black sage (*Salvia mellifera*) (CNPS 2021). This community typically occurs on variable slopes usually steep and rarely flooded (CNPS 2021). This association is mapped on slopes within the project site and on the eastern side of Golden Valley Road (Figure 2). A sub-dominance of shortpod mustard (*Hirschfeldia incana*) was observed within the California sagebrush–California buckwheat scrub on site.

Methods

Dudek biologists Tommy Molioo (Permit No. TE02412D-0) and Melissa Blundell (TE97717A) conducted protocol-level non-breeding season CAGN surveys from December 2022 to March 2023. Therefore, nine (9) surveys were conducted spaced a minimum of ten days apart per the protocol. Surveys were conducted in weather conditions and time frames appropriate for the detection of CAGN (Table 1). Survey routes focused on suitable habitat within the study area as depicted on Figure 2.

Digital mobile maps and 200-scale topographic plots of vegetation polygons were utilized to navigate the Survey Area. Appropriate binoculars were used for visual detection and identification of wildlife. Vocalizations were played every 50–100 feet to induce responses from potentially present CAGN. Vocalizations would have ceased upon detection of CAGN to minimize harassment.

Table 1. Survey Dates and Conditions

Survey	Date	Time	Personnel	Conditions	Present/Absent
1	12/05/2022	0734–0956	MB	43–60°F; 0% cloud cover; 0–2 mph wind	Absent
2	12/17/2022	0705–0852	MB	45–55°F; 0% cloud cover; 0–1 mph wind	Absent
3	01/06/2023	0730–0922	MB	40–53°F; 0% cloud cover; 0–1 mph wind	Absent

Table 1. Survey Dates and Conditions

Survey	Date	Time	Personnel	Conditions	Present/Absent
4	01/18/2023	0741–0937	MB	37–54°F; 10% cloud cover; 0–1 mph wind	Absent
5	01/28/2023	0743–0953	MB	41–54°F; 10% cloud cover; 0–2 mph wind	Absent
6	02/09/2023	0830-1000	TM	62–66°F; 0% cloud cover; 2–4 mph wind	Absent
7	02/20/2023	0740–0943	MB	50–56°F; 60–70% cloud cover; 0–3 mph wind	Absent
8	03/02/2023	0744–0958	MB	65°F–67°F; 0%–10% cloud cover; 1–4 mph wind	Absent
9	03/13/2023	0930-1100	TM	50–53°F; 10% cloud cover; 0–2 mph wind	Absent

Survey Personnel: MB = Melissa Blundell; TM = Tommy Molioo.
Notes: °F = degrees Fahrenheit; mph = miles per hour.

Results

No CAGN were observed or audibly detected during the nine survey passes. No sign of nesting or foraging CAGN were observed throughout the non-breeding season. Therefore, CAGN is currently considered absent from the study area.

I certify that the information in this survey report and attached exhibits fully and accurately represents our work.

Sincerely,

Tommy Molioo

Tommy Molioo
TE02412D-0
Senior Biologist

MBlundell

Melissa Blundell
TE97717A
Biologist

Att.: A – Figures 1 and 2
B – Species Compendium

References

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Atwood, J. L., and Bolsinger, J. S. 1992. “Elevational distribution of California Gnatcatchers in the United States.” *Journal of Field Ornithology*. (Volume 63): 159-168 Accessed March 2023. https://sora.unm.edu/sites/default/files/journals/jfo/v063n02/p0159-p0168.pdf

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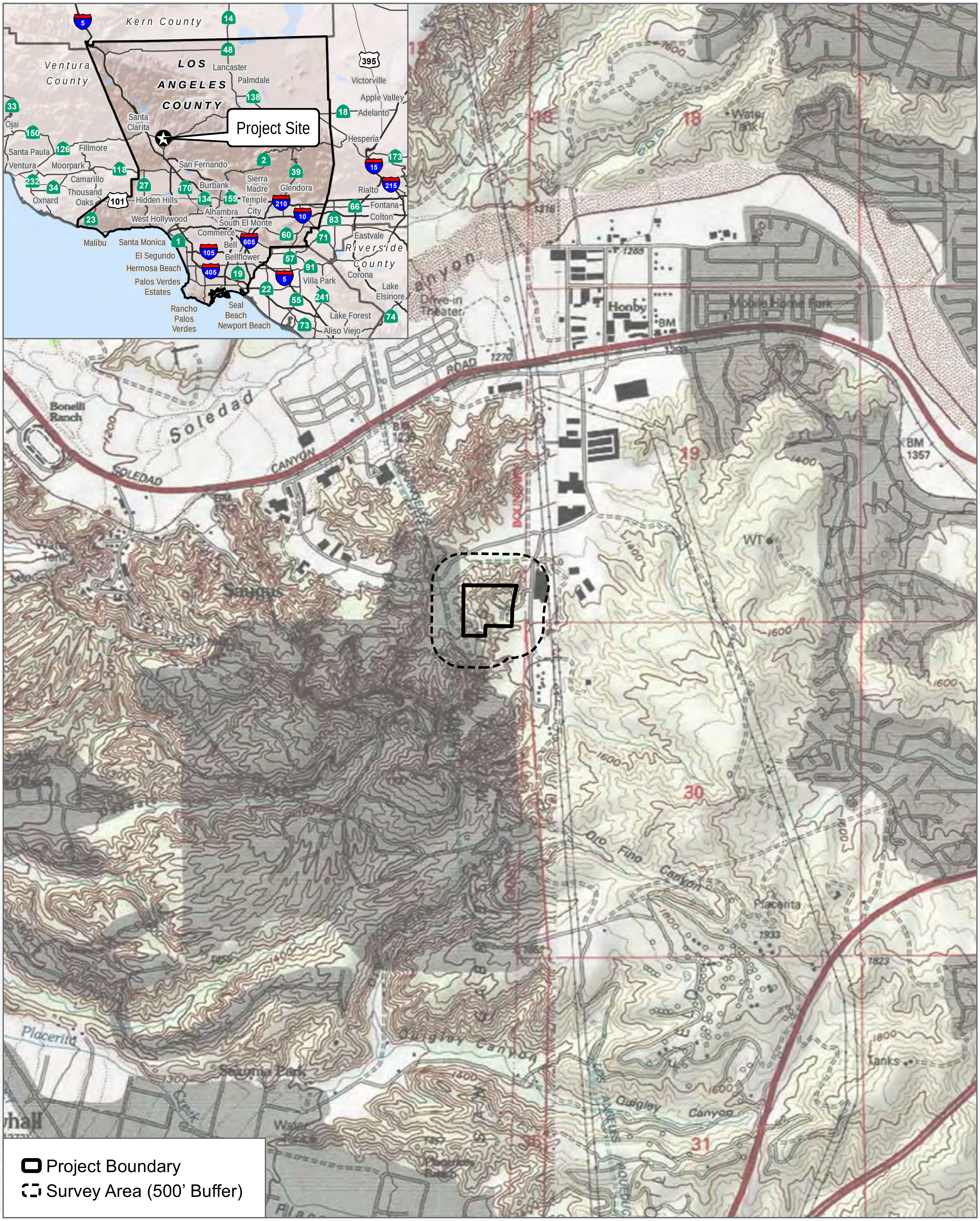
USDA. 2021b. Natural Resources Conservation Service Official Soil Series Descriptions. Accessed June 2021. https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/geo/?cid=nrcs142p2_053587

USFWS (U.S. Fish & Wildlife Service). 1997. Coastal California Gnatcatcher *(Polioptila californica californica)* Presence/Absence Survey Protocol. July 28, 1997.

Attachment A

Figures 1 and 2



▭ Project Boundary

⬚ Survey Area (500' Buffer)

SOURCE: USGS 7.5-Minute Series Newhall Quadrangle

FIGURE 1

Project Location

California Coastal Gnatchater Survey Notification Report for the Golden Valley Road Project

0 1,000 2,000 Feet

SOURCE: Bing Maps; Los Angeles County 2023

DUDEK

0 150 300 Feet

FIGURE 2

California Coastal Gnatcatcher Survey

Attachment B

Species Compendium

Birds

Bushtits

AEGITHALIDAE – LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus – bushtit

Falcons

FALCONIDAE – CARACARAS AND FALCONS

Falco sparverius – American kestrel

Finches

FRINGILLIDAE – FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus – house finch
Spinus psaltria – lesser goldfinch

Flycatchers

TYRANNIDAE – TYRANT FLYCATCHERS

Myiarchus cinerascens – ash-throated flycatcher
Sayornis saya – Say's phoebe
Tyrannus vociferans – Cassin's kingbird

Hawks

ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES

Accipiter cooperii – Cooper's hawk
Buteo jamaicensis – red-tailed hawk

Hummingbirds

TROCHILIDAE – HUMMINGBIRDS

Calypte anna – Anna's hummingbird
Selasphorus sasin – Allen's hummingbird

Jays, Magpies and Crows

CORVIDAE – CROWS AND JAYS

Aphelocoma californica – California scrub-jay

Corvus corax – common raven

Mockingbirds and Thrashers

MIMIDAE – MOCKINGBIRDS AND THRASHERS

Mimus polyglottos – northern mockingbird

Toxostoma redivivum – California thrasher

New World Quail

ODONTOPHORIDAE – NEW WORLD QUAIL

Callipepla californica – California quail

Old World Warblers and Gnatcatchers

POLIOPTILIDAE – GNATCATCHERS

Polioptila caerulea – blue-gray gnatcatcher

Pigeons and Doves

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

Thrushes

TURDIDAE – THRUSHES

Turdus migratorius – American robin

WOODPECKERS

Picidae – Woodpeckers and Allies

Colaptes auratus – northern flicker

Dryobates nuttallii – Nuttall's woodpecker

Wrens

TROGLODYTIDAE – WRENS

Thryomanes bewickii – Bewick's wren

New World Sparrows

PASSERELLIDAE – NEW WORLD SPARROWS

Aimophila ruficeps – rufous-crowned sparrow

Melozone crissalis – California towhee

Pipilo maculatus – spotted towhee

Zonotrichia leucophrys – white-crowned sparrow

Typical Warblers, Parrotbills, Wrentit

SYLVIIDAE – SYLVIID WARBLERS

Chamaea fasciata – wrentit

Mammals

Canids

CANIDAE – WOLVES AND FOXES

Canis latrans – coyote Artemisia californica

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APPENDIX D

Phase I Archaeological Survey Report: 26313 Golden Valley Road

CONFIDENTIAL

Phase I Archaeological Survey Report

26313 Golden Valley Road, Santa Clarita

FEBRUARY 2023

Prepared for:

PACIFIC INDUSTRIAL
6272 E. Pacific Coast Highway, Suite E
Long Beach, CA 90803
Contact: Bo Prock, Acquisitions Manager
Email: bop@pac-industrial.com

Prepared by:

Heather McDaniel McDevitt, MA RPA, Jennifer De Alba, BA, Brenda Rogers, BA, Linda Kry, BA, RA, and Kira Archipov, BS with contributions to the prehistoric section made by Micah Hale PhD, RPA and Loukas Barton PhD, RPA

DUDEK
621 Chapala Street
Santa Barbara, California 93101
Contact: Heather McDaniel McDevitt

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Project Information Page

Report Type: Phase I Archaeological Survey

Project Name: 26313 Golden Valley Road

Confidential – Not for Public View

APN: 2836-016-083

Lead Agency: City of Santa Clarita

Contact:
David Peterson
23920 Valencia BLVD #302
Valencia, CA, 91355
661-284-1406,
Dpeterson@santa-clarita.com

Report Date: February 2023
Authors: Heather McDaniel McDevitt, MA RPA, Jennifer De Alba, BA, Brenda Rogers, BA, Linda Kry, BA, RA, and Kira Archipov, BS with contributions to the prehistoric section made by Micah Hale PhD, RPA and Loukas Barton PhD, RPA

Signature:__________________________________

Consultant Firm:
Dudek
621 Chapala Street
Santa Barbara, California 93101
805.963.2074

Project Proponent: 26313 Golden Valley Road

Proponent Firm:
Bo Prock, Acquisitions Manager
Pacific Industrial
6272 E. Pacific Coast Highway, Ste E
Long Beach, CA 90803
T. 310.903.2946

USGS Quads: Newhall

Resources: No cultural resource located within the proposed Project Site; resources within 1-mile radius: CA-LAN-351, CA-LAN-1824, CA-LAN-2105H, CA-LAN-2132H, CA-LAN-3043

Acreage: approximately 12.85

Keywords: Phase I Archaeological Survey, Pedestrian Survey, Golden Valley Road

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IMAGE

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Executive Summary

Pacific Industrial retained Dudek to conduct a cultural resources assessment documented by a Phase I Archaeological Survey Report for the 26313 Golden Valley Road Project (Project) located in the City of Santa Clarita, Los Angeles County, California (APN 2836-016-083). This report includes the following components: results of a California Historical Resources Information System (CHRIS) records search of the proposed Project area plus a 1-mile radius; results of background research including a literature, archival and historic map and aerial photograph review; result of the intensive-level pedestrian survey of the proposed Project area for cultural resources; an assessment of impacts to historical resources in compliance with the CEQA and management recommendations. This report satisfies all applicable requirements for the California Environmental Quality Act (CEQA) and City of Santa Clarita.

The Phase I investigation had the following goals: to better understand the potential for cultural resources to exist within the proposed Project site through extensive background research and an intensive pedestrian survey and consideration of the potential for any known or unknown cultural resources to be impacted by proposed Project ground disturbances. An archaeological literature and records search conducted at the California Historical Resources Information System (CHRIS), South Central Coast Information Center (SCCIC), California State University, Fullerton, determined that no cultural resources have been previously identified within the proposed Project area and five (5) cultural resources have been previously identified within 1-mile of the proposed Project site including two (2) built environment (extant structural features), the closest of which is 80 m (265 ft) west of the proposed Project site, and three (3) prehistoric archaeological sites, the closest of which is 1,410 m (4,625 ft) northwest of the proposed Project site. Twenty-nine (29) cultural resource investigations have been undertaken within 1-mile of the proposed Project site in all directions; two (2) of the cultural resource investigations have addressed the proposed Project site. A geotechnical investigation of the proposed Project site was conducted employing two (2) hollow-stem borings and four (4) test track hoe test pits. A review of the results indicate that artificial fill soils exist between grade and 24 to 39 feet below grade within the eastern canyon portion of the site, alluvial soils between grade and 2.5 to 4 feet below current grade within the northern, western and southern hillside portions and that the entire site is underlain by bedrock of the Saugus Formation.

The proposed Project site was intensively surveyed by Dudek staff archaeologists on February 2, 2022 and February 17, 2022 using no more than 10-meter (approximately 30 feet) transect intervals where feasible and opportunistic approach was applied as appropriate, where areas were previously disturbed. No survey was conducted within slopes greater than 30%. Ground surface visibility, within the proposed Project site, varied from fair to excellent and special attention was given to barren ground including at the base of trees, within dirt roads and paths as well as subsurface soils exposed by burrowing animals. No cultural material was observed within the proposed Project site as a result of the pedestrian survey. Based on the generally good ground surface visibility and use of shovel scrapes in areas with more surface vegetation, the intensive archaeological survey results are considered to be reliable

The proposed Project includes the construction of a 2-story, 174,000 s.f. building for mixed industrial and office use as well as the required utility services, water, sewer, and water quality treatment basins to serve the building and support the proposed Project. Proposed ground disturbance includes significant grading and terracing of the hillside areas located in the western portion of the proposed Project site, moderate grading and terracing in the northern and southern portions and fill of the cut soils within the eastern canyon portion of the proposed Project site. The ground disturbance is anticipated to extend up to 67 feet below current ground surface within the hillside portions of the proposed Project site and since at least 35 feet of fill soil is proposed to be deposited from the hillside portions to the current canyon portion, no ground disturbance within native soils is expected to occur within the Project areas proposed for building construction, utility, water quality treatment basin and retaining wall installation, landscaping and paving. Based on the negative records search results and primarily due to the fact that proposed ground disturbance within intact native soils will be limited to areas with greater that 30% slopes, the potential for unknown prehistoric and historic cultural resources to exist and be impacted by the proposed Project is considered unlikely. However, due to the overall sensitive nature of the general area surrounding the proposed Project site, it is possible that unknown cultural material and features could be encountered during proposed Project construction. Therefore, the following measures have been recommended to ensure that the potential for impacts to unknown cultural resources during proposed ground disturbing construction activities would be appropriately addressed consistent with CEQA and City of Santa Clarita Cultural Resource Guidelines: development and implementation of a Cultural Resource Inadvertent Discovery Plan and Workers Environmental Awareness Program Training. Proper implementation of these recommendations would ensure impacts to cultural resources would be less than significant.

1.0 Introduction

Pacific Industrial retained Dudek to conduct a cultural resources assessment documented by a Phase I Archaeological Survey Report for the 26313 Golden Valley Road Project (Project) located in the City of Santa Clarita, Los Angeles County, California. This report includes the following components: results of a California Historical Resources Information System (CHRIS) records search of the proposed Project area plus a 1-mile radius; results of background research including a literature, archival and historic map and aerial photograph review; result of the intensive-level pedestrian survey of the proposed Project area for cultural resources; an assessment of impacts to historical resources in compliance with the CEQA and management recommendations. This report satisfies all applicable requirements for the California Environmental Quality Act (CEQA) and City of Santa Clarita.

This report was prepared by Dudek Archaeologist, Heather McDaniel McDevitt, MA, RPA, who meets Secretary of the Interior's standards. Ms. McDaniel McDevitt managed the field and research tasks for this study, composed the report, and reviewed all tasks for quality assurance/quality control. The following Dudek archaeological staff contributed to this study: Kira Archipov, BS, Brenda Rogers, BA and Linda Kry, BA, RA conducted fieldwork and contributed to the survey section of the report; Jennifer De Alba, BA, Kira Archipov and Brenda Rogers contributed to research tasks and to various sections of the report; Micah J. Hale, PhD, RPA composed portions of the prehistoric and ethnohistoric setting contexts with edits by Loukas Barton, PhD, RPA and Ms. McDaniel McDevitt composed the historic setting context.

1.1 Project Description

The proposed Project is a part of an entitlement effort of a Tentative Tract Map for the merger and re-subdivision of an existing 28.13-acre site for a mixed-use project in the City of Santa Clarita. The subject property is located at the northwest corner of Golden Valley Road and Sierra Highway, in the City of Santa Clarita. A majority of the site is currently vacant except for the single-family residence and accessory structures that are located near the southerly portion of the property along Golden Valley Road. The subject property is designated as Mixed-Use Neighborhood Planned Development Overlay Zone (MX-N (PD)). The proposed uses are consistent with both City General Plan, Unified Development Code, and Zoning designations. Adjacent uses include residential uses to the immediate north and east, vacant land to the south, and residential uses/Golden Valley High School to the west. The surrounding uses along Golden Valley Road and Sierra Highway consist of mostly established residential uses, schools, and neighborhood commercial retail centers.

The proposed Project includes the construction of a building for mixed industrial and office use with a total 2-story building square footage of 174,000. The plan currently provides for 254 overall parking stalls, 156 warehouse stalls and 36 office parking stalls. Access to the site would be through the two proposed driveways at the NE and SE corners of the site at Golden Valley Road. Applicant is requesting additional confirmation on the allowable access via the NE drive approach as shown on the site plan and left entry into the site from Golden Valley Road, with the understanding that only a right turn can be made to exit the site onto Golden Valley Road.

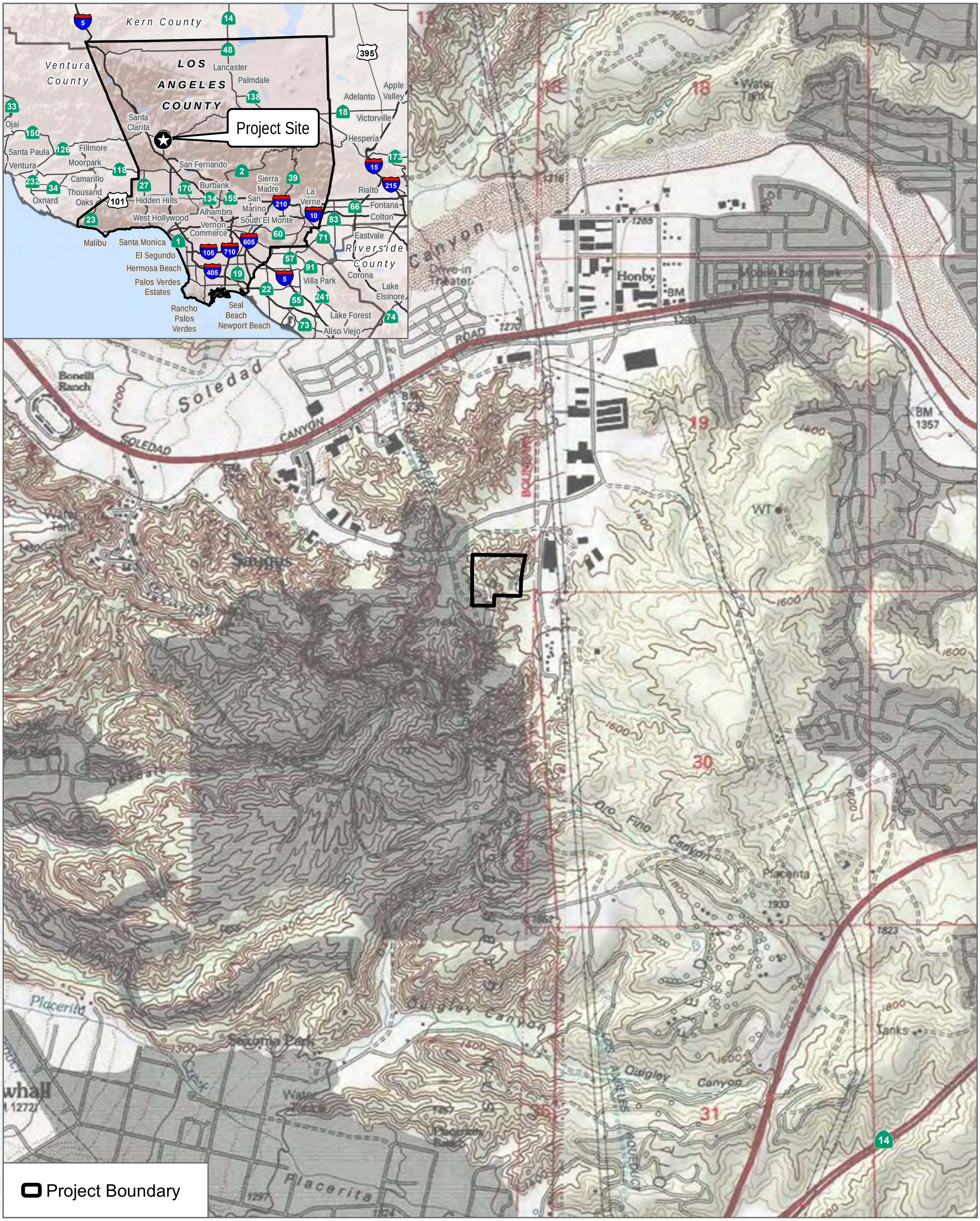
The building itself will be 36' clear, ESFR and provide 25 dock high doors and 2 grade level doors. The building is currently planned for one office and likely to be occupied by a single user. However, since the proposed project is speculative, the applicant desires flexibility to demise the building and create secondary offices as the market requires. The number of employees and hours of operations are currently unknown and will depend upon the end user but anticipate up to 24/7 for warehouse operations with the office component more typically staffed Mon – Fri 8am – 5pm.

The proposed Project will also include the construction of required utility services, water, sewer, and water quality treatment basins to serve the building and support the proposed Project. Proposed ground disturbance includes significant grading and terracing of the hillside areas located in the western portion of the proposed Project site, moderate grading and terracing in the northern and southern portions and fill of the cut soils within the eastern canyon portion of the proposed Project site. The ground disturbance is anticipated to extend up to 67 feet below current ground surface within the hillside portions of the proposed Project site and since at least 35 feet of fill soil is proposed to be deposited from the hillside portions to the current canyon portion, no ground disturbance within native soils is expected to occur within the Project areas proposed for building construction, utility, water quality treatment basin and retaining wall installation, landscaping and paving.

1.2 Natural Setting

The proposed Project site is located within the northeastern portion of the City of Santa Clarita within the U.S. Geological Survey (USGS) 7.5-minute Newhall quadrangle, Township 4 north, Range 16 west, Sections 24 and 25. It is situated approximately 3.8 miles south of the Sierra Pelona Mountains, 2.5 miles northwest of the San Gabriel Mountains, and 4.2 miles northeast of the Santa Susanna Mountains. The proposed Project site is located within the low foothills overlooking the confluence of the upper Santa Clara River (Soledad Canyon) which approximately 0.8 miles to the south. Elevation within the proposed Project site varies from its highest of 1,490 ft within the natural vegetated slopes to approximately 1,390 ft within the low, level eastern basin portion of the proposed project site. Vegetation within the general area would likely have consisted, prior to development, of sage scrub on the hillsides and ridges and Oak Savannah parkland within the alluvial floodplain. The current conditions represent considerable disturbance within the south and eastern portions of the proposed Project resulting in those areas being barren of vegetation. The proposed project site still contains, within its northern and western portions, low hills covered in a mosaic of native (sage scrub) and nonnative (annual grasses) vegetation.

Soils in the proposed Project site are characterized as Saugus loam with Yolo loam (USDA 2022). The Saugus loam exists at 30 to 50 percent slopes and has a series profile typically consisting of 0 to 42 inches of loam; 42 to 46 inches of weathered bedrock. The parent material is a weakly consolidated alluvium. The Yolo loam exists at 2 to 9 percent slopes and has a series profile typically consisting of 0 to 72 inches of loam and is characterized by alluvial fans. The site is underlain by sedimentary rock units of the Plio-Pleistocene age Saugus Formation comprised interbedded light brown to reddish-brown siltstone and sandstone. This formation is characterized as moderately cemented, indurated, and generally poorly exposed (RTF&A 2020).



SOURCE: USGS 7.5-Minute Series Newhall Quadrangle
Township 4N; Range 16W; Section 24, 25

DUDEK

FIGURE 1

Project Vicinity

Santa Clarita Warehouse Project

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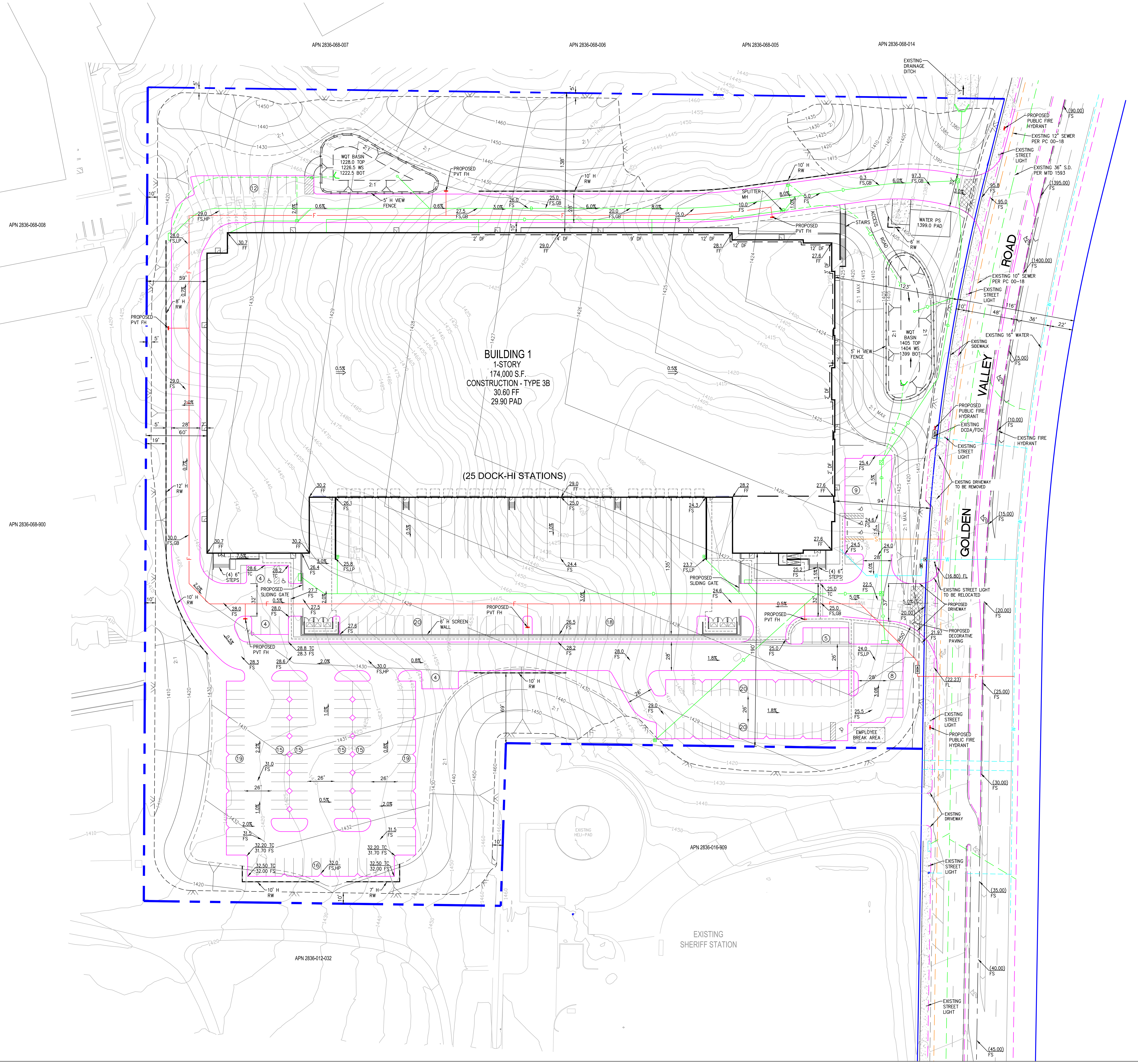
PACIFIC GOLDEN VALLEY

SITE DEVELOPMENT PLAN
(PRELIMINARY GRADING/DRAINAGE PLAN)
10/19/21



SCALE: 1"=40'

PROJECT DATA:

BUILDING AREA

OFFICE:	9,000 SF
WAREHOUSE:	165,000 SF
TOTAL:	174,000 SF

PARKING REQUIRED:

OFFICE:	9,000 SF x 1 STALL/250 SF = 36 STALLS
WAREHOUSE:	165,000 SF x 1 STALL/1,000 SF = 165 STALLS
TOTAL:	201 STALLS

PARKING PROVIDED:

TOTAL:	238 STALLS

EARTHWORK:

190,000 CY CUT

190,000 CY FILL

100,000 CY OVEREXCAVATION

LEGEND:

▬ ▬ ▬	SITE BOUNDARY
— — —	EXISTING RIGHT OF WAY
—1600—	EXISTING CONTOUR PER RG PLAN
——	PROPOSED CURB
—SD—	PROPOSED STORM DRAIN (PRIVATE)
- -SD- -	EXISTING STORM DRAIN
—S—	PROPOSED SEWER (PRIVATE)
- -S- -	EXISTING SEWER
—W—	PROPOSED WATER (PRIVATE)
- -W- -	EXISTING WATER
—F—	PROPOSED FIRE LINE (PRIVATE)
- - - -	ADA PATH OF TRAVEL

ALLIANCE
LAND PLANNING & ENGINEERING INC.

2248 FARADAY AVE.
CARLSBAD, CA 92008
TEL: (760) 431-9896
FAX: (760) 431-8802

27413 TOURNEY ROAD
SUITE 120
VALENCIA, CA 91355
TEL: (661) 799-2760

CIVIL ENGINEERING • LAND PLANNING • HILLSIDE DESIGN • SURVEYING

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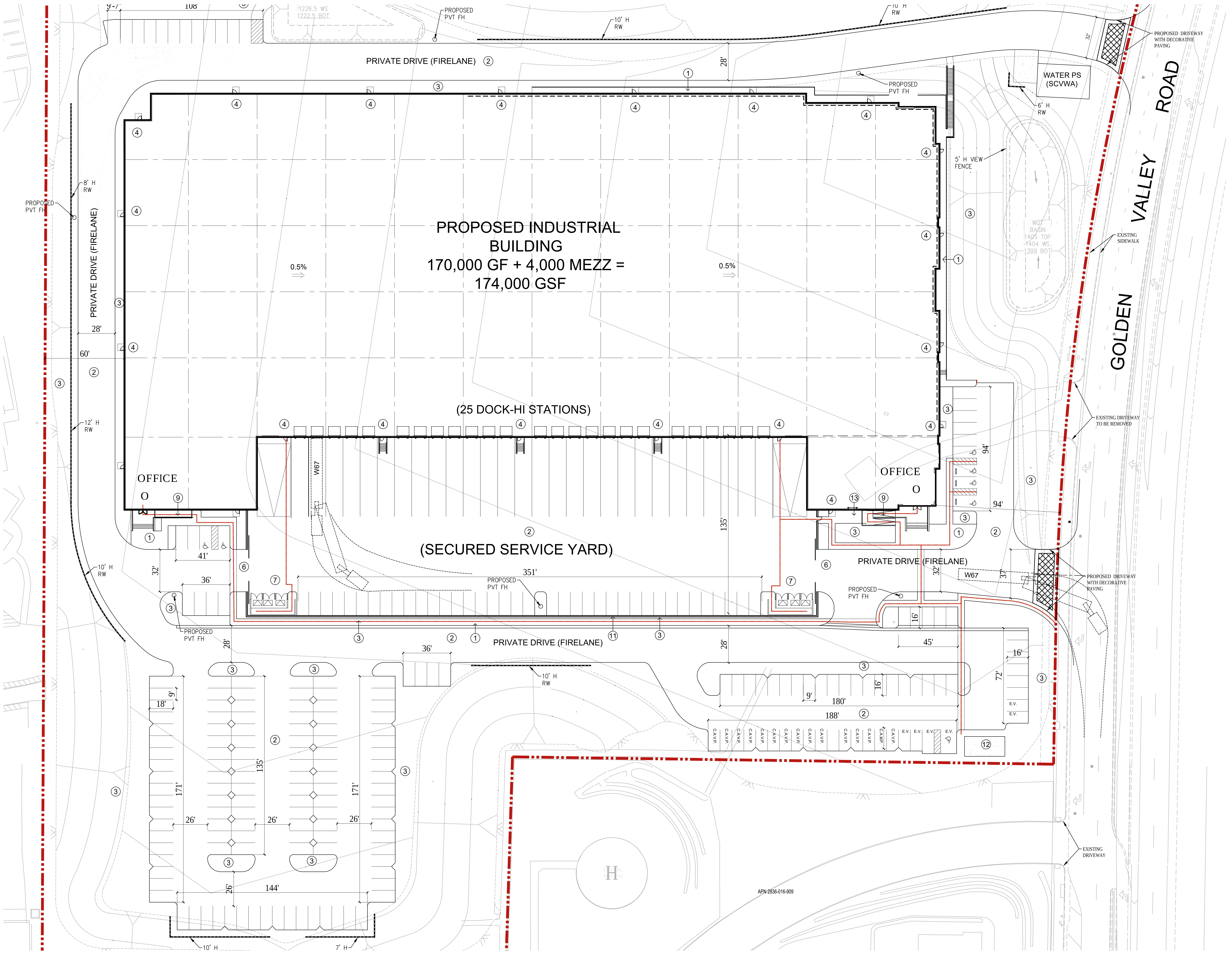
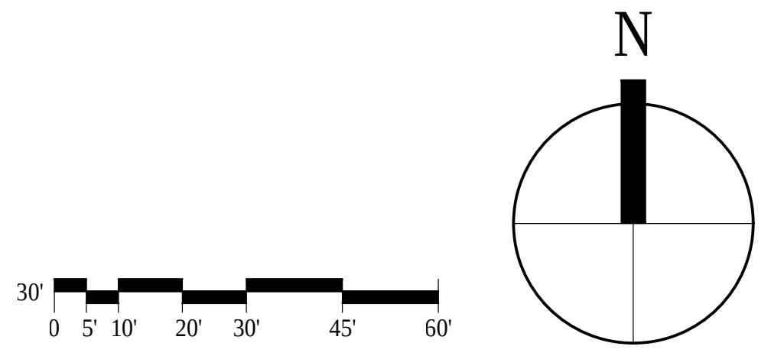


GRAPHIC LEGEND:

- O = OFFICE ENTRY
- G.D. = GRADE DOOR (14'X14')
- = A.D.A. ACCESSIBLE PRKG.
- = PROPERTY LINE (SEE CIVIL)
- = DOCK DOOR & LEVELER
- = CANOPY OR OVERHANG
- = CENTERLINE OR GRID LINE
- = TRASH ENCLOSURE W/ SOLID ROOF A.D.A ACCESIBLE
- = WB-67' TRACTOR TRAILER
- = ADA PATH OF TRAVEL

KEY NOTES:

1. PEDESTRIAN PAVING (SEE CIVIL & LANDSCAPE)
2. CONCRETE VEHICULAR PAVING (SEE CIVIL)
3. LANDSCAPE AREA (SEE LANDSCAPE)
4. ACCESS DOOR OR EMERGENCY ACCESS DOOR
5. (NOT USED)
6. AUTOMATIC ROLLING GATE (8'-HEIGHT)
7. TRASH ENCLOSURE (ADA COMPLIANT)
8. (NOT USED)
9. ADA RAMP (AS REQUIRED)
10. (NOT USED)
11. CONCRETE SCREEN WALL (12' HEIGHT)
12. EMPLOYEE BREAK AREA WITH TRELLIS/ TABLES
13. BIKE RACK AREA



GOLDEN VALLEY INDUSTRIAL FACILITY SANTA CLARITA, CA.

ENLARGED SITE PLAN

10-26-2021

PACIFIC INDUSTRIAL

Architecture. Design. Relationships.

144 North Orange Street, Orange, California 92866
714 / 639-9860
aoarchitects.com

A2

Scale 1" = 30'
Job No. 2021-201
Date Oct. 26, 2021

DISCLAIMER:
ALL INFORMATION CONTAINED HEREIN MAY BE SUBJECT TO CHANGE PENDING OWNER AND OR AGENCY REVIEW AND IS FOR INFORMATION ONLY

sheet plotted: Nov/04/2021 @ 11:18 AM
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2.0 Regulatory Setting

2.1 Federal Regulations

The proposed Project does not have a federal nexus and therefore is not subject to Federal regulations.

2.2 State Regulations

2.2.1 California Environmental Quality Act

The California Register of Historical Resources

In California, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code Section 5020.1(j)). In 1992, the California legislature established CRHR "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (California Public Resources Code Section 5024.1(a)). A resource is eligible for listing in the CRHR if the State Historical Resources Commission determines that it is a significant resource and that it meets any of the following NRHP criteria (California Public Resources Code Section 5024.1(c):

1. Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Resources less than 50 years old are not considered for listing in the CRHR but may be considered if it can be demonstrated that sufficient time has passed to understand the historical importance of the resource (see 14 CCR, Section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing on the NRHP are automatically listed on the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys. The State Historic Preservation Officer maintains the CRHR.

Native American Historic Cultural Sites

The Native American Historic Resources Protection Act (California Public Resources Code Section 5097, et seq.) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

California Environmental Quality Act Statutes and Guidelines

As described further below, the following CEQA statutes and CEQA Guidelines are relevant to the analysis of archaeological and historic resources:

1. California Public Resources Code Section 21083.2(g): Defines “unique archaeological resource.”
2. California Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5(a): Defines historical resources. In addition, CEQA Guidelines Section 15064.5(b) defines the phrase “substantial adverse change in the significance of an historical resource. It also defines the circumstances when a project would materially impair the significance of a historical resource.
3. California Public Resources Code Section 5097.98 and CEQA Guidelines Section 15064.5(e): These statutes set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
4. California Public Resources Code Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4: These statutes and regulations provide information regarding the mitigation framework for archaeological and historic resources, including options of preservation-in-place mitigation measures; identifies preservation-in-place as the preferred manner of mitigating impacts to significant archaeological sites.

Under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of an historical resource” (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(b)). An “historical resource” is any site listed or eligible for listing in the CRHR. The CRHR listing criteria are intended to examine whether the resource in question: (a) is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage; (b) is associated with the lives of persons important in our past; (c) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or (d) has yielded, or may be likely to yield, information important in pre-history or history.

The term “historical resource” also includes any site described in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of California Public Resources Code Section 5024.1(q)).

CEQA also applies to “unique archaeological resources.” California Public Resources Code Section 21083.2(g) defines a “unique archaeological resource” as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In 2014, CEQA was amended to apply to "tribal culture resources" as well, but the amendment did not provide a definition for such resources or identify how they were to be evaluated or mitigated (California Public Resources Code Sections 21084.2 and 21084.3). Instead, California Public Resources Code Section 21083.09 required that the Office of Planning and Research develop and adopt guidelines for analyzing "tribal cultural resources" by July 1, 2016. As of the effective date of this report, however, those guidelines have not been finalized or adopted. Consequently, this report addresses only historic resources and unique archaeological resources.

All historical resources and unique archaeological resources – as defined by statute – are presumed to be historically or culturally significant for purposes of CEQA (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(a)). A site or resource that does not meet the definition of "historical resource" or "unique archaeological resource" is not considered significant under CEQA and need not be analyzed further (California Public Resources Code Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)).

Under CEQA and significant cultural impact results from a "substantial adverse change in the significance of an historical resource [including a unique archaeological resource]" due to the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1); California Public Resources Code Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

CEQA Guidelines Section 15064.5(b)(2)

Pursuant to these sections, the CEQA first evaluates evaluating whether a project site contains any "historical resources," then assesses whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

When a project significantly affects a unique archeological resource, CEQA imposes special mitigation requirements. Specifically, "[i]f it can be demonstrated that a project will cause damage to a unique archeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:"

1. "Planning construction to avoid archeological sites."
2. "Deeding archeological sites into permanent conservation easements."
3. "Capping or covering archeological sites with a layer of soil before building on the sites."
4. "Planning parks, greenspace, or other open space to incorporate archeological sites."

California Public Resources Code Section 21083.2(b)(1)-(4)

If these "preservation in place" options are not feasible, mitigation may be accomplished through data recovery (California Public Resources Code Section 21083.2(d); CEQA Guidelines Section 15126.4(b)(3)(C)). California Public Resources Code Section 21083.2(d) states that "[e]xcavation as mitigation shall be restricted to those parts of the unique archeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report."

These same requirements are set forth in slightly greater detail in CEQA Guidelines Section 15126.4(b)(3), as follows:

(A) Preservation in place is the preferred manner of mitigating impacts to archeological sites. Preservation in place maintains the relationship between artifacts and the archeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.

(B) Preservation in place may be accomplished by, but is not limited to, the following:

  1. Planning construction to avoid archeological sites;
  2. Incorporation of sites within parks, greenspace, or other open space;
  3. Covering the archeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site [; and]
  4. Deeding the site into a permanent conservation easement.

(C) When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken.

Note that, when conducting data recovery, "[i]f an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation." However, "[d]ata recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archeological or historic resource, provided that determination is documented in the EIR and that the studies are deposited with the California Historical Resources Regional Information Center" (CEQA Guidelines Section 15126.4(b)(3)(D)).

California Health and Safety Code

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in California Public Resources Code Section 5097.98.

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (Section 7050.5b). California Public Resources Code Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the Native American Heritage Commission (NAHC) within 24 hours (section 7050.5c). The NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains, and items associated with Native Americans.

2.3 Local Regulations – City of Santa Clarita

This study was completed in consideration of all sections of the City of Santa Clarita, California - Code of Ordinances related to Historic Preservation (Chapter 17.03.145). This ordinance was adopted by the City in 2013. Sections most relevant to this study are enumerated A, B, and D. These sections are provided below.

17.03.145 Historic Preservation Review.

A. The purpose of this section is to promote the economic and general welfare of the City of Santa Clarita by preserving and protecting public and private historic, cultural, and natural resources which are of special historic or aesthetic character or interest, or relocating such resources where necessary for their preservation and for their use, education, and view by the general public.

B. Definitions. As used in this section, this term has the following meaning:

> 1. "Historic Resource" shall mean structures or site features on properties listed on the National Register of Historic Places, the California Register of Historic Landmarks, the list of California Historical Landmarks, or the list of California Points of Historical Interest, or those structures designated under this ordinance. A listing of properties and structures designated under this ordinance shall be available with the Community Development Department.

D. Planning Commission Resolution Findings for Designating a Historic Resource. A building, structure, or object may be designated by the Planning Commission as a historic resource if it possesses sufficient character-defining features and integrity, and meets at least one of the following criteria:

> 1. Is associated with events that have made a significant contribution to the historical, archaeological, cultural, social, economic, aesthetic, engineering, or architectural development of the City, State or Nation; or
>
> 2. Is associated with persons significant in the history of the City, State or Nation; or
>
> 3. Embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship; or
>
> 4. Has a unique location, singular physical characteristic(s), or is a landscape, view or vista representing an established and familiar visual feature of a neighborhood, community, or the City; or

5. Has yielded, or has the potential to yield, information important to the history or prehistory of the City, State, or nation.

3.0 Cultural Setting

3.1 Background Context

3.1.1 Prehistoric Setting

The proposed Project area falls within a part of California that is poorly understood regarding aboriginal occupation. The few significant archaeological studies in the area (e.g., Waugh 1999) have not fully defined local culture history and as a result, researchers have imposed cultural historical schemes developed in adjacent regions onto the Santa Clarita Valley. Even the most recent published archaeological summaries casually lump the Santa Clarita Valley into neighboring cultural historical schemes of the southern California coast (i.e., Glassow et al. 2007). The same is true of the ethnohistoric record, which is based wholly on second-hand accounts of descendants claiming traditional ties to the area (see Section 3.2, below).

Note also that one artifact type defined for one region may or may not represent the same time period or human behavior in another. The simple correlations of artifact types or styles does not necessarily indicate a direct functional or causal relationship. That is, the presence of coastal or desert-derived artifacts in Santa Clarita Valley does not necessarily indicate cultural or socioeconomic relationships with inhabitants of those areas. Such relationships must be demonstrated in the archaeological record by ruling out other functional interpretations as less plausible.

To avoid the pitfalls of extending culture histories from adjacent regions into the Santa Clarita Valley, the following sections discuss major archaeological trends in southern California according to a geologic time scale: Terminal Pleistocene (pre-10,000 years before present—BP), Early Holocene (10,000 – 7500 BP), Middle Holocene (7500 – 4000 BP), and Late Holocene (post – 4000 BP). Regional culture historical frameworks are then discussed within these categories as appropriate, providing an opportunity to consider their local application.

Terminal Pleistocene (pre – 10,000 BP)

The terminal Pleistocene period has been the subject of much research in North America, although it remains hotly debated in terms of human adaptations. A few things are certain: terminal Pleistocene environments were rapidly changing at the end of the Wisconsonin glaciation period after 18,000 BP; definitive evidence places humans in North American by at least 12,500 BP.

The last major glaciation period (Wisconsonin) ended by about 18,000 BP, marked by a warming and drying trend that started at this time, lasting until at least 15,000 BP (Grayson 1993). Glaciers that covered most of northern North America began to melt forming pluvial lakes; Pleistocene Lake Lahonton being one of the largest covering the Great Basin of western North America (Grayson 1993). In southern California, many of the vegetation communities found at high elevations today were found at lower elevations then. Wood rat middens from the Mojave Desert indicate that the area was covered by a coniferous forest characterized by juniper and sage by 15,000 BP (Spaulding 1983, 1990). As the Pleistocene came to a close by about 10,000 BP, the warming trend continued and upward migration of vegetation communities occurred, firmly establishing desert sage scrub communities and coastal chaparral from 10,000 to 8,000 BP. Ocean core sediment analysis of oxygen isotopes and pollen indicate much cooler ocean surface temperatures. Coupled with rising sea levels at a rate of about one meter per century through close of the Pleistocene (Inman 1983), the early Holocene was set to be much more moderate in climatic stability than the Pleistocene.

These environmental changes have been often cited as a key agent in cultural adaptation. A very unique technology defined by fluted projectile points and a highly formal lithic tool kit with almost no processing equipment is recognized as the earliest evidence of human adaptation to North America. Widely known as “Clovis,” regional manifestations of this toolkit show important variability both in projectile point styles and tool kit composition. In western North America, fluted points and related items are most often found near or along pluvial lakeshores, leading to the definition of the Western Pluvial Lakes Tradition (WPLT, Bedwell 1973). The WPLT holds as its primary tenet that human adaptive strategies in the terminal Pleistocene were evolved to exploit the rich flora and fauna located along pluvial shorelines. Emma Lou Davis’ (1978) work at China Lake near the Coso Range is one of the more well-known examples of a pluvial association with fluted points. Indeed, there is good evidence that Pleistocene megafauna persisted alongside modern fauna and tended to cluster around pluvial lakeshores (Grayson 1993). However, recent research questions the reality of the WPLT through discoveries of Paleoindian toolkits, including fluted points in areas far removed from pluvial lakeshores (Basgall et al. 2002). Moreover, the variability in terminal Pleistocene tool kits is just beginning to be understood as various kinds of stemmed projectile points are being reliably assigned to pre-10,000 BP contexts, such as Great Basined Stemmed and Lake Mojave projectile point forms (Basgall et al. 2002; Basgall 2000; Warren 2004).

Whether or not terminal Pleistocene humans focused on hunting large animals or not is also debated. Most hold Clovis and other fluted point-dominated assemblages as a highly specialized large animal hunting complex, but others interpret these technological complexes as generalized, allowing for rapid movement across large areas with flexibility (i.e., Kelly and Todd 1988). Resolution to this issue has yet to come, but strong evidence suggests on either side with direct evidence of megafauna procurement using fluted and other stemmed points (see Meltzer 1993), as well as direct evidence of stemmed projectile points for cutting and grinding, indicating a more generalized intent of use (see Basgall 1993). The truth probably rests in regional variation where localized climatic and environmental patterns affect the resources humans exploit and as a result, their response to changes in the availability of those.

Further complicating the picture is the realization that vegetal processing technology was being intensively used prior to 10,000 BP. The discovery in La Jolla of a robust assemblage of millingstones, handstones, and battered implements, with virtually no formal flaked lithic items associated with dozens of human burials and radiocarbon dates in excess of 10,000 BP indicates at the very least that socioeconomic adaptation was occurring rapidly among California hunter-gatherers during the terminal Pleistocene (Hale 2010a; see also Ike et al. 1979). Assemblages of this nature are often attributed to the Milling Stone pattern that has been interpreted as a response to punctuated middle Holocene aridity (see middle Holocene discussion, below). Regardless, discoveries of artifacts, such as fluted points that are exclusive to terminal Pleistocene cultural adaptations associated with pre-10,000 BP radiocarbon dates indicates that humans reached the coastal margins of western North America during this period (see Erlandson 1988, 1991; Erlandson et al. 2008; Fitzgerald and Jones 2000; Rogers 1938; Warren 1968).

Initial efforts to parse out archaeological components somewhat arbitrarily ascribed the “Early Man” phase to southern California (Wallace 1955). Wallace’s Early Man phase (10,000 – 6000 B.C. (12,000 – 8000 BP) was allocated to the terminal Pleistocene and early Holocene, but without the benefit of radiocarbon dates. The Early Man phase was ill-defined and based off of Rogers (1938) work with San Dieguito collections—a hunting-related toolkit defined at the Harris Site containing stemmed projectile points similar to Lake Mojave points located in desert regions to the north. Other fluted point discoveries to the north near Pleistocene Lake Tulare certainly biased Wallace's (1955) efforts to define an early phase of human occupation, especially since his primary region of study (Los Angeles and Ventura Counties) was nestled in between San Dieguito and Lake Tulare archaeological discoveries.

Regardless of early efforts to define a terminal Pleistocene cultural chronology, the upper Santa Clarita River Valley has yielded no evidence of terminal Pleistocene human occupation. Earliest radiocarbon dates extend only into the middle Holocene, and these are also rare. Given the early timeframe, that preservation of organic materials dramatically decreases with time, and that the accretional and degradational depositional context of the upper Santa Clarita River Valley has obscured or wiped out any such evidence, it is unlikely that a terminal Pleistocene component will ever be identified there.

Early Holocene (10,000 – 7500 BP)

Human occupation of southern California during the early Holocene period (10,000 – 7500 BP) is better understood than the terminal Pleistocene, although archaeological evidence for early Holocene human occupation still tends to be regionally clustered. Early Holocene environments continued the warming and drying trend initiated during the terminal Pleistocene, but most of the major pluvial lake systems were fully desiccated, with periodic recharge of some basins provided by seasonal precipitation rather than melting glaciers (Basgall 1993; Waters 1991). Most studies converge on the idea that the early Holocene was noticeably more arid since desert vegetation communities appear strongly established in composition and distribution by 9000 BP (Spaulding and Graumlich 1986; Van Devender et al. 1987). All megafauna (i.e., elephants, camelids, sloths, etc.) were all but gone by 10,000 BP, however with modern fauna attaining their modern vegetation associations by this time.

Most cultural chronologies have their roots in the early Holocene, save for the WPLT, San Dieguito, and other stemmed and fluted point traditions noted earlier. David Banks (D.B.) Rogers (1929) was the first to propose a cultural chronology, though his age estimates suffered from the lack of absolute dating techniques and data at the time. D.B. Rogers (1929) proposed Oak Grove as the earliest robust cultural tradition beginning just after the Pleistocene and early Holocene transition at around 10,000 BP. Later known as the Milling Stone Horizon (Wallace 1955), or Encinitas Tradition (Warren 1968), Oak Grove was recognizable by the large amounts of processing equipment dominated by basined millingstones and handstones, along with a general lack of formal flakedstone hunting tools. Wallace (1955) built on D.B. Roger's work, with Oak Grove representing the Milling Stone Horizon, but the interpretation was the same: an economy dominated by vegetal processing and a general lack of hunting. Warren (1968) sought to clarify regional variability during the early Holocene and proposed the Encinitas Tradition, comprised of various local manifestations of the Milling Stone Horizon assemblages that had locally specific environmental agents driving the development of the processing economies. Warren, however significantly added to the discourse by better defining the San Dieguito complex as preceding the Milling Stone pattern and being comprised of stemmed projectile points and bifacial knives, with few processing tools (see Warren 2004). San Dieguito appeared to be a coastal southern California manifestation of what is known as Lake Mojave in the northern high deserts.

Coastal evidence for early Holocene human occupation is increasingly common, mostly in the form of pre – 7500 BP radiocarbon dates (Byrd 1997; Curtis 1965; Erlandson 1988, 1991, 1997; Erlandson et al. 1993, 2008; Gallegos and Kyle 1988; Glassow et al. 2007; Hale 2009, 2010a, 2010b; Hale and Becker 2006; Kaldenberg 1982; Levulett et al. 2002; Salls 1991; True 1980). Since the definition of the Milling Stone pattern by Wallace

(1955) and Warren (1968), extensive archaeological work in regulatory settings has generated a robust database of radiocarbon dated sites resulting in a clear picture that the Milling Stone pattern is firmly rooted in the early Holocene, by as much as 10,000 BP (see Hale 2010a). In fact, early Holocene radiocarbon dates have come to be expected in certain depositional contexts along the southern California coast because of their commonality and the consistency of the associated archaeological deposit (Hale 2009). Early Holocene dates along the coastal plain of southern California and interior ranges are currently considered part of the "Archaic" pattern; an umbrella term synonymous with Milling Stone.

Desert regions to the north and interior Peninsular Ranges (and intervening valleys) to the east also have relatively robust early Holocene records. To the east, the early Holocene continues to align with the Archaic or Milling Stone pattern (see Hale 2009; Hale and Comeau 2009; Sutton 2011). In the Mojave Desert, traditional early Holocene chronologies are being revised. The Lake Mojave (11,000 – 7500 BP) complex still appears to be the oldest stemmed point tradition that followed fluted point toolkits. Lake Mojave assemblages are characterized by weak shouldered stemmed projectile points and large amounts of formed flake tools with lesser amounts of expedient flaked tools and groundstone. However, recent evidence is pushing back dates for the Pinto complex to as much as 8000 BP, presenting an overlap problem with Lake Mojave (Basgall 2000; Sutton et al. 2007). The significance here is that Pinto sites are dominated by large amounts of ground and battered stone with relatively small amounts of formed flakedstone tools (Basgall and Hall 1993, 1994; Campbell and Campbell 1935; Giambastiani and Basgall 1999; Hall 1992; Schroth 1994; Warren 1968, 1980); Pinto is the first robust processing economy that appears in California deserts and is similar in many respects to the Milling Stone pattern of southern California, though not as old as Milling Stone. The similarities with the Milling Stone pattern include settlement that was characterized by serial occupation of specific sites producing robust assemblages through tool reuse (Hale 2001).

The early Holocene is not represented in Santa Clarita Valley by direct archaeological evidence, despite being known in adjacent desert and coastal regions. No doubt prehistoric populations took advantage of the natural travel corridors linking interior areas to the coast and southern coastal plain. However, as with archaeological deposits of later periods, damaging erosion and flooding have either destroyed or obscured any such deposits that may have existed. Attempts to locate buried deposits using hollow stem augers (i.e., core samples) in other parts of southern California, such as the Las Flores watershed (Hale and Becker 2006) or Otay River floodplain (Cook and Andrews 2003; Comeau et al. 2014) focused on floodplains with a gradual sedimentation sequence and less frequent and less destructive erosional events. It is no surprise then that intact archaeological deposits dating to the early Holocene (and later) were identified in those areas. The same is not true for the Santa Clarita River floodplain and surrounding geologic landscape that has seen frequent intervals of violent flooding that eroded any riverbed or nearby terrace deposits.

Middle Holocene (7500-4000 BP)

The middle Holocene (7500-4000 BP) witnessed a continuation of archaeological patterns defined in the early Holocene. However, the middle Holocene was marked by periods of extreme aridity collectively termed the Altithermal by Ernst Antevs (1953). After much research since Antevs' (1953) original work the Altithermal is better understood as having variable effects at a subregional scale. Southern California was already characterized as an arid landscape by the inception of the middle Holocene, thus notable changes include adjustments in the elevation and density of existing vegetation communities and related fauna (Mehringer 1967; Spaulding 1985, 1990; Wells 1983). To be sure, humans respond to changes in the resources they exploit, and it is plausible that plants and animals that were the focus of subsistence either decreased in abundance or congregated in more favorable areas. Warren (1968) postulates as much, suggesting that the Encinitas Tradition (i.e., Milling Stone pattern) was adapted in the coastal plain to the margins of lagoons that were magnet locations for vegetation and fauna, and as a result, human occupation.

Whatever the regional environmental differences were, it was clear that humans have been present in southern California throughout the middle Holocene with widespread evidence of humans hunkering down and increasing vegetal processing intensity, rather than depopulating whole areas. In fact, the origin of Milling Stone pattern itself was thought to be a response to Altithermal conditions (Wallace 1955; see Hale 2001, Erlandson 1997). The early Holocene appearance of Milling Stone adaptations, however, runs counter to this explanation, suggesting instead that Milling Stone economies were the first socioeconomic adaptation to stable California environments after the waning of terminal Pleistocene transitions (Hale 2010a, 2011). Regardless, processing economies were apparently well-suited to the arid middle Holocene conditions, based on the ubiquity of Milling Stone assemblages.

Regional cultural histories adjacent to the upper Santa Clarita River Valley continue in the same nomenclature. In the deserts to the north, the Pinto period reigns until at least the end of the middle Holocene (4000 BP); although, Gypsum period assemblages characterized by contracting stem dart points, larger numbers of small flake tools, and some mortar/pestle technology have pushed their 4000 BP inception date to some degree (Hale 2011). Southern coastal regions such as San Diego County and parts of Orange and Los Angeles Counties also retain Milling Stone assemblage dominance, including at the Tank Sites (CA-LAN-1 and -2) in Topanga Canyon that date as late as 2000 BP (see Hale 2001). The middle Holocene is one of the best represented periods in San Diego County and keeping with the Milling Stone or Archiac pattern (Masters and Gallegos 1997; see Hale 2009 for assemblage summaries).

Real socioeconomic change during the middle Holocene appears first in the Santa Barbara Channel with the abrupt appearance of bowl mortars by at least 5500 BP at sites such as CA-SBA-53, CA-SBA-54, CA-SBA-75, and CA-SBA-84 to name a few (Hale 2009; see also Erlandson et al. 2008, Harrison and Harrison 1966; Levulett et al. 2002). Mortars are costly to manufacture (mortar surfaces are manufactured, rather than mostly accruing depth through use), and thus their manufacture in noticeable quantities necessarily signals a shift to a more intensive processing economy (Hale 2010b). It is thought that mortars in the Santa Barbara Channel were used to intensively process nuts such as acorn and buckberry that have substantial nutritional value when processed in mass quantities (Bettinger et al. 1997; Bettinger and Tushingham 2013). Moreover, the complex ecology of acorn masting requires storage for it to be an efficient economic pursuit of humans (Hale 2009; 2010a). The attendant social shifts that must occur to make an acorn economy economically viable are no less complex, requiring defense of territories containing acorn producing oaks and storage facilities; concepts not altogether welcoming to hunter-gatherer societies that have evolved social institutions precisely to cull such behavior (Bettinger 1999).

Other refinements to culture historical frameworks are based on King's (1981) chronology of burial patterns and related artifacts. Minor refinements to King's chronology occur when assemblage data warrant as much, but substantial numbers of *Olivella sp.* shell beads present in burial populations of the last 3000 years in King's study laid a strong chronological foundation for determining the kinds of socioeconomic patterns that developed during the late Holocene, discussed below.

Overall, the middle Holocene in southern California is primarily defined by processing economies of the Milling Stone pattern, which is undeniably the most robust and visible archaeological pattern found in California (Hale

2001, 2009; Fitzgerald and Jones 2000). Archaeologists continued until the turn of the century to be captivated by the Milling Stone pattern, resulting in numerous graduate theses and dissertations, monographs, and articles that focused on analyzing regional variability. That is, research focused on understanding how the Milling Stone pattern varied from place to place. Perhaps the most exhaustive review of the Milling Stone pattern was completed by Basgall and True (1985) for a Caltrans project along the Interstate 15 corridor. Basgall and True (1985) investigated archaeological sites belonging to the Sayles Complex—an inland, Transverse Ranges manifestation of the Milling Stone pattern. They reviewed most of the significant contributions to the Milling Stone pattern concept as of 1985 and provide an analytical framework for investigating and interpreting archaeological deposits of this kind. Since then, certain early contributions to the topic (i.e., Warren 1968) have been more supported than refuted (see Hale 2001).

Locally, the upper Santa Clarita River Valley certainly has evidence of Milling Stone occupations, but these are confined to the late Holocene period, after 4000 BP, including the work by Waugh (1999) at CA-LAN-2233 and CA-LAN-2235. The Milling Stone component there is dated by proxy with a small number of obsidian hydration readings. Its presence in the upper Santa Clarita River Valley is not surprising; sites of this nature are visible precisely because they were repeatedly occupied on a seasonal basis for a similar processing purpose, resulting aggregations of reused grinding and processing tools.

Late Holocene (post – 4000 BP)

The late Holocene (post – 4000 BP) is characterized by increased variation in environmental conditions and archaeological assemblages. Part of this variability is due to better resolution in both records, but much of it represents an accurate sample of prehistoric times over the last 4000 years. A summary of the various regionally specific paleoenvironmental conditions will not be provided in this brief overview. However, some patterns warrant discussion. With the dissipation of Altithermal conditions after about 4000 BP, increased precipitation is generally evident for southern California. In desert regions, spring flows markedly increased along with the stabilization of marshes, and some lake basins retained shallow waters from runoff (Batchelder 1970; Hunt and Mabey 1966; La Marche 1973; Mehringer 1987; Mehringer and Sheppard 1978; Mehringer and Warren 1976; Smith 1979; Stine 1990, 1994, 1995; Weide 1982). In coastal southern California, lagoons stabilized and destructive erosional processes that gutted them stopped after about 3000 BP (see Byrd and Reddy 2004 Erlandson and Rick 2002). Pollen and oxygen isotope studies from ocean and estuary cores sometimes present conflicting information, but all generally point to climatic instability during the last 3000 years, with a few pronounced periods of extreme climate, such as the Medeival Climatic Anomaly (MCA) from approximately 800 – 1200 BP (see Munns and Arnold 2003).

Erlandson suggests that southern California Mediterranean climates were more characterized by instability and fluctuations in resource availability than by sustained abundance (Erlandson 2003). It is a fact that southern California hunter-gatherer populations grew overtime. Coupled with instability in climate and resource availability, dense aggregations of hunter-gatherers would certainly elicit a socioeconomic response—this seems to be borne out in the archaeological record, at least in coastal regions.

Along the Northern California Bight (Santa Barbara and Ventura coastal plain), archaeological assemblages are referred to as Canaliño (D.B. Rogers 1929), or Late Prehistoric (Wallace 1955), while King's (1990) cultural chronology separates the last 2600 years into various divisions of the Middle Period (950-2600 BP [2600 B.C. – A.D. 1150]) and Late Period (post 950 BP [A.D. 1150]). The Southern California Bight (roughly, Orange and San Diego Counties) is characterized uniformly as the Late Prehistoric in most areas, although Gabrielino territory (parts of Orange County and Los Angeles County) tend to mimic the Northern California Bight chronology. Notably, the Southern California Bight witnesses a wholesale continuation of the Milling Stone pattern into the late Holocene, changing little in assemblage composition excepting the addition of the bow and arrow and ceramics (Hale 2009, 2010a). Significant socioeconomic shifts occur just prior to Spanish contact at approximately 450 – 650 BP with an acorn economy starting to emerge (Hale 2009, 2010a).

Santa Barbara, Ventura, and parts of coastal Los Angeles exhibit significant changes in archaeological assemblages. Mortars and pestles are firmly established in the late Holocene by 3500 BP. This is followed by the appearance of the single piece fishhook by approximately 2900 BP, the plank canoe at approximately 1600 BP, bow and arrow (1500 BP), circular fishhook (700 BP), and microlithic tools (700 BP) (Arnold 1992; 1997; Gamble 2002; Glassow 1996; Kennett 2005; C. King 1990; Rick et al. 2002; Strudwick 1985). These technological innovations are successively accompanied by related increases in the formality of other kinds of subsistence tools already present in tool kits (Hale 2010a). *Olivella sp.* bead manufacturing is present throughout the late Holocene but becomes a robust industry in the last thousand years. Other items characteristic of late Holocene coastal regions includes steatite cooking vessels and containers, perforated stones, arrow shaft straighteners made of steatite, a variety of bone tools, and personal ornaments made from shell, bone, and stone. There is also an increased use of asphaltum for waterproofing and as an adhesive.

Many late Holocene coastal sites contain complex objects of art and decoration. Ornaments include drilled whole venus clam (*Chione spp*.) and drilled abalone (*Haliotis spp*.). Steatite effigies become more common, with scallop (*Pecten spp. and Argopecten spp*.) shell rattles common in middens. Mortuary customs are elaborate and include cremation and interment with abundant grave goods.

In Warren’s (1968) cultural ecological scheme, the period between A.D. 500 and European contact is divided into three regional patterns. The Chumash Tradition is present mainly in the region of Santa Barbara and Ventura counties; the Takic or Numic Tradition is present in the Los Angeles, Orange, and western Riverside counties region; and the Yuman Tradition is present in the San Diego region. The seemingly abrupt changes in material culture, burial practices, and subsistence focus at the beginning of the Late Prehistoric period was taken to be the result of a migration to the coast of peoples from inland desert regions to the east. In addition to the small triangular and triangular side-notched points similar to those found in the desert regions in the Great Basin and Lower Colorado River, Colorado River pottery and the introduction of cremation in the archaeological record are diagnostic of the Yuman Tradition in the San Diego region.

In Los Angeles, Orange, and western Riverside counties, similar changes (introduction of cremation, pottery, and small triangular arrow points) are thought to be the result of a Takic migration to the coast from inland desert regions. This Takic or Numic Tradition was formerly referred to as the “Shoshonean wedge” or “Shoshonean intrusion” (Warren 1968). This terminology used originally to describe a Uto-Aztecan language group, is generally no longer used to avoid confusion with ethnohistoric and modern Shoshonean groups who spoke Numic languages (Heizer 1978:5; Shipley 1978:88, 90).

The growing body of archaeological literature, however, either contradicts the notion of a population migration, or indicates that when they arrived, they adopted local socioeconomic practices (Hale 2009). The longstanding archaeological patterns in the San Diego region are evidence of this. To the north, the similarity of archaeological assemblages and ethnic customs between the Los Angeles region and the Ventura and Santa Barbara regions is interesting, considering the two areas have distinct linguistic profiles. This disparity highlights the problem of considering any artifact type as an ethnic marker, which is not considered good scientific practice because it cannot be supported in the material record. Behavioral norms are the best ethnic marker, but tying behaviors to specific artifact types or patterns, as archaeologists do, measures only similarity in socioeconomic adaptation, which can exist between groups that share no ethnicity. Because of this, the archaeological record is generally the wrong context to measure ethnic association. Rather, among all ethnographic and ethnohistoric studies in California, language is the best discriminator of ethnic identity. Dialectical differences are better indicators of ethnicity when ethnographic information is the only representation of past populations, even though true ethnic markers are embodied in behavioral norms (see McElreath et al. 2003).

Items manufactured in coastal locales, such as shell ornaments and steatite vessels commonly made their way to the interior of California, being found in archeological deposits in the Transverse Ranges and Mojave Desert (e.g., Basgall and Hall 1994; Schroth 1994; Sutton 1980). Likewise, obsidian from the Coso volcanic field near Ridgecrest, California made its way to coastal environments. Whether these artifacts were carried to their location of deposition in the hands of those who made them or whether they were procured through trade is a question specific to each occurrence, ruling out various explanations in favor the most plausible scenario. Regardless, ethnographic and ethnohistoric accounts indicate that transregional trade and exchange was common and did not equate to similarity in ethnic identity since exchanges traversed traditional cultural boundaries (see Heizer 1978). For this reason alone, none of the artifacts common to southern California archaeological assemblages can be considered ethnic markers. This is especially true for ornaments, such as shell beads that may have been used as form of currency (Arnold 1991, 1997), or the bow and arrow that is widely considered one of the most significant technological innovations of the prehistoric world and that spread rapidly across the globe through adoption (Bettinger 1991).

The archaeological record in the Santa Clarita Valley is best represented by late Holocene assemblages. CA-LAN-2235 (Chiquito Creek I) and -2233 (Chiquito Creek II) are sites with a relatively typical Milling Stone period deposit with no surprising attributes relatively to the norm for this pattern (Waugh 1999; Whitley and Simon 1994a). The Milling Stone component at CA-LAN-2235 dates to approximately 4000 – 3000 BP, predating the cemetery component at CA-LAN-2233 that is bracketed between 2000 and 1630 BP. The latter contains artifacts characteristic of the late Holocene in general, fitting within Wallace’s (1955) Late Prehistoric period, including mortars and pestles, time-sensitive shell beads, and the like (Waugh 1999). However, Waugh (1999) concludes that adaptive strategy represented by the Late Prehistoric component is similar to that of the earlier Milling Stone component, despite differences in milling technology. An interesting conclusion by Waugh (1999) is that mitochondrial DNA analysis of burials indicates no physical relationship to Chumash peoples to the west, but strong ties to Tataviam and other Takic peoples located to the east and northeast in desert landscapes.

Also in the upper Santa Clarita River Valley, Whitley and Simon (W&S) (1994a, 1994b) documented several other sites that generally lack substantial assemblages but can be characterized as Late Prehistoric temporary encampments generally postdating 3000 BP. Aside from their work at CA-LAN-2233 and LAN-2235, W&S (1994a, 1994b) evaluated several other small sites but failed to identify significant archaeological deposits.

W&S (2009) evaluated CA-LAN-4355 along Santa Clarita River in Sand Canyon, California, finding artifacts consistent with prehistoric habitation dating to the Late Prehistoric era (though no radiocarbon dates were provided). These artifacts included mortars and pestles, projectile points, flaked stone tools, steatite ornaments, bone tools, and various cobble-based tools. W&S interpreted this site as dating between 400 and 800 BP, based on time sensitive artifacts. CA-LAN-1077, also located in Sand Canyon, was evaluated by Robinson (1980) who had findings similar to those of W&S (2009). CA-LAN-1077 had a weakly developed midden deposit with excavations producing four steatite beads/pendants, three cores, two retouched flakes, one hammerstone, five handstones, two battered cobbles, and fire-affected rock; no chronological placement was offered (Robinson 1980). None of the artifacts from CA-LAN-1077 or CA-LAN-4355 are specific to coastal locales; all types of artifacts recovered can be found in coastal, riparian, or desert environments.

One of the more well-known archaeological sites in the Santa Clarita River Valley dating to the late Holocene is CA-LAN-324. Loetzerich (1998) analyzed the collection from this massive site that contained human remains, residential features, thermal features, one flower pot mortar, mortars and pestles, millingstones and handstones, flakedstone tools (including bifaces), cobble tools, and several exotic items such as quartz crystals, and schist and other stone beads. The site was interpreted as representing aboriginal occupation continuously from 2600 BP to 400 Bp, based on various time-sensitive artifacts (including the flower pot mortar which tend to date to the last 300 years), and that it reflected a well-stratified aboriginal society similar to those seen in Gabrielino territory. The latter is consistent with Loetzerich's findings that burial patterns were similar to those seen in the San Fernando Valley.

A few archaeological sites near Vaszquez Rocks in the Sand Canyon area to the northeast of Santa Clarita Valley, such as CA-LAN-618 produced *Olivella sp*. beads that were tentatively thought to date prior to Chester King's (1990) Early Period have subsequently been found to date after 4000 BP (W&S 1994b). Additionally, Love and Witt (1990) revisited these sites concluding that their earliest documented occupation occurred no earlier than about 2700 BP. In her review, Waugh (1999) reviews the chronological evidence from this site according to the coastally derived cultural chronology developed by King (1990). The reference to King's (1990) bead chronology is justified in the sense that it is a baseline for review of shell bead types, but it leaves the impression that the occupants were socioculturally connected to coastal areas, while the non-ornamental archaeological assemblage provides no such justification.

Farther to the north in Antelope Valley, Sutton (1980) studied CA-LAN-488—a substantial prehistoric site dating from 2200 – 300 BP and containing a prehistoric cemetery, including a child burial associated with more than 5,000 shell beads. The archaeological assemblage from this site, dating within the late Holocene was decidedly desert focused, despite this strong shell bead component.

Finally, investigations of the Lovejoy Springs site (CA-LAN-192) summarized nearly a century of investigation at a large, desert site near Lake Los Angeles in the Antelope Valley (Price et al. 2009). The assemblage from CA-LAN-192, dating from approximately 3500 BP to historic times is characteristic of those found in the western Mojave Desert, being dominated almost exclusively by millingstone and handstone technology and the appropriate time-sensitive, desert projectile point forms. A few fragments of mortars and pestles (one decorated), and steatite vessels are present. Similar to CA-LAN-488, thousands of *Olivella sp*. shell beads were found interred with several of the nine human burials and in the general deposit (Price et al. 2009). Together, the site spans the Gypsum (4000 – 1500 BP), Saratoga Springs (1500 – 900 BP) and the Late Prehistoric periods (post – 900 BP) and exhibits many of the assemblage changes characteristic of each time period within the Mojave Desert.

In sum, the late Holocene saw major socioeconomic development among aboriginal populations within and surrounding Santa Clarita Valley, but that each region is distinct, from the Mojave to the northeast, to the west along the Coast, to the south in the Los Angeles Basin and San Diego County. The archaeological record within Santa Clarita Valley is meager compared to these other regions and resists efforts to make socioeconomic connects to neighboring regions or their inhabitants. Simple assemblage similarities, such as the presence of coastal beads or burial patterns in Santa Clarita or the Mojave, are not direct evidence of cultural affiliation. If it were, burials located in some of the Mojave Desert sites, such as CA-LAN-488 or CA-LAN-192 would require the assumption that they were Chumash in origin, which is the least likely explanation and one that few archaeologists (if any) would suggest. Rather, it is likely that trade and exchange networks between different ethnic groups were well established with the onset of the late Holocene by at least 3000 years ago (Price et al. 2009). Such networks allowed for the exchange of goods, such as beads, across ethnic boundaries without carrying implications for population movement or replacement.

Overall, the archaeological record of the upper Santa Clarita River Valley is poorly understood, especially in comparison to neighboring regions. This is likely a function of the complex geomorphology of the Santa Clarita River watershed reviewed earlier in this report. The areas that would have attracted prehistoric human occupation, such as river terraces and flat ground in valley bottoms, were subject to periodic and destructive flooding and sedimentation, which likely wiped out a large portion of the archaeological record. The San Francisquito Dam failure of 1928 probably exacted a heavy toll on the archaeological landscape of the floodplain since that event undoubtedly trumped previous natural flood events with its near 60-foot-high wall of water instantly released into the Santa Clarita River Floodplain.

3.1.2 Ethnohistoric Setting

Tataviam

The proposed Project area falls within the ethnographic boundary of the Tataviam (Johnson and Earle 1990; King and Blackburn 1978; Kroeber 1925). Tataviam territories included the upper reaches of the Santa Clara River drainage east of Piru Creek, but also encompassed the Sawmill Mountains to the north and the southwestern portion of the Antelope Valley (King and Blackburn 1978). Tataviam territory is bound by various branches of Chumash to the north and west (including the Ventureño to the west, and Castac and Emigdiano to the northwest), Kitanemuk to the northeast, Serrano to the east, and Gabrielino to the south (King and Blackburn 1978).

Note that there is limited ethnographic data (i.e., data acquired by means of observation or taken from persons who practiced native lifeways) available concerning the Tataviam and their native lifeways. Most of what is known today about the Tataviam comes in the form of ethnohistory (i.e., historical accounts developed through examination of historical records and oral histories) as presented in the works of anthropologists Alfred L. Kroeber (1915, 1925) and John P. Harrington (1935). Their data is largely based on interviews conducted in the early 1900s with a Native American consultant named Juan José Fustero, a man who spoke Kitanemuk and claimed that his grandparents were born near the town of Newhall and spoke a language that is no longer extant (Bright 1975). Most of the subsequent works published on the Tatatviam (Bright 1975; Hudson 1982; King and Blackburn 1978), including discussions of their cultural and geographic affiliations, were based on the Kroeber and Harrington interviews with Fustero and several other Kitanemuk consultants. Other studies have analyzed Spanish mission baptismal, marriage, and burial registers in an attempt to better understand the distribution of historic village settlements and kinship ties between settlements (Johnson 1978 and 1997; NEA and King 2004).

Early ethnologies referred to the Tataviam as Ataplili'ish (Kroeber 1915), but Kroeber found this name to be too general since it had already been used to describe other indigenous groups (namely the Gabrielino). Kroeber changed the term to Alliklik (1925), which was noted to be a Ventureño Chumash name for the group (although it is believed to be a derogatory term for the sound of the language) but offered almost no information concerning their native lifeways. One account of the Tataviam, provides a narrative that they held the river up from a point between Sespe and Piru, most of Piru Creek, Castac Creek, and probably Pastoria Creek across the mountains in the San Joaquin Valley drainage and adjacent to the Yokuts (Kroeber 1925:613-614).

The Tataviam are linguistically classified as an Uto-Aztecan Serran sub-branch of Takic speaking groups consisting of Kitanemuk, Serrano (including Vanyume), and Tataviam (Golla 2011; Sutton 1980). William Bright has suggested that Tataviam was actually a separate language with Takic affinities, or perhaps a "remnant, influenced by Takic, of a language family otherwise unknown in southern California" (Bright 1975:230). However, the current and most widely accepted view is that Tataviam is in fact a Takic language (King and Blackburn 1978; Johnson and Earle 1990; Sutton et al. 2007).

King and Blackburn (1978:536) noted several Tataviam settlements based on information provided by Harrington and other sources, including mission registers. Among these is the putative village of *tsawayung* (also referred to as *Chaguayabit*, *Chaguayanga*, *takuyama'm*), which some believe was located near Castaic Junction at the site of Rancho San Francisco. However, there is a lack of consensus as to the village's exact location. Harrington's own notes reflect this uncertainty: "Jose Juan Olivas thinks it is over by San Francisquito [Rancho San Francisco] but does not know and never did know just where" (NEA and King 2004:119). Based on diary entries from the Portolá Expedition (Perkins 1957), some have hypothesized that Estancia San Francisco de Xavier (often incorrectly referred to as an asistencia) was placed at the location of the village of *tsawayang*, but this is based on descriptive diary entries and has never been confirmed by archaeological or other historic evidence. In fact, no physical evidence of the village has ever been found. Other Tataviam villages mapped outside of the proposed Project area include *tikatsing* located on upper Castaic Creek, and *pi'ing* located where Castaic Creek meets Elizabeth Lake Canyon. The village of *Tochonaga*, was recorded on an 1843 land grant map. This site appears to be located to the southeast of Newhall, but its precise location has also never been confirmed: "Tochononga was located in the mountains northwest of San Fernando…over by Los Alamos somewhere here in the Tejon Ranch" (NEA and King 2004:117). Other villages and seasonal camp sites identified by Harrington include *akure'eng*, which was located at the original Newhall town site; *apatsitsing*, located on upper Castaic Creek; and *naqava'atang*, located east of Townsend Peak. Piru Creek also contained several village and -rancheria sites, located on the northern edge of Tataviam territory (Johnson and Earle 1990).

Pedro Fage's account of the 1769 Portola expedition indicates that the first Chumash settlement encountered upon leaving Tataviam territory was located west of the mouth of Piru Creek. The village of *kamulus* (*Camulos*), located east of Piru Canyon, bears a Chumash name (Johnson and Earle 1990), leading to speculation that this village consisted of a mixed Chumash-Tataviam population. There has been much discussion regarding Chumash ties to areas generally accepted as Tataviam territory (see Beeler and Klar 1977).

More recent studies have examined additional Tataviam investigations conducted by Harrington with neighboring groups (Johnson and Earle 1990). These studies support the original Kroeber and Harrington findings that the Tataviam were a distinct group:

> The correspondence between (1) ancestral villages traced using genealogical evidence and (2) independently elicited information regarding Tataviam territoriality builds confidence in the reliability of the ethnographic record compiled by Kroeber and Harrington. The distinctiveness of the Tataviam as an ethnic entity, separate from the Kitanemuk and Fernandeño, is supported by our research (Johnson and Earle 1990:209).

In 1996, as the result of a Caltrans District 7 highway widening project for SR-126, archaeologists discovered and excavated 45 burials from CA-LAN-2233, a prehistoric village site dating from approximately 2000 to 1640 years before present (BP) and located within Tataviam territory. Examination of mitochondrial DNA (mtDNA) from five burials at CA-LAN-2233 found that these individuals were genetically linked to modern Uto-Aztecan speaking groups, such as the Tataviam (Miller et al. 2003).

3.1.3 Historic Setting

Post-Contact history for the State of California is generally divided into three periods: the Spanish Period (1769–1821), Mexican Period (1821–1848), and American Period (1846–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican–American War, signals the beginning of the American Period when California became a territory of the United States.

Spanish Period (1769-1821)

Spanish explorers made sailing expeditions along the coast of southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríquez Cabríllo stopped in 1542 at present-day San Diego Bay. With his crew, Cabríllo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location its long-standing name. The Spanish crown laid claim to California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1885; Gumprecht 1999).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja (lower) California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July of 1769, while Portolá was exploring southern California, Franciscan Fr. Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

The Portolá expedition first reached the present-day boundaries of Los Angeles in August 1769, thereby becoming the first Europeans to visit the area. Father Crespi named "the campsite by the river Nuestra Señora la Reina de los Angeles de la Porciúncula" or "Our Lady the Queen of the Angeles of the Porciúncula." Two years later, Friar Junípero Serra returned to the valley to establish a Catholic mission, the Mission San Gabriel Arcángel, on September 8, 1771 (Kyle 2002). Mission San Fernando Rey de España, the mission that served the proposed Project area, was established nearly 30 years later, on September 8, 1797.

Mexican Period (1821–1846)

A major emphasis during the Spanish Period in California was the construction of missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles). Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Dallas 1955).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. Nine ranchos were granted between 1837 and 1846 in the future Orange County (Middlebrook 2005). Among the first ranchos deeded within the future Orange County were Manuel Nieto's Rancho Las Bolsas (partially in future Los Angeles County), granted by Spanish Governor Pedro Fages in 1784, and the Rancho Santiago de Santa Ana, granted by Governor José Joaquín Arrillaga to José Antonio Yorba and Juan Pablo Peralta in 1810 (Hallan-Gibson 1986). The secularization of the missions (enacted 1833) following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos.

During the supremacy of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who had no associated immunities.

American Period (1846–Present)

War in 1846 between Mexico and the United States precipitated the Battle of Chino, a clash between resident Californios and Americans in the San Bernardino area. The Mexican-American War ended with the Treaty of Guadalupe Hidalgo in 1848, ushering California into its American Period.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. Territories (Waugh 2003). Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through 1850s. The Gold Rush began in 1848, and with the influx of people seeking gold, cattle were no longer desired mainly for their hides but also as a source of meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom. Cattle were at first driven along major trails or roads such as the Gila Trail or Southern Overland Trail, then were transported by trains when available. The cattle boom ended for southern California as neighboring states and territories drove herds to northern California at reduced prices. Operation of the huge ranchos became increasingly difficult, and droughts severely reduced their productivity (Cleland 2005).

Local History of the Project Area

In 1795, Fr. Fermin Lasuen ordered a report to identify potential new mission sites. As a result, the Francisco Reyes Rancho was proposed as the site for the new Mission San Fernando Rey de España formally (Perkins 1957). The mission, founded in 1797, was ultimately located elsewhere; however, Mission San Fernando acquired the headwaters of the Santa Clara River east from Piru and named the land Rancho San Francisco. Shortly thereafter, many of the local Tataviam people were removed from their homeland and relocated to the mission where many of their traditional lifeways were no longer feasible.

When Mission padres were made aware that Francisco Avila, wealthy ranchero and alcalde (mayor) of the pueblo of Los Angeles (1810 – 1811), had claimed a large portion of Mission lands as his own, they protested to Governor José Arrillaga at Monterey. The governor acknowledged the church's title to the land, Avila's land grant was rescinded, and the padres quickly made plans to build in the area in order to more clearly establish their presence (Perkins 1957). The church built an outpost at the location using Native American labor, Rancho San Francisco, Fr. Crespi had first noted in his diary entry as a potential Mission site (Perkins 1957). Mission records suggest that this was an outpost known as Estancia San Francisco de Xavier and that it was likely never elevated to the status of "asistencia" or sub-mission.

By 1813, Rancho San Francisco had increased its production and the herds of cattle had grown larger eventually necessitating the need to construct a fence to keep mission cattle separate from neighboring cattle. The fence was erected at Piru Creek across the river, establishing a formal boundary between San Francisco and Triunfo ranches. Additionally, an irrigation canal was dug and a small dam was built at the eastern boundary of the rancho in order to provide the western side of the rancho with much needed water. (Perkins 1957). Following secularization of the missions in 1833, the Mexican Government confiscated all mission land holdings and commissioned Lieutenant Antonio Del Valle to take over Mission San Fernando by inventory from the incumbent Padre, Fr. Ybarra.

Along with his wife Doña Jacoba Felix and two children, Del Valle decided to settle his family on a portion of Rancho San Francisco. In 1838, Del Valle resigned his army commission, petitioned the Mexican Government for title of Rancho San Francisco, and became owner of 48,829 acres of Rancho San Francisco on January 22, 1839. Just two years later, Antonio Del Valle died, leaving behind thousands of heads of livestock, over 75 square miles of land, and no legal will. Legal battles ensued between his widow and his oldest son Ygnacio Del Valle. A judge eventually divided up the land amongst the parties and Ygnacio built his own corral on the western edge of the property (in present-day Piru, Ventura County) surrounding the former village of *kamulus* (Rasmussen 2001) for which the Camulos Rancho was named in 1853.

As a result of a three-year long drought, which killed most of his cattle, Del Valle eventually lost the rancho in 1865 to his financiers who then sold it to oil speculators. The first significant discovery of oil on the Rancho occurred just seven weeks after the sale and the first oil well was installed on the south side of the Santa Clara River near the Del Valle residence. The region would eventually be surrounded by oil fields including the Hasley Canyon and Castaic Junction Oil Fields to the north and the historic Pico Oil Field to the south.

The Del Valle's portion of Rancho San Francisco changed hands a few more times until it was acquired by Henry Mayo Newhall in 1875. The San Fernando Railroad Tunnel was constructed by over 1,000 Chinese and 500 white laborers, the Southern Pacific Railroad (SPRR) right-of-way was granted across the rancho and the town of "Newhall" was founded in 1876 (Perkins 1957). The Lang and Newhall Railroad Stations were built the same year.

Ranch San Francisco and the upper Santa Clara Valley featured prominently in three significant events in the history of California – the discovery of gold in 1842; the discovery of oil in 1865; and the collapse of the St. Francis Dam in 1928. The discovery of gold actually predates the John Sutter's Coloma mill-race in 1848; the first well documented discovery of gold occurred in 1842 in Placeritas Canyon just east of Santa Clarita and some evidence suggests the first discovery of gold in California could have occurred a few decades earlier in the Santa Clara Valley region. The discovery of gold in the area was also one of the impetuses to the judge dividing Antonio Del Valle's land and awarding Rancho Temescal to Francisco Lopez and Jose Arellanes in 1843 both of which would return to Mexico. Ygnacio Del Valle eventually acquired Rancho Temescal and added it to the Rancho San Francisco holdings he had been awarded following his father's death.

The Santa Clara Valley is also the location of where the first true oil drilling occurred. In 1865, oil seeps were discovered in Pico Canyon triggering the exploration of petroleum which lead to the discovery of oil in Rancho San Francisco and ultimately throughout the Santa Clara Valley. Unfortunately, as mentioned before, Ygnacio Del Valle had sold all but 1,500 acres of his holdings to Thomas Bard and Thomas Scott. Only seven weeks following the sale, oil was discovered on the property Bard and Scott had purchased. Upon the discovery, Bard and Scott shifted focus from ranching to petroleum product and sold much of their Rancho Francisco land to Henry Mayo Newhall.

The last of the three historical events that shaped the area was the collapse of the St, Francis Dam on March 12, 1928, which resulted in a flood of magnificent proportions. The failure of the dam caused a 60-foot-high wall of water to rage down the Santa Clara River Valley leveling most everything in its path including Castaic Junction and most of Fillmore and Santa Paula on its way to the Pacific Ocean. Although there was a terrible loss of life and property as a result of the dam failure, the restitution provided by the City of Los Angeles to the Newhall Land and Farming Company and its management of the funds allowed the company to retain its previous financially sound status and eventually grow into a company that would finance the development of the Santa Clara Valley region.

3.2 Records Search Results

On January 11, 2022, Dudek conducted a search of the California Historical Resources Information System (CHRIS) at the South Central Coastal Information Center (SCCIC), located on the campus of California State University, Fullerton. The search included any previously recorded cultural resources and investigations within a 1-mile radius of the proposed Project site. The CHRIS search also included a review of the NRHP, the CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Historic Resources Inventory list. Confidential Appendix A provides the records search results maps and a complete bibliography of all prior cultural resource studies occurring within 1-mile of the proposed Project site.

3.2.1 Previous Cultural Resources Studies

Results of the cultural resources records search indicate that twenty-nine (29) previous cultural resource studies have been conducted within the records search area between 1974 and 2010. Of these, two (2) studies, LA-01032 and LA-02979, are mapped as overlapping the proposed Project site. Table 1, below, summarizes all twenty-nine (29) previous cultural resources studies, followed by a brief summary of reports, LA-01032 and LA-02979.

Table 1. Cultural Resource Studies Conducted within 1-mile of Proposed Project Site

Year	Author	SCCIC ID	Report Title	Addresses Proposed Project Site?
1974	Leonard, Nelson N. III	LA-00054	Archaeological Resources of the Proposed Castaic Conduit System	Outside
1988	Love, Bruce	LA-00326	Archaeological Report on Approximately One Acre for Santa Clarita Lanes Known As C.U.P. 88265	Outside
1981	Robinson, R. W.	LA-01030	Cultural Resources Investigation Tentative Tract No. 40491	Outside
1981	Van Horn, David M.	LA-01032	Archaeological Survey Report: a 285+ Acre Parcel Located Near Saugus and Newhall in an Unincorporated Portion of Los Angeles County, California	**Overlaps**
1979	Anonymous	LA-01117	Preliminary Draft Environmental Impact Report for Zone Case No 6406, Soledad Canyon Area, California	Outside
1979	Wessel, Richard L.	LA-01322	Assessment of the Impact Upon Cultural Resources by the Proposed Zone Change 6406 for Tract Number 35984, 102.4 Acres Centered at the Section Corner of Sections 19, 20, 29 and 30 Series USGS Topographic Map in Friendly Valley of Los Angeles	Outside
1989	Love, Bruce	LA-01775	Cultural Resource Assessment for Three Postal Service Sites, Los Angeles County	Outside
1986	Tartaglia, Louis J.	LA-02118	Cultural Resource Survey Report Soledad Canyon Project	Outside
1992	Romani, John F., Roberta S. Greenwood, Portia Lee, and Gwen Romani	LA-02503	Historic Property Survey Report & Archaeological Survey Report & Historic Architectural Survey Report for the Route 126 Location Study (easterly Extension) From I-5 to SR-14, Santa Clarita Valley, Los Angeles County, California 07-la-126-5.8/12.7. Final	Outside
1993	Whitley, David S.	LA-02979	Phase I Archaeological Survey and Cultural Resources Assessment for the Porta Bella Specific Plan Study Area, Santa Clarita, Los Angeles County, California	**Overlaps**
1993	Valentine-Maki, Mary	LA-02996	Cultural Resources Survey for the Proposed Santa Clara River Horse and Bike Trail Santa Clarita, Los Angeles County, California	Outside
1994	Whitley, David S. and Joseph M. Simon	LA-03387	Phase 1 Archaeological Survey and Cultural Resource Assessment for the 750 Acre Soledad Canyon Study Area, Los Angeles County, California	Outside
1997	Wlodarski, Robert J.	LA-03690	Cultural Resources Evaluation City of Santa Clarita Circulation Element EIR	Outside

Table 1. Cultural Resource Studies Conducted within 1-mile of Proposed Project Site

Year	Author	SCCIC ID	Report Title	Addresses Proposed Project Site?
1977	Pence, Robert L.	LA-03895	Archaeological Assessment of the Proposed Oxnard Lng Pipeline Route From La Vista, Ventura County, to Quiqley, Los Angeles County	Outside
1993	Macko, Michael E.	LA-04104	Cultural Resource Evaluation of the LADWP Power Plant 1–olive Line 1 Transmission Line Maintenance Project Los Angeles County, California	Outside
1998	Bonner, Wayne H.	LA-04159	Cultural Resources Investigation Lot 8, Tract 38936 City of Santa Clarita, Los Angeles County, California	Outside
1998	Wlodarski, Robert J.	LA-04250	A Phase I Archaeological Study: City of Santa Clarita Golden Valley Road/ High School EIR, Los Angeles County, California	Outside
1999	Wlodarski, Robert J.	LA-04506	A Phase I Archaeological Study: the Golden Valley Road-Soledad Canyon Road Interchange Project, Los Angeles County, California	Outside
2000	Maki, Mary K.	LA-05142	Negative Phase I Archaeological Survey and Impact Assessment of 4.4 Acres for the Santa Clarita Child and Family Development Project Saugus, Los Angeles County, Ca	Outside
2000	Wlodarski, Robert J.	LA-05527	A Phase I Archaeological Study for the Proposed Magic Mountain/via Princessa Roadway Extension and Interchange City of Santa Clarita, County of Los Angeles, California	Outside
2002	Duke, Curt	LA-06093	Cultural Resource Assessment at & T Wireless Services Facility No. D339b Los Angeles County, California	Outside
1998	Bricker, Lauren W. and Janet L. Tearnen	LA-06917	Historic Property Clearance Report for the Magic Mountain Parkway Via Princessa Improvement Project in the City of Santa Clarita, Los Angeles County, California	Outside
2006	Bonner, Wayne H.	LA-08782	Cultural Resources Records Search and Site Visit Results for Cingular Wireless Candidate NI-0206-01 (berry Petroleum), 22116 Soledad Canyon Road, Santa Clarita, Los Angeles County, California	Outside
2006	Wlodarski, Robert J.	LA-09038	A Phase I Archaeological Study for the Proposed Sports Complex Expansion Project a 38-acre Site Located in the City of Santa Clarita, County of Los Angeles, California	Outside

Table 1. Cultural Resource Studies Conducted within 1-mile of Proposed Project Site

Year	Author	SCCIC ID	Report Title	Addresses Proposed Project Site?
2005	Hunt, Kevin and Richard D. Schultz	LA-10560	Final Confidential: Cultural Resources Study for the Upper Santa Clara River Watershed Arundo and Tamarisk Removal Program Long-term implementation Plan, program Environmental Impact Report/Environmental Assessment, Los Angeles County, California	Outside
2010	Tang, Bai "Tom"	LA-10642	Preliminary Historical/Archaeological Resources Study, Antelope Valley line Positive Train Control (PTC) Project Southern California Regional Rail Authority, Lancaster to Glendale, Los Angeles County, California	Outside
2004	Unknown	LA-11228	Environmental Analysis - Onshore Component of BHP Billiton LNG International Inc. Cabrillo Port Project	Outside
2012	Loftus, Shannon	LA-11761	Historic Architectural Resource-Inventory and Assessment AT&T Site LAD339, Soledad/Oak 20789 Soledad Street Santa Clarita, Los Angeles County, CA	Outside
2010	Anonymous	LA-13110	Class III Inventory I Phase I Archaeological Survey of the Via Princessa Road Extension, City of Santa Clarita, Los Angeles County, California	Outside

LA-01032

Archaeological Survey Report: a 285+ Acre Parcel Located Near Saugus and Newhall in an Unincorporated Portion of Los Angeles County, California (Van Horn 1981), documents the results of an archaeological study conducted on behalf of Ultrasystems. The investigation consists of background research, a record search, and pedestrian survey. The area of study overlaps over 75% of the proposed Project site. No new or previously recorded cultural resources were identified as a result of this study. No mitigative procedures were recommended.

LA-02979

Phase I Archaeological Survey and Cultural Resources Assessment for the Porta Bella Specific Plan Study Area, Santa Clarita, Los Angeles County, California (Whitley 1993), documents the results of an archaeological study conducted on behalf of the Porta Bella Specific Plan EIR, consisting of background research, record search, and pedestrian survey. The area of study overlaps the southern border of the proposed Project site. No new or previously recorded cultural resources were identified as a result of this study. The report recommends that in the event that cultural resources of any kind are uncovered during construction, an archaeologist should evaluate the find.

3.2.2 Previously Recorded Cultural Resources

The SCCIC records indicate that five (5) cultural resources have been previously recorded within 1-mile of the proposed Project site, none of which are located within or are adjacent to the proposed Project site. The identified cultural resources include three (3) prehistoric archaeological sites, and two (2) built environment resources. Table 2 summarizes all previously recorded cultural resources identified within the records research radius followed by summaries of each cultural resource.

Table 2. Previously Recorded Cultural Resources within 1-mile of Proposed Project Site

Designation	Resource Description	Recorded By	NRHP/CRHR Eligibility	Approximate Distance from Proposed Project Site
CA-LAN-000351 (P-19-000351)	Prehistoric site containing flaked stone, cores, groundstone, fire-affected rock, and a burned mammal bone fragment.	1968 (N. Leonard); 1986 (Louis James Tartaglia); 1991 (J. Romani, G. Romani); 1994 (Whitley and Simon); 2002 (D. Whitley)	Evaluated, but findings not available	1515 meters (4970 ft.) northwest
CA-LAN-001824 (P-19-001824)	Prehistoric site containing a flake, a groundstone fragment, a core, a stone tool, and a marine shell fragment.	1986 (Louis James Tartaglia); 1991 (J. Romani, Gwen Romani); 1994 (Whitley and Simon)	7: Not Evaluated	1410 meters (4625 ft.) northwest
CA-LAN-002105H (P-19-002105)	Historic Los Angeles Aqueduct	1992 (A. Cole, D. McDowell, and D. Shelton); 1992 (J. Costello, J. Marvin, and J. Tordoff); 2007 (A. Moreno, K. Tsunoda); 2009 (Katherine Anderson); 2011 (N. Lawson, M. Kaye)	Eligible for Listing	80 meters (265 ft.) west
CA-LAN-002132H (P-19-002123)	Historic LA Aqueduct Transmission Line/Olive-Power Plant 1-Transmission Line; Owens Gorge 230kV Transmission line	1992 (Cole, McDowell, Shelton); 1993 (M. Macko); 2004 (Whitley, DS); 2007 (Koji Tsunoda); 2010 (J.M. Simon) 2014 (M. Dice)	7: Not Evaluated	185 meters (605 ft.) east
CA-LAN-003043 (P-19-003043)	Prehistoric: Lithic scatter; Habitation debris	2002 (D.S. Whitley)	7: Not Evaluated	1615 meters (5300 ft.) northwest

CA-LAN-351

CA-LAN-351 is a prehistoric site measuring 215 meters by 92 meters (705 ft. by 302ft.), at an elevation of 1275 ft. and is located approximately 1515 meters (4970 ft.) northwest of the proposed Project site. CA-LAN-351 is documented as consisting of rhyolite cores, rhyolite flakes, chert cores, chert flakes, fused shale flakes, an obsidian flake, chalcedony flakes, basalt flakes, quartzite flakes, a granitic mano fragment, midden, fire-affected rock, groundstone fragments, one igneous and one sandstone bowl/mortar fragment, chert bifaces, one antler fragment, and one large, burned mammal bone fragment.

CA-LAN-351 was originally formally recorded in 1968 by Leonard, who described the site as a scatter of cores and flakes of rhyolite, chert and fused shale over a large area encompassing two terraces with the main concentration of artifacts located on the upper terrace. Leonard measured the site to be 600 ft. by 150 ft. (183 meters by 46 meters) and assumed the site to be shallow in depth and disturbed by slight erosion and the presence of roads crossing the site. CA-LAN-351 was recorded again in 1986 by Tartaglia, who described the site as covering two terraces, measuring 130 meters by 100 meters (427 ft. by 328 ft.), and also consisting of a groundstone mano fragment of granite, as well as flakes and cores of rhyolite, chert and quartzite. Tartaglia also noted the natural and human induced disturbance and noted that the site appeared to be smaller than originally mapped by Leonard. In 1991, CA-LAN-351 was recorded by Romani and Romani, who documented the site as measuring 309 meters by 185 meters (1014 ft. by 607 ft.), covering three terraces, and consisting of a greater diversity of material types than was previously recorded. Romani and Romani described the site as “a habitation site that may have been occupied on a permanent or seasonal basis” with similar constituents previously recorded and an additional concentrated scatter of fire-affected rocks in the southeast area, a groundstone bowl/mortar fragment and increased chipped stone material of chalcedony and obsidian. Romani and Romani also note in the record that the site was recorded by Greenwood and Associates in 1991 who documented the site as larger and more diverse in artifacts than previously recorded. The Greenwood and Associates record is not included in the official site record. In 1994 Whitley and Simon performed an intensive phase I survey of CA-LAN-351 and documented similar conditions as Romani and Romani. However, Whitley and Simon described the site as a large village/habitation site and associated lithic scatter measuring 215 meters by 92 meters (705 ft. by 302ft.) and extending to a depth of approximately 50cm. In 2002, Whitley performed Phase II archaeological excavations within CA-LAN-351. Whitley determined CA-LAN-351 was located on two lower terraces; the upper terrace, which was previously recorded in 1991 by Romani and Romani, Whitley and Simon distinguished as a separate site. The Whitley and Simon site record update references a report, *Phase II Archaeological Test Excavations for the River Park Project Area, Northern Los Angeles, CA*; however, no account of the results is included in the site record and the report was not identified as a result of the CHRIS records search and appears to not have been submitted to the information center. As a result, a determination of significance and eligibility for listing in the CRHR and NRHP is unknown.

CA-LAN-1824

CA-LAN-1824 is a prehistoric site measuring approximately 25 meters by 20 meters (82 ft. by 66 ft.), at an elevation of 1020 ft. and is located approximately 1410 meters (4625 ft.) northwest of the proposed Project site. CA-LAN-1824 is documented as consisting of a rhyolite core, a quartzite hopper/hammer, a metavolcanic flake, a mano fragment, and a mussel shell fragment. The site was originally formally recorded in 1986 by Tartaglia who described the site as a lithic scatter covered with dense vegetation. In 1990 Tartaglia performed subsurface testing within CA-LAN-1824, after most of the vegetation had been cleared. Thirty (30) shovel test pits were conducted and only a single mano fragment and single mussel shell fragment were recovered. The core, stone tool, and flake that were observed in 1986 could not be relocated. No formal report or detailed record of the testing excavation could be located. Romani and Romani of Greenwood and Associates visited CA-LAN-1824 in 1991 and were not able to identify any cultural resources despite excellent ground surface visibility. They recommended that the identification of CA-LAN-1824 be considered an isolated occurrence and should “no longer be considered an archaeological site”. In 1994 Whitley and Simon visited CA-LAN-1824 and were unable to locate any cultural remains and described CA-LAN-1824 as no longer a site. Although the site record states that Tartaglia conducted a “surface and subsurface evaluation” of the site, it appears that the excavation was to determine the vertical and horizontal extent of the site rather than a formal evaluation of the site for significance. Regardless, the results of the testing and subsequent surveys of the site demonstrate that the site does not meet the criteria for significance nor eligibility for inclusion on for listing in the CRHR and NRHP.

CA-LAN-2105H

CA-LAN-2105H is a historic Los Angeles Aqueduct spanning 340 miles from Mono Lake to the San Fernando powerplant. A section of the aqueduct is located approximately 80 meters (265 ft.) west of the proposed Project site. CA-LAN-2105H was originally formally recorded in 1992 by Cole, McDowell, and Shelton who described the site as a water conveyance system beginning in the Owens River and ending in San Fernando. Costello, Marvin, and Tordoff, who described the site as “the water conveyance systems and related features of the Los Angeles Aqueduct system”, also recorded CA-LAN-2105 in 1992. Costello, Marvin, and Tordoff documented the aqueduct as spanning form Mono Lake to San Fernando. CA-LAN-2105H was formally evaluated in 2009 by Anderson who determined the site to be eligible for listing in the National Register of Historic Places.

CA-LAN-2132H

CA-LAN-2132H is the historic Owens Gorge 230kV transmission line, and associated features, located approximately 185 meters (605 ft.) east of the proposed Project site. CA-LAN-2132H was originally formally recorded in 1992 by Cole, McDowell, and Shelton. The resource is described as a transmission line constructed in 1917 as an accessory to the Los Angeles Aqueduct and extending from San Francisquito Canyon to the Olive Switching Station in the San Fernando Valley.

CA-LAN-3043

CA-LAN-3043 is a prehistoric site measuring approximately 210 meters by 135 meters (689 ft. by 443 ft.), at an elevation of 1280-1285 ft. and is located approximately 1615 meters (5300 ft.) northwest of the proposed Project site. CA-LAN-3043 is documented as consisting of lithic debitage, groundstone, flaked stone, core/cobble complex tools, and an atlatl dart mid-section. CA-LAN-3043 was originally recorded as part of CA-LAN-351, however it was formally recorded as a separate site in 2002 by Whitley who described the site as most likely a middle period camp site. Whitley performed a Phase II subsurface investigation within the site and determined the site extends to a maximum depth of 90 cm and differs in age to CA-LAN-351. The site record does not provide a determination of significance for the site.

3.3 Historical Topographical Maps and Aerials

Historical Topographic Maps

Dudek consulted historical topographic maps and aerial photographs through the Nationwide Environmental Title Research, LLC (NETR) to better understand any modern human-made changes to the proposed Project site and surrounding properties over time. All sources consulted are further discussed below for all available years.

Historic topographic maps are available for the years 1903, 1908, 1916, 1924, 1929, 1930, 1933, 1939, 1943, 1948, 1953, 1958, 1964, 1967, 1970, 1988, 1999, 2012, 2015, and 2018 (NETR 2022a).

The first USGS topographic map showing the proposed Project site dates to 1903 and shows the proposed Project site as undeveloped. There is a road running north to south, east of the proposed Project site, that mirrors the modern Golden Valley Road. There are no significant changes to the proposed Project site until 1988. The 1988 topographic map depicts the Golden Valley Road as it is today, along the east edge of the proposed Project site. There is a paved entrance drive west from Golden valley Road onto the proposed Project area, and three structures within the valley east of the ridgeline along the proposed Project site. The three structures are still visible on the 1999 topographic map. The structures are no longer present on the 2012 and later topographic maps,

Historical Aerial Photographs

Historical aerials are available for the years 1928, 1930, 1940, 1947, 1952, 1959, 1966, 1968, 1969, 1974, 1976, 1977, 1985, 1986, 1992, 1994, 1996, 1997, 1998, 1999, 2000, 2002, 2003, 2005, 2009, 2010, 2012, 2014, 2016, 2018, and 2020 (NETR 2022b, UCSB 2022).

Table 3. Historical Aerials showing the Proposed Project Site

Year	Description
1928	The proposed Project site is undeveloped, a series of rugged hills and ridges forming a horseshoe around a small valley; roughly similar to current geographic conditions. The vegetation appears to be chapparal and grasses.
1930	No significant changes to the proposed Project site.
1940	There appears to be some dirt roads or possible fire breaks along the ridgeline of the proposed Project site. The proposed Project site is otherwise undeveloped.
1947	An access road has been added to the southwestern part of the property, west of the main ridgeline. The remainder of the proposed Project site has no significant changes.
1952	A significant portion of the proposed Project site has been graded, especially within the valley east of the main ridgeline. A road has been cut along the ridgeline, and also east to west from the southwest corner of proposed Project site, and continues south from ridgeline.
1959	No significant changes to the proposed Project site.
1966	No significant changes to the proposed Project site, with the exception of the previously graded area has overgrown in what appears to be grasses.
1968	No significant changes to the proposed Project site.
1969	The same footprint that was previously graded within the 1952 aerial, the area within the valley, has been graded again. There are roads along the ridgeline. The slope and valley in the southwestern part of the property has been grubbed and graded.

Table 3. Historical Aerials showing the Proposed Project Site

Year	Description
1974	The proposed Project site shows signs of grading, and it appears there is a structure mid site, in the valley east of the ridgeline. There are still roads along the ridgeline and the slope in the southwestern part of the property is cleared with access roads to the west.
1976	The proposed Project site has been more widely graded (85%), specifically the slope and valley in the southwestern part of the property. There is an access road to the west and what appears to be another structure has been added within the valley.
1977	No significant changes to the proposed Project site.
1985	The proposed Project site shows continued development, with extensive grading and possible outlying sheds visible. Two square concrete pads are visible on the eastern half of property. The area in the southwest has been graded again, exposing more of the western slope. The ridgeline road looks freshly graded. There is now a paved access road off of Golden Valley Road.
1986	The area within in the southwest portion of the property has an access road following the curve of the slope, where it was graded previously.
1992	Structures are still visible mid site. The area in the southwest section of the property shows signs of vegetation regrowth. There are still dirt roads visible within that area.
1994	No significant changes to the proposed Project site. The open areas within the valley appear graded. The area within the southwestern part of the property continues to regrow vegetation. The dirt access roads are still visible.
1996	No significant changes to the proposed Project site. The dirt access roads within the southwestern part of the property are covered with vegetation.
1997	No significant changes to the proposed Project site. Vegetation has regrown across the valley. Traces of the dirt access roads within the southwestern part of property are faintly visible.
1998-2000	No significant changes to the proposed Project site.
2002	There is extensive grading visible along all edges of the proposed Project site, especially within the eastern and northern areas. The central area within the valley appears to be the same, but northern slopes, eastern third and western edge all show signs of large-scale grading.
2005	The hillside within the northeastern corner of the proposed Project site has been terraced and landscaped. The graded area within the south has regrown vegetation. The central area within the valley shows no significant changes.
2009-2018	No significant changes to the proposed Project site.
2019	All previous structures have been removed from the site and only what appears to be cement pads and some paving remain. No other changes are evident within the proposed Project site.
2020	No significant changes to the proposed Project site. What appear to be temporary construction trailers are located on a previously paved area just outside the southeastern portion of the proposed Project site.

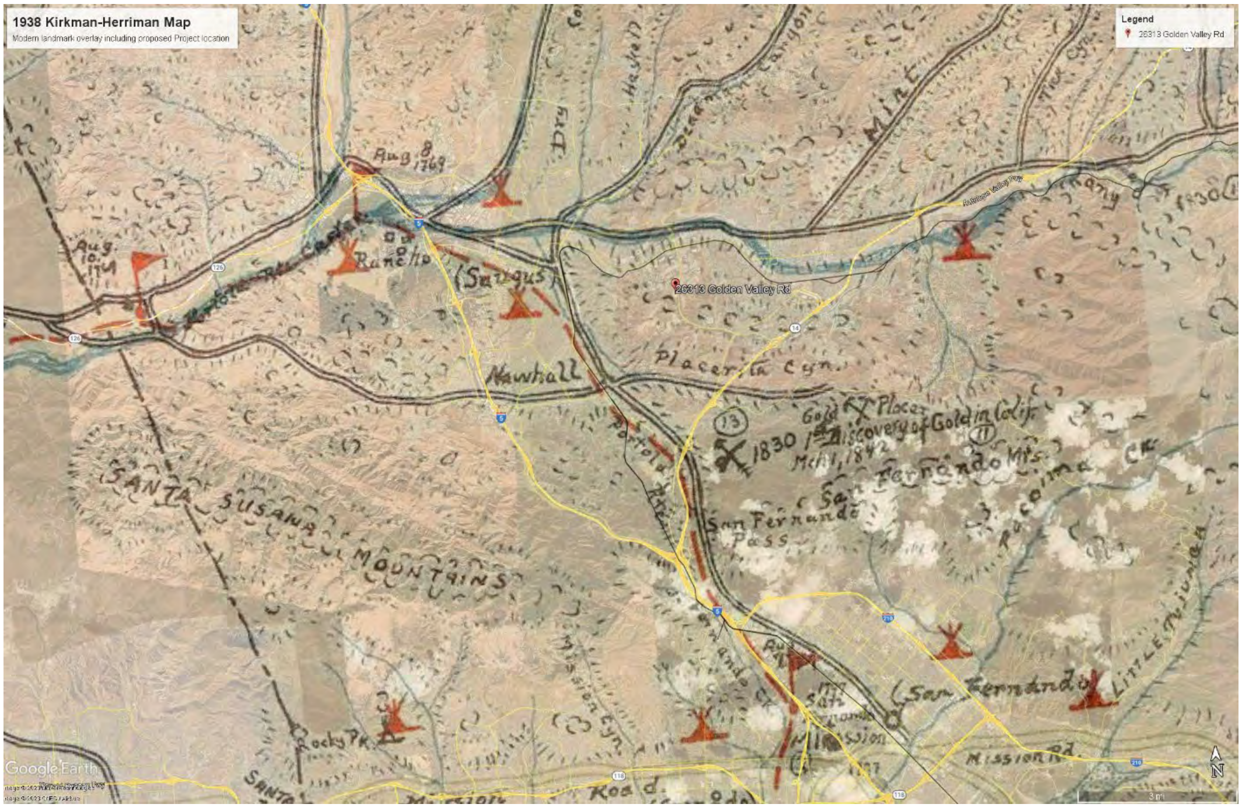
3.4 Geotechnical Report Review

The geotechnical investigation documented by the *Report of Limited Geotechnical Investigation Proposed Warehouse 26313 Golden Valley Road Santa Clarita, California* (RTF&A 2020), was performed to "determine subsurface conditions at the site and to assess the geotechnical properties of on-site materials for the purpose of developing recommendations relative to the construction of a warehouse at the site". The report details the results of subsurface explorations conducted in July of 2020 including two hollow-stem auger borings conducted in the central and eastern portions of the proposed Project site and drilled to depths of between 33 and 50 feet below existing grade. The borings were supplemented by four test pits conducted in the northcentral, central and south-central portions of the proposed Project site and excavated using a track hoe to depths of 6 to 7.5 feet below existing grade. Results of the investigation indicate that the eastern and low, level portions of the proposed Project site consist of silty sand and sandy silt certified artificial fill soils placed during previous grading operations for Golden Valley Road. The alluvial fill soils were observed between grade and 24 to 39 feet below grade are underlain by Saugus Formation bedrock, consisting of siltstone and silty sandstone. The northern, western, and southern portions of the proposed Project site is comprised of undulating topography and consists primarily of bedrock beginning at 2.5 to 4 feet below grade and overlain by residual soils of sandy silt and silty sand. The slopes within the proposed Project site range from 0 to 15 percent within the eastern and low, level portions and from 15 to 90 percent within the remainder of the site.

3.5 1938 Kirkman-Harriman Historical Map Review

Dudek also reviewed pertinent academic and ethnographic literature for information pertaining to historic use of the Project area and vicinity, including sources commonly identified through Tribal consultation, notably the 1938 Kirkman-Harriman Historical Map. This map is a valuable representation of post-colonization mission history; however, it is limited to a specific period of Native American history and substantiation of the specific location and uses of the represented individual features should be verified by archaeological records and/or other primary documentation. It should be noted that this map is highly generalized due to scale and age and may be somewhat inaccurate with regards to distance and location of mapped features. Additionally, this map was prepared based on review of historic documents and notes more than 100 years following secularization of the missions (in 1833). Although the map contains no specific primary references, it matches with the details documented by the Gaspar de Portolá expedition (circa 1769–1770). Image 1 depicts a portion of the Kirkman-Harriman Map that illustrates the Project area followed by an analytical review of the map in relation to the Project site and surrounding area.

Image 1: 1938 Kirkman-Harriman Historical Map



Based on the Kirkman-Harriman Map, the proposed Project site is approximately 2.6 miles directly east of the northwest–southeast-trending “Portola Route” depicting the path traversed through the area in 1769, approximately 6 miles southeast of where Portolá’s group camped in the area on August 8, 1769 and approximately 1 mile south the east-west trending “Old Road to Santa Barbara”. The nearest mapped source of freshwater is the Santa Clara River approximately 1-mile due north. The nearest mapped Native American village is mapped approximately 3 miles west of the proposed Project site and is identified on the map as “Saugus”. The map also marks “Gold Placer, 1st Discovery of Gold in Calif. Mch 1, 1842” approximately 4.5 miles northeast of the Project site and the location of a battle that occurred between Spanish Soldiers and Indians in 1830 approximately 3.4 miles south of the proposed Project site. This battle is likely the same battle that occurred in the *Canyon de Los Difuntos* that Friar Mariano Payeras uses to petitioned Spain to establish another mission on the Santa Clara River near Newhall. Nothing in the CHRIS database recorded within 1-mile of the proposed Project site or information collected during archival research conducted for this study refutes the mapped locations depicted on this portion of the Kirkman-Herriman Map.

4.0 Field Investigations

4.1 Methods

The intensive-level survey methods consisted of a pedestrian survey conducted in parallel transects, spaced no more than 10 meters apart (approximately 30 feet), traversing north to south when possible. Deviations from transects only occurred in areas containing steep slopes (greater than 30% slope), dense vegetation, or impassible natural features. All ridgelines were surveyed. The ground surface was inspected for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, groundstone tools, ceramics, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of structures and/or buildings (e.g., standing exterior walls, post holes, foundations), and historical artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as burrows, cut banks, trails and drainages were also visually inspected for exposed subsurface materials. No artifacts, if found, were intended to be collected during the survey.

All fieldwork was documented using field notes and an Apple Generation 7 iPad (iPad) equipped with ESRI Collector and Avenza PDF Maps software with close-scale georeferenced field maps of the proposed Project site, and aerial photographs. Location-specific photographs were taken using the iPad's 12-mega-pixel resolution camera. Cultural resources identified during this inventory within the proposed Project site were to be recorded on DPR forms, using the Instructions for Recording Historical Resources (Office of Historic Preservation 1995). All field notes, photographs, and records related to the current study are on file at Dudek's Santa Barbara, California office. All field practices met the Secretary of Interior's standards and guidelines for a cultural resources inventory.

4.2 Results

An intensive-level archaeological pedestrian survey of the proposed Project site was completed on February 2, 2022, and February 18, 2022, by Dudek Staff Archaeologists. Careful attention was given to barren ground included at the base of trees, bushes, within paths/trails and any subsurface soils exposed by burrowing animals. Ground surface visibility within the proposed Project site was variable and as such, in areas of dense ground coverage, surface scrapes were occasionally implemented, when necessary, to enhance detection of archaeological materials that may have been obscured on the surface. Survey results are discussed below.

The proposed Project Site is undeveloped with the southeastern corner graded and partially paved. This portion accounts for approximately 20 percent of the proposed Project Site and ground surface visibility within this area is none to fair (0 to 30 percent), due to the presence of road gravel. The remaining 80 percent of the proposed Project Site is undeveloped hills with sparse to dense vegetation. The ground surface visibility within this area is very good to excellent (60 to 90 percent). There are series of access roads visible, as well as evidence of grading in the form of push piles and cleared vegetation. Other disturbances include modern debris, industrial refuse (tile shards, a large spool, and cement slabs), and a utility box. No cultural material was observed.

All soils appear consist with the USDA's characterization of Saugus loam and Yolo loam (USDA 2022).

5.0 Assessment of Potential for Unrecorded Archaeological Resources

The proposed Project includes the construction of a 2-story, 174,000 s.f. building for mixed industrial and office use as well as the required utility services, water, sewer, and water quality treatment basins to serve the building and support the proposed Project. Proposed ground disturbance includes significant grading and terracing of the hillside areas located in the western portion of the proposed Project site, moderate grading and terracing in the northern and southern portions and fill of the cut soils within the eastern canyon portion of the proposed Project site. The ground disturbance is anticipated to extend up to 67 feet below current ground surface within the hillside portions of the proposed Project site and since at least 35 feet of fill soil is proposed to be deposited from the hillside portions to the current canyon portion, no ground disturbance within native soils is expected to occur within the Project areas proposed for building construction, utility, water quality treatment basin and retaining wall installation, landscaping and paving. Based on the negative records search results and primarily due to the fact that proposed ground disturbance within intact native soils will be limited to areas with greater that 30% slopes, the potential for unknown prehistoric and historic cultural resources to exist and be impacted by the proposed Project is considered unlikely. However, due to the overall sensitive nature of the general area surrounding the proposed Project site, it is possible that unknown cultural material and features could be encountered during proposed Project construction.

6.0 Evaluation of Potential Project Effects

As stated in CEQA Guidelines Section 15064.5(b)(1), a project causing a substantial adverse change in the significance of an historical resource is one that could result in the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings, such that the significance of an historical resource would be materially impaired (i.e., altering those physical characteristics that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources as determined by a lead agency [the City of Santa Clarita] for purposes of CEQA; or its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code).

Based on the negative CHRIS records search results and the negative survey results in reliable conditions, the potential for proposed Project improvements to cause a substantial adverse change to unknown cultural resources is considered unlikely. Should the proposed Project improvements change in location or nature, this determination should be reconsidered. Measures included in the following section have been recommended to ensure that the potential for impacts to unknown cultural resources during proposed ground disturbing construction activities would be appropriately addressed consistent with CEQA and City of Santa Clarita Cultural Resource Guidelines and ensure impacts to cultural resources would be less than significant.

7.0 Recommendations

Since no potentially significant resources, as defined by CEQA Guidelines, were identified within the proposed Project site, the proposed Project is not considered to have the potential to result in a significant impact on cultural resources as defined by CEQA Guidelines Section 15064.5(c)(4). However, due to the overall sensitive nature of the general proposed Project site and surrounding areas, it is possible that unknown cultural material and features could be encountered during proposed Project construction. Therefore, the following measures are recommended to ensure that the potential for impacts to unknown cultural resources during proposed ground disturbing construction activities would be appropriately addressed consistent with CEQA and City of Santa Clarita Cultural Resource Guidelines:

1. **Cultural Resource Inadvertent Discovery Plan.** Impacts to cultural resources should be minimized through implementation of pre- and post- construction tasks. Tasks pertaining to cultural resources include the development of a cultural resource inadvertent discovery plan (Plan). The purpose of the Plan is to outline a program of treatment and mitigation in the case of an inadvertent discovery of cultural resources during ground-disturbing phases (including but not limited to preconstruction site mobilization and testing, grubbing, removal of soils for remediation, construction ground disturbance, construction grading, trenching, and landscaping) and to provide for the proper identification, evaluation, treatment, and protection of any cultural resources throughout the duration of the Project. This Plan should define the process to be followed for the identification and management of cultural resources in the Project area during construction. Existence of and importance of adherence to this Plan should be stated on all Project site plans intended for use by those conducting the ground disturbing activities.

2. **Workers Environmental Awareness Program (WEAP) Training.** All construction personnel and monitors who are not trained archaeologists should be briefed regarding unanticipated discoveries prior to the start of ground disturbing activities. A basic presentation shall be prepared and presented by a qualified archaeologist to inform all personnel working on the Project about the archaeological sensitivity of the area. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker should also be instructed on the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the on-call archaeologist and if appropriate, Tribal representative. Necessity of training attendance should be stated on all Project site plans intended for use by those conducting the ground disturbing activities.

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Appendix A

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SCCIC Records Search

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APPENDIX E

Paleontological Resources Technical Memorandum for the Pacific Industrial Warehouse Project

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TECHNICAL MEMORANDUM

To: David Peterson, Associate Planner
City of Santa Clarita, Planning Division
23920 Valencia Boulevard, Suite 140
Santa Clarita, California 91355

From: Mathew Carson, M.S., Lead Paleontologist; Kristina Akesson, B.S., Paleontologist

Date: November 9, 2022

Re: **Paleontological Resources Technical Memorandum for the Pacific Industrial Warehouse Project, City of Santa Clarita, Los Angeles County, California**

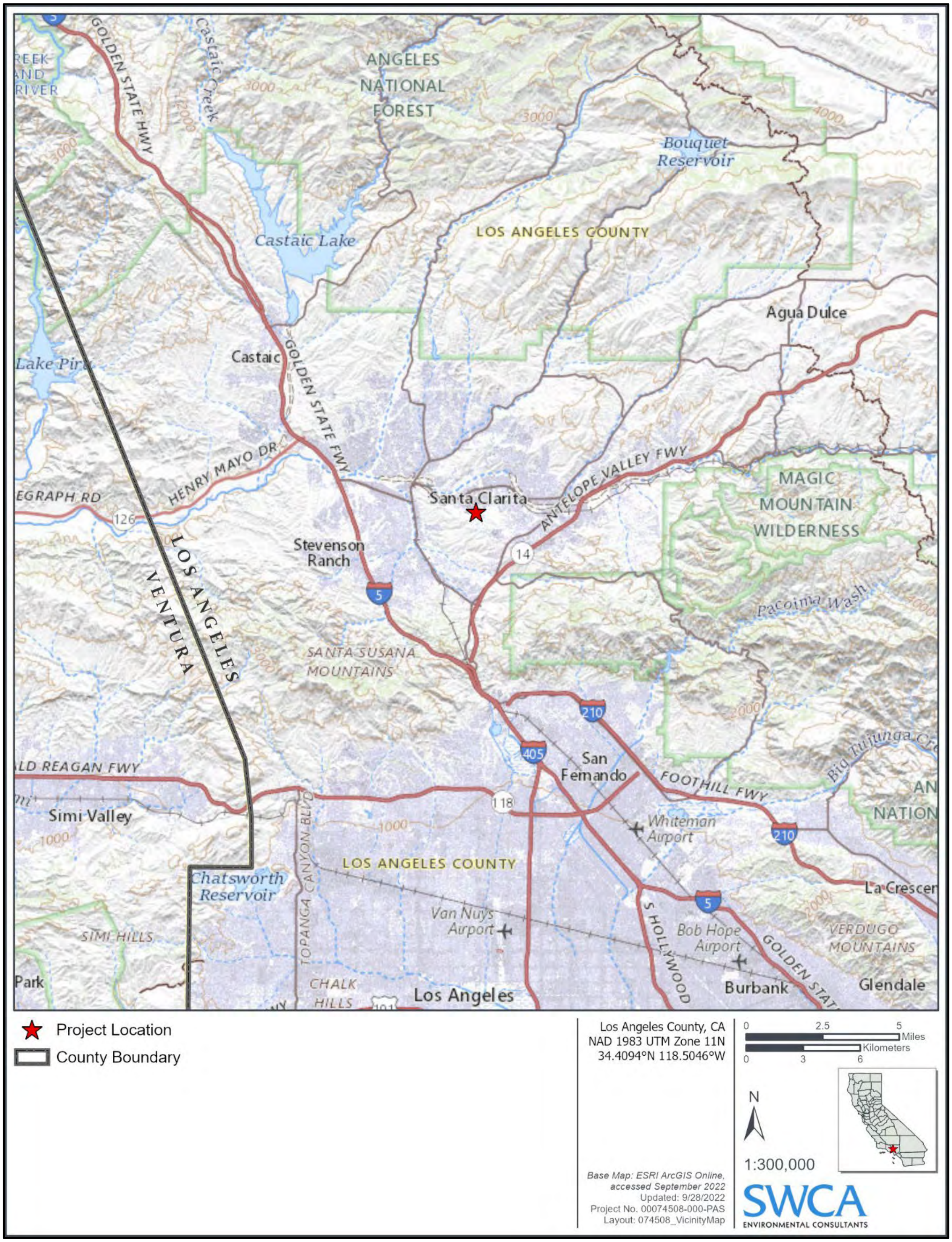
INTRODUCTION

On behalf of Pacific Industrial, LLC (Applicant), the City of Santa Clarita (City) retained SWCA Environmental Consultants (SWCA) to conduct a paleontological resources assessment in support of the Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Pacific Industrial Warehouse Project (project) located in the city of Santa Clarita, Los Angeles County, California (Figure 1). This technical memorandum documents the methods and results of this assessment, which included a review of geologic mapping, scientific literature, environmental and geotechnical data, and confidential fossil locality records from the Natural History Museum of Los Angeles County (NHMLA); determines the potential for significant impacts to paleontological resources; and provides mitigation recommendations to reduce potential impacts to less-than-significant levels, pursuant to the California Environmental Quality Act (CEQA).

SWCA Lead Paleontologist Mathew Carson, M.S., and SWCA Paleontologist Kristina Akesson, B.S., conducted the paleontological resources assessment presented herein and co-authored this memorandum. SWCA Principal Investigator of Paleontology Russell Shapiro, Ph.D., provided senior-level technical review and quality assurance/quality control (QA/QC). SWCA Senior Environmental Planner Bobbette Biddulph, B.S., served as overall project manager and provided additional QA/QC. Figures were generated by SWCA Geographic Information System (GIS) Specialist Marty Kooistra, M.A., Registered Professional Archaeologist (RPA). Copies of the report are on file with SWCA's Pasadena office.

PROJECT LOCATION AND DESCRIPTION

The project site (or project location) is located at 26313 Golden Valley Road in the city of Santa Clarita, Los Angeles County, west of Golden Valley Road and south of Centre Pointe Parkway (Figure 2).
The project site encompasses Assessor Parcel Number (APN) 2836-016-083 and is situated within Sections 24 and 25 of Township 04 North, Range 16 West on the Newhall, California, U.S. Geological Survey (USGS) 7.5-minute quadrangle map (Figure 3).



Base Map: ESRI ArcGIS Online, accessed September 2022
Updated: 9/28/2022
Project No. 00074508-000-PAS
Layout: 074508_VicinityMap

Figure 1. Project vicinity within City of Santa Clarita, Los Angeles County.

Figure 2. Project site plotted on an aerial photograph.

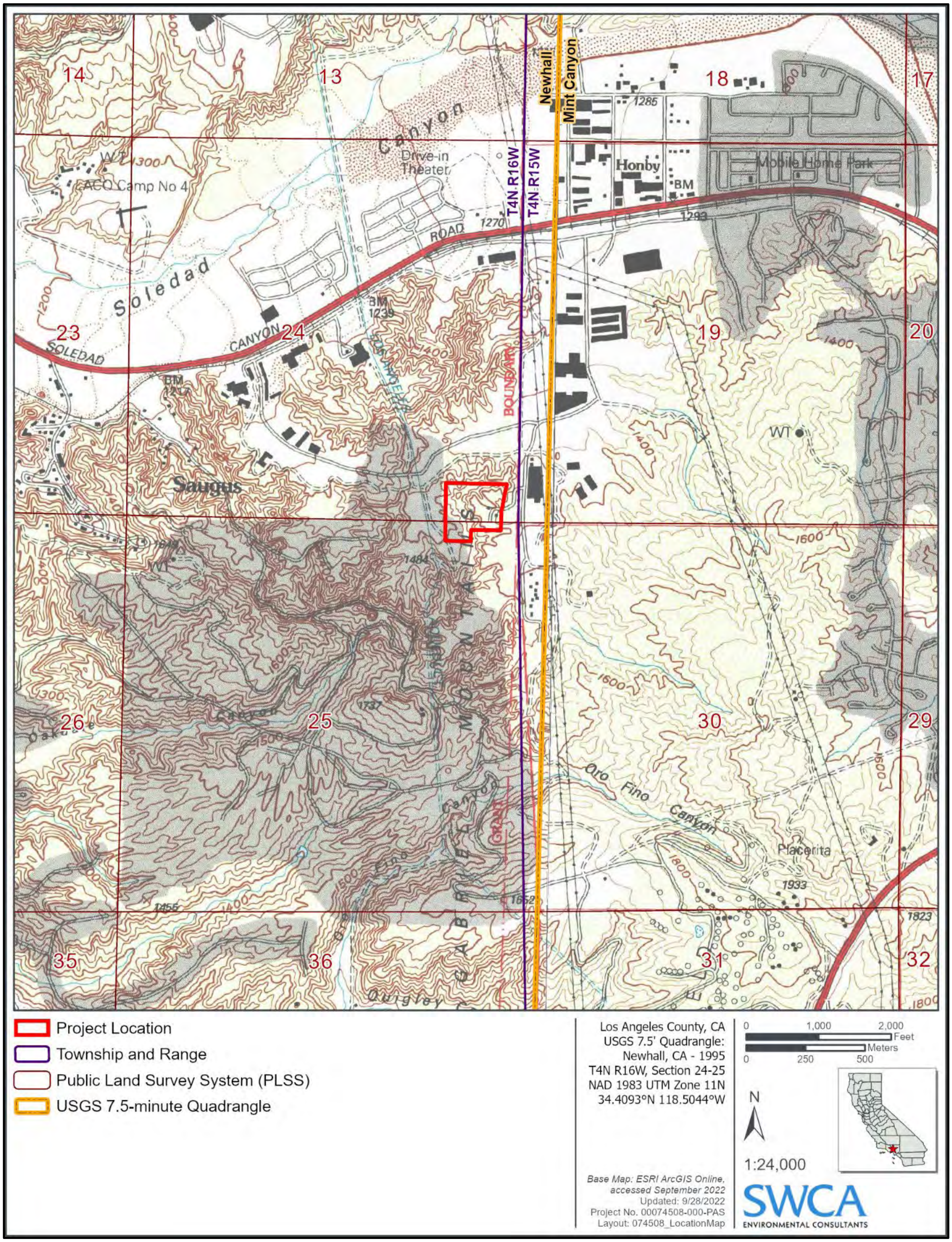


Figure 3. Project site plotted on the Newhall, California (1995) USGS 7.5-minute topographic quadrangle.

The project site is in the Santa Clarita Valley within northwestern Los Angeles County, south of the Santa Clara River and northwest of the San Gabriel Mountains. The approximately 12.84-acre project site is currently vacant and undeveloped, with relatively flat land in the central and southern portion of the site and vegetated hillsides with an average cross slope of 31% in the northern and western portion of the site. The elevation on the site ranges from 1,380 to 1,460 feet above mean sea level (amsl).

The Applicant proposes to develop a 174,000-square-foot industrial warehouse building and associated development on a 12.84-acre property (see Figure 2 and Figure 3). The proposed building would consist of 161,000 square feet of warehouse space, 4,000 square feet of mezzanine, and 9,000 square feet of office space (one office at the southeast corner and one office at the southwest corner of the proposed warehouse) with a maximum building height of 49 feet (measured from finished floor to the top of the parapets). The Applicant also would provide an employee lunch area with tables and chairs at the southeast corner of the site. Other associated on-site improvements would include 25 docking stations along the southern side of the building; 194,046 square feet of landscape coverage; paving and vehicular access, including two proposed driveways along Golden Valley Road, a private road around the warehouse building, as well as access to the docking stations and parking areas; 236 parking stalls and 24 bicycle rack spaces; exterior lighting; and drainage and utility improvements, including new sewer and water lines, new fire lines, and new fire hydrants.

Ground-disturbing activities include grading 190,000 cubic yards of sediment that would be replaced by 190,000 cubic yards of fill, with a total of 100,000 cubic yards of over-excavation. Equipment needed to complete the earthwork activities includes excavators, graders, rubber-tired dozers, scrapers, and tractors/loaders/backhoes. According to the geotechnical plan review prepared by R. T. Frankian and Associates (RTF&A), grading activities will include cuts up to approximately 65 feet and backfill up to 38 feet to produce a level building pad (including 12-foot-high retaining walls) (RTF&A 2021).

PROFESSIONAL STANDARDS

The Society of Vertebrate Paleontology (SVP) has established standard guidelines that outline professional protocols and practices for conducting paleontological resource assessments and surveys; monitoring and mitigation; data and fossil recovery; sampling procedures; and specimen preparation, identification, analysis, and curation (SVP 1995, 2010). Most practicing professional mitigation paleontologists in California adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological laws, ordinances, regulations, and standards accept and use the professional standards set forth by the SVP.

As defined by the SVP, significant paleontological resources are

> fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years). (SVP 2010:11)

Numerous paleontological studies have developed criteria for the assessment of significance for fossil discoveries (e.g., Eisentraut and Cooper 2002; Murphey et al. 2019; Scott and Springer 2003). In general, these studies assess fossils as significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living, or extinct.

2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas.
4. The fossils demonstrate unusual or spectacular circumstances in the history of life.
5. The fossils are in short supply and/or are in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation and are not found in other geographic locations.

Geologic units known to preserve significant fossils or fossil localities are likely to contain additional undiscovered and potentially significant fossils and are generally considered sensitive for paleontological resources throughout their areal and stratigraphic extent. As a result, even in the absence of fossils on the surface, it is necessary to assess the sensitivity of geologic units based on their known potential to produce significant fossils elsewhere within the same geologic unit (both within and outside the study area), a similar geologic unit, and whether the unit in question was deposited in a type of environment known to be favorable for fossil preservation.

REGULATORY SETTING

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under federal, state, and local regulations.

State Regulations

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at California Public Resources Code (PRC) Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on paleontological resources. Guidelines for the Implementation of CEQA, as amended December 28, 2018 (Title 14, Chapter 3, California Code of Regulations [CCR] 15000 et seq.), define procedures, types of activities, persons, and public agencies required to comply with CEQA. Section VII(f) of the Environmental Checklist (State CEQA Guidelines Appendix G) asks whether a project would directly or indirectly destroy a unique paleontological resource and result in impacts to the environment.

California Public Resources Code Section 5097.5

Requirements for paleontological resource management are included in PRC Division 5, Chapter 1.7, Section 5097.5, which states:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

These statutes prohibit the removal, without permission, of any paleontological site or feature from land under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, local agencies are required to comply with PRC 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others. PRC Section 5097.5 also establishes the removal of paleontological resources as a misdemeanor and requires reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, and district) land.

County of Los Angeles General Plan

The Conservation and Natural Resources Element of the *Los Angeles County General Plan 2035* (General Plan) (County of Los Angeles 2015) recognizes paleontological resources in Section VIII: Historic, Cultural, and Paleontological Resources, and aims to promote public awareness of their value and foster their public enjoyment. Therefore, the General Plan contains one goal (C/NR 14) aimed at the protection of historic, cultural, and paleontological resources, with the following four policies pertinent to paleontological resources:

- **Policy C/NR 14.1:** Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.
- **Policy C/NR 14.2:** Support an inter-jurisdictional collaborative system that protects and enhances historic, cultural, and paleontological resources.
- **Policy C/NR 14.5:** Promote public awareness of historic, cultural, and paleontological resources.
- **Policy C/NR 14.6:** Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources.

METHODS

The following sections present an overview of the methodology used to analyze the potential for paleontological resources within the project site. This report conforms to industry standards as developed by the SVP (1995, 2010) and best practices in mitigation paleontology (Murphey et al. 2019).

Existing Data Analysis

SWCA conducted a review of geologic mapping, scientific literature, environmental and geotechnical data, and museum records search results. The geologic mapping used in this analysis is from Campbell and others (2014) at a scale of 1:100,000 and is supplemented by scientific literature, as well as the results of the Phase II environmental site assessment (ESA) (AECOM 2017) and geotechnical investigation (RTF&A 2021). The museum records search was submitted to the NHMLA on September 1, 2022. The results of the museum records search (NHMLA 2022) were received on September 25, 2022, and are incorporated into the Results section of this technical memorandum and included in confidential Attachment A.

Paleontological Potential Classification

Paleontological potential ("sensitivity") is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. The SVP (2010:1–2) defines four categories of paleontological sensitivity for rock units: high, low, undetermined, and no potential:

> **High Potential**. Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Paleontological potential consists of both a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Rock units which contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units which may contain new vertebrate deposits, traces, or trackways are also classified as having high potential.
>
> **Low Potential**. Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e.g., basalt flows or Recent colluvium.
>
> **Undetermined Potential**. Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources.
>
> **No Potential**. Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection or impact mitigation measures relative to paleontological resources. (SVP 2010:1–2)

RESULTS

Regional Geology

The project site is situated in the hills on the south side of Soledad Canyon along the Santa Clara River along the border of the Ventura and Soledad basins within the greater Transverse Ranges Geomorphic Province (Transverse Ranges). The Transverse Ranges spans from Point Conception in Santa Barbara County eastward to the San Bernardino Mountains in San Bernardino County and consists of a complex series of young, east-west-trending mountain ranges and basins that contradict the general north-south orientation of California’s other mountain ranges. The bedrock mountain ranges are separated by alluviated, broadly synclinal (i.e., folded) valleys, narrow stream canyons, and prominent faults (Norris and Webb 1990; Sylvester and O’Black Gans 2016). Structurally, the distribution and folding of the geologic units in the region has been widely influenced by movement and forces associated with the San Andreas Fault, as well as its former strands, resulting in the translation and rotation of the Transverse Ranges during the Miocene to Pleistocene (Campbell et al. 2014).

The western Ventura Basin and eastern Soledad Basin are separated by the San Gabriel Fault, situated approximately 700 feet south-southwest of the project site (RTF&A 2021). Combined, these basins span from the San Gabriel Mountains to the east and southeast, the Santa Monica Mountains and Simi Hills to the south, the San Andreas Fault to the northeast, and the Topatopa Mountains to the north (Campbell et al. 2014; Norris and Webb 1990). In general, these basins contain mainly middle and late Cenozoic nonmarine sedimentary rocks underlain by early Cretaceous and older crystalline basement rocks that extend from the San Gabriel Mountains to the south and metamorphic rocks from the Sierra Pelona to the north (Norris and Webb 1990). Both the Ventura and Soledad basins represent down-warped, large-scale synclinal structures characteristic of the Transverse Ranges that have been filled with thick accumulations of sediments throughout their geologic history (Winterer and Durham 1962).

During the Late Cretaceous to the middle Oligocene, subduction along the North American plate boundary resulted in deposition of marine sediments along a forearc basin in the area that would eventually become the Ventura and Soledad basins. During this time, the Ventura Basin lay under the sea and was dominated by marine sedimentary deposition, with the Soledad Basin representing a nonmarine extension of the Ventura Basin (Norris and Webb 1990). However, in the late Oligocene, the Soledad Basin was cut off from the Ventura Basin, resulting in the development of closed basins of saline lakes within the Soledad Basin (Norris and Webb 1990). Hills along the south side of the Santa Clara River Valley were also folded and uplifted during the Miocene due to movement along the San Gabriel and San Andreas faults. By the close of the Miocene, connectivity to the seaway was reestablished, with the sea reaching into the western reaches of the Soledad Canyon, with the sea persisting until the early Pliocene (Norris and Webb 1990). At the end of the Pliocene, the sea had withdrawn, and terrestrial clastic sediments derived from the erosion of the neighboring ranges and tributaries of the Santa Clara River filled the basins during the Pleistocene and Holocene.

Local Geology and Paleontology

Geologic mapping by Campbell and others (2014) indicates the surficial sediments within the project site are Holocene and late Pleistocene young alluvium, undivided (Qya) and Pleistocene to late Pliocene Saugus Formation, undivided (QTs). Although unmapped within the project site by Campbell and others (2014), Recent artificial fill is likely also present at the surface of the project site to varying depths, based on previous development within and in the immediate area around the project site, the ESA detailing the historic use of the project site (AECOM 2017), and the geotechnical data for the project (RTF&A 2021). The geologic units are summarized below in youngest to oldest geochronological order and are shown in Figure 4.

Unmapped Recent Artificial Fill

Based on a review of aerial imagery, the results of the ESA (AECOM 2017), and the results of the geotechnical investigation (RFT&A 2021), the surface of the project site contains unmapped Recent artificial fill to variable depths, likely deposited during construction of previously built structures on-site, as well as during construction of Golden Valley Road (AECOM 2017). RFT&A (2021) describe the artificial fill as light to medium brown silty sand or sandy silt. The borehole logs from the geotechnical study do not differentiate artificial fill from the underlying "native" young alluvium, undivided mapped at the surface by Campbell and others (2014), particularly within the low-lying swales and valleys. Nonetheless, artificial fill likely extends from the surface to depths of approximately 12 to 15 feet below ground surface (bgs) in areas mapped as young alluvium, undivided based on subsurface transitions in lithology and sediment color (Campbell et al. 2014; RFT&A 2021). Artificial fill seemingly is absent in areas of higher topographic relief that are mapped as Saugus Formation, undivided by Campbell and others (2014).

Because artificial fill is the result of reworked or imported sediments, it could contain fossils; however, any fossils that may be present (if intact) have lost their original stratigraphic, taphonomic, or paleoenvironmental contexts (i.e., provenance), making them scientifically invalid. Due to the lack of provenance, artificial fill is unlikely to contain scientifically significant paleontological resources. However, artificial fill is underlain by previously undisturbed "native" geologic units that may have the potential to contain significant paleontological resources.

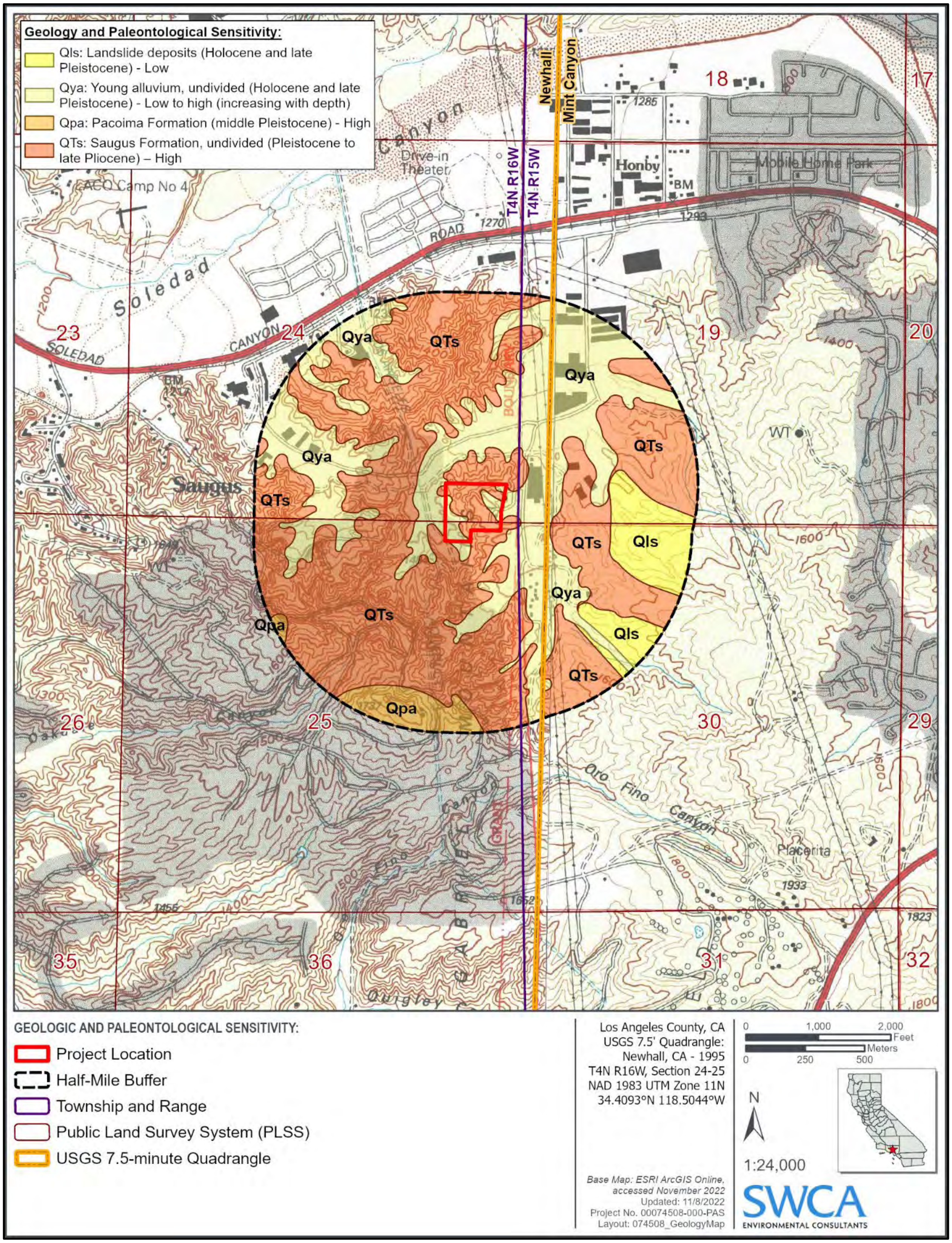


Figure 4. Geology and paleontological sensitivity of the project site.

Holocene and Late Pleistocene Young Alluvium, undivided (Qya)

According to geologic mapping by Campbell and others (2014), Holocene and late Pleistocene young alluvium, undivided (Qya) is mapped at the surface primarily within the eastern and central portions of the project site (see Figure 4). As previously mentioned, artificial fill/young alluvium, undivided is not differentiated by RFT&A (2021) within the project site. Where young alluvium, undivided is mapped at the surface by Campbell and others (2014), it is likely present within the subsurface at depths of 12 to 15 feet bgs extending to depths of at least 24 to 39 feet bgs, overlain by artificial fill and underlain by the Saugus Formation, undivided. Young alluvium, undivided consists of unconsolidated, generally friable, stream-deposited silt, sand, and gravel on floodplains and locally includes related alluvial fans and streambeds (Campbell et al. 2014).

Late Holocene (i.e., less than 5,000 years old) deposits are typically too young to contain significant fossils (SVP 2010); however, they likely grade at depth to middle to early Holocene and/or late Pleistocene deposits that are of an appropriate age to contain significant fossils. The depth of this transition is unknown but is likely greater than or equal to 15 feet bgs. In general, undifferentiated alluvial sediments of Pleistocene age have a rich fossil history in southern California (Jefferson 1991a, 1991b; McDonald and Jefferson 2008; Miller 1971; Reynolds and Reynolds 1991; Springer et al. 2009). The most common Pleistocene terrestrial mammal fossils include the bones of mammoth, bison, deer, and small mammals, but other taxa, including horse, lion, cheetah, wolf, camel, antelope, peccary, mastodon, capybara, and giant ground sloth, have been reported (Graham and Lundelius 1994), as well as reptiles, snakes, frogs, and salamanders (Hudson and Brattstrom 1977).

Pleistocene to late Pliocene Saugus Formation, undivided (QTs)

According to geologic mapping by Campbell and others (2014), Pleistocene to late Pliocene Saugus Formation, undivided (QTs) is mapped at the surface within the western and southern portions of the project site (see Figure 4). Geotechnical investigations of the project site by RFT&A (2021) confirm the geologic mapping of Campbell and others (2014), with the Saugus Formation, undivided present at the surface, or underlain by a veneer of “residual soils” of weathered sediments of the Saugus Formation, undivided along the hills and slopes. In areas mapped as young alluvium, undivided by Campbell and others (2014), the Saugus Formation, undivided is present at moderate (e.g., 24 to 39 feet bgs) depths (RFT&A 2021).

The age of the Saugus Formation, undivided varies throughout its extent and may be as old as late Pliocene, especially along the eastern extent of the Ventura Basin (Campbell et al. 2014; Dibblee and Ehrenspeck 1996; Winterer and Durham 1962). In the hills within and surrounding the project site, the Saugus Formation, undivided consists of reddish brown, brown, light gray, or yellowish gray; weakly to moderately cemented; fine- to coarse-grained sandstone and pebble conglomerate, interbedded with siltstone (Campbell et al. 2014; RFT&A 2021). Generally, the Saugus Formation, undivided is moderately sorted and commonly cross-bedded and channeled, with interbedded poorly sorted sandy mudstone and local claystone seams (Campbell et al. 2014). Geologists consider the Saugus Formation, undivided deposited mostly in a nonmarine depositional environment, with local shallow marine interbeds near its base (Winterer and Durham 1962). Clasts within the Saugus Formation, undivided consist of plutonic, metamorphic, and volcanic rock fragments originating from the San Gabriel Mountains on the south, as well as metamorphic schist fragments originating from the Sierra Peloma on the northeast (Campbell et al. 2014; Norris and Webb 1990). Near the margins of the eastern Ventura Basin, the Saugus Formation, undivided unconformably overlies strata of the older Pico Formation and unconformably underlies the younger Pacoima Formation, with the Saugus Formation, undivided exhibiting distinct angular discordance with the latter (Campbell et al. 2014). For example, the bedding planes of the Saugus Formation, undivided in borehole cores indicate a dip of approximately 10 degrees west (RFT&A 2021). The overall thickness of the Saugus Formation, undivided varies considerably across its extent in the

Ventura Basin, varying between approximately 200 feet thick near Camarillo to 12,000 feet thick near the San Fernando Pass (Campbell et al. 2014).

The Saugus Formation, undivided contains numerous fossil localities yielding horse, tapir, deer, camel, canine, rabbit, rodent, bird, lizard, invertebrate, and plant fossils in the vicinity of the project site (Axelrod and Cota 1993; Geiger and Groves 1999; Groves 1991; NHMLA 2022; Oakeshott 1950; Paleobiology Database 2022; SWCA 2002, 2005; University of California Museum of Paleontology 2022; Winterer and Durham 1962; Yeats and McLaughlin 1970).

Museum Records Search

The NHMLA (2022) performed a museum records search for paleontological localities within the vicinity of the project site. Based on the results of the museum records search, the NHMLA (2022) does not contain records of paleontological resources from within the project site; however, several vertebrate fossil localities have been recorded within the vicinity of the project site from the Saugus Formation, undivided. The results of the museum records search from the NHMLA (2022) are summarized in Table 1 and included in confidential Attachment A.

Table 1. NHMLA Fossil Localities near the Project Site from Relevant Geologic Units

Locality Number	Approximate Distance to the Project Site	Formation	Taxa	Depth (Below Ground Surface)
LACM VP 7988, 7989	1.50 miles	Saugus Formation	Packrat (*Neotoma*), squirrel (Sciuridae), deer mice (*Peromyscus*), kangaroo rat (Heteromyidae), finch (Fringillidae)	Unknown
LACM VP 6804	2.25 miles	Saugus Formation	Horse (Equidae)	Surface
LACM VP 1293	6.45 miles	Saugus Formation	Camel (Camelidae)	Shallow subsurface
LACM VP 6063	7.25 miles	Saugus Formation	Horse (*Plesippus*)	Unknown
LACM VP 6062	8.25 miles	Saugus Formation	Anguid lizard (*Gerrhonotus*); rabbit (Leporidae), pocket gopher (*Thomomys*), pocket mouse (*Perognathus*)	Unknown
LACM VP 6601	9.35 miles	Saugus Formation	Tapir (*Tapirus*), deer (Cervidae)	Unknown

Source: NHMLA (2022)

Field Reconnaissance Survey

After receipt of the NHMLA (2022) records search results, SWCA Paleontologist Kristina Akesson, B.S., conducted a pedestrian field reconnaissance survey to assess the surface for the presence of previously unrecorded paleontological resources and to confirm the geologic mapping. The topography consists of large, rolling hills along the northern, western, and southern portions of the project site, with a valley extending from the southeast to the center of the project site (Figure 5). The vegetation consists of grasses, chapparal, low-lying shrubs, and sporadic trees (Figure 6). The total ground cover from vegetation, as well as artificial gravel and asphalt from previous site development, covers approximately 90% of the project site, with scant exposures of the soil or sediments (classified as artificial fill, young alluvium, or “residual soils” of weathered Saugus Formation, undivided) only observable among the vegetation and in shallow (i.e., 1 to 2 inches deep), sheet-flow wash cuts (Figure 7).

Figure 5. Overview of the project site showing topography. View: southeast.

Figure 6. Vegetation of the project site. View: northeast.

Figure 7. Surface exposure of the Pleistocene to late Pliocene Saugus Formation, undivided (QTs) within shallow channel washes. View: southeast.

In valley areas where young alluvium is mapped at the surface by Campbell and others (2014) (but is likely capped by artificial fill), sediments consist of gray to tan conglomerate, with a brown, poorly sorted, silty sand or sandy silt matrix around the clasts (Figure 8). The clasts are poorly sorted, varying in size between granules and cobbles, and are composed of igneous crystalline or metamorphic (e.g., schist) rocks. Most of the hills are covered by vegetation that precludes direct observation of the bedrock of the Saugus Formation. Where the minimal exposures are present among the vegetation or in washes, the Saugus Formation consists of light brown to tannish gray, silty sandstone and conglomerate of similar composition as the young alluvium (Figure 9).

No newly identified or previously recorded paleontological resources were observed during the field reconnaissance survey. Nonetheless, the weathered and winnowed remains of geologic units capable of preserving significant fossils were observed in scant exposures at the surface.

Paleontological Potential of the Project Site

Based on the results of this assessment, SWCA assigned paleontological sensitivity classes to the geologic units within the project site. Although capable of preserving fossils, unmapped Recent artificial fill has a low paleontological sensitivity since any fossil discovered would lack provenance (SVP 2010). However, artificial fill may be directly underlain by “native” geologic units capable of preserving fossils (see above). The Holocene and late Pleistocene young alluvium, undivided (Qya) may be too young (e.g., late Holocene, less than 5,000 years) in its uppermost sediments to yield scientifically significant fossils but may transition at moderate (e.g., 15 feet bgs) depth to middle to early Holocene and/or late Pleistocene deposits that are capable of preserving significant fossils. Therefore, young alluvium, undivided has a low to high (increasing with depth) paleontological sensitivity (SVP 2010).

The Pleistocene to late Pliocene Saugus Formation, undivided (QTs), whether present at/near the surface along the hills or at moderate (e.g., 24 feet bgs) depth, is known for yielding scientifically significant paleontological resources. Therefore, the Saugus Formation, undivided has a high paleontological sensitivity (SVP 2010).

Figure 8. Lithology of unmapped Recent artificial fill and/or Holocene and late Pleistocene young alluvium, undivided (Qya). Plan view.

Figure 9. Lithology of the Pleistocene to late Pliocene Saugus Formation, undivided (QTs). Plan view.

IMPACT ASSESSMENT

Ground-disturbing activities associated with the project include grading 190,000 cubic yards of sediment, with a total of 100,000 cubic yards of over-excavation. Cut-fill grading activities would require cuts up to approximately 65 feet bgs, which would be backfilled up to 38 feet bgs, and would include 12-foot-high retaining walls around the northern, western, and southern borders of the project site. SWCA conducted this assessment to determine the potential for significant impacts to paleontological resources resulting from ground-disturbing activities associated with the project's implementation or construction.

Based on the results of this study, ground-disturbing activities in unmapped Recent artificial fill, previously disturbed sediments (regardless of depth), or sediments less than 15 feet bgs in areas mapped as Holocene and late Pleistocene young alluvium, undivided (Qya) are unlikely to result in adverse effects. Conversely, ground-disturbing activities greater than or equal to 15 feet bgs in areas mapped at the surface as young alluvium, undivided may result in adverse effects to significant paleontological resources. Moreover, ground-disturbing activities impacting the Pleistocene to late Pliocene Saugus Formation, undivided (QTs), whether present at the surface where mapped along the hills or present at moderate depth below the alluvial deposits in the low-lying areas, may also result in adverse effects to significant paleontological resources. Should significant fossils be encountered during ground-disturbing activities to depths of approximately 65 feet bgs, they would be at risk for damage or destruction and would constitute an impact under CEQA.

CONCLUSIONS AND RECOMMENDATIONS

SWCA conducted this paleontological resources assessment to determine the potential for adverse effects to significant paleontological resources. Based on the results of this study, ground-disturbing activities in unmapped Recent artificial fill, previously disturbed sediments (regardless of depth), or sediments less than 15 feet bgs in areas mapped as Holocene and late Pleistocene young alluvium, undivided (Qya) are unlikely to result in adverse effects. Conversely, ground-disturbing activities greater than or equal to 15 feet bgs in areas mapped at the surface as Holocene and late Pleistocene young alluvium, undivided (Qya) may result in adverse effects to significant paleontological resources. Moreover, ground-disturbing activities impacting the Pleistocene to late Pliocene Saugus Formation, undivided (QTs), whether present at the surface or at depth (below young alluvium), may also result in adverse effects to significant paleontological resources. Should significant fossils be encountered during ground-disturbing activities to depths of approximately 65 feet bgs, they would be at risk for damage or destruction and would constitute an impact under CEQA.

The implementation of appropriate mitigation measures will ensure that fossils, if encountered, are assessed for significance and, if significant, salvaged and curated with an accredited repository. These actions will reduce impacts to paleontological resources to less-than-significant levels, pursuant to CEQA. Accordingly, SWCA recommends the following mitigation measures, which have been developed in accordance with and incorporate the performance standards of the SVP (1995, 2010), state and local regulations, and best practices in mitigation paleontology (Murphey et al. 2019).

1. **Retain a Qualified Professional Paleontologist:** A Project Paleontologist, defined as one who meets the SVP standards for a qualified professional paleontologist, should be retained to carry out all regulatory compliance measures and protocols related to paleontological resources.
2. **Conduct Worker Training:** The Project Paleontologist should develop Worker Environmental Awareness Program training to educate the construction crew on the legal requirements for preserving fossil resources, as well as the procedures to follow in the event of a fossil discovery. This training program should be given to the crew before ground-disturbing work commences and should include handouts to be given to new workers as needed.

3. **Monitor for Paleontological Resources:** Full-time monitoring should be required when ground-disturbing activities impact previously undisturbed sediments of Holocene and late Pleistocene young alluvium, undivided (Qya) at depths greater than or equal to 15 feet bgs, or when ground-disturbing activities impact previously undisturbed sediments of Pleistocene to late Pliocene Saugus Formation, undivided (QTs), whether present at the surface or at depth below the young alluvium. Monitoring should not be required when ground-disturbing activities impact only unmapped Recent artificial fill, previously disturbed sediments (regardless of depth), and sediments of Holocene and late Pleistocene young alluvium, undivided (Qya) at depths less than 15 feet bgs.

   Monitoring should be conducted by a paleontological monitor who meets the standards of the SVP (2010) and should be supervised by the Project Paleontologist, who may periodically inspect construction activities to adjust the level of monitoring in response to subsurface conditions. Monitoring efforts can be increased, reduced, or ceased entirely if determined adequate by the Project Paleontologist. Paleontological monitoring should include inspection of exposed sedimentary units during active excavations within sensitive geologic sediments. The monitor should have authority to temporarily divert activity away from exposed fossils to evaluate the significance of the find and, should the fossils be determined significant, professionally and efficiently recover the fossil specimens and collect associated data. The monitor should record pertinent geologic data and collect appropriate sediment samples from any fossil localities. Recovered fossils should be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological repository (e.g., NHMLA).

4. **Prepare a Paleontological Resources Monitoring Report:** Upon conclusion of ground-disturbing activities, the Project Paleontologist overseeing paleontological monitoring should prepare a final Paleontological Resources Monitoring Report (PRMR) that documents the paleontological monitoring efforts for the project and describes any paleontological resources discoveries observed and/or recorded during the life of the project. If paleontological resources are curated, the final PRMR and any associated data pertinent to the curated specimen(s) should be submitted to the designated repository. A copy of the final PRMR should be filed with the City.

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ATTACHMENT A

Natural History Museum of Los Angeles County Paleontological Records Search

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APPENDIX F

Technical Review Memorandum and Summary of Environmental Activities Pacific Industrial Warehouse

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

September 23, 2022
Project No. 212070001

Ms. Bobbette Biddulph
SWCA Environmental Consultants
51 West Dayton Street
Pasadena, California 91105

Subject: Technical Review Memorandum and Summary of Environmental Activities
Pacific Industrial Warehouse
26313 Golden Valley Road
Santa Clarita, California 91350

Dear Ms. Biddulph:

Ninyo & Moore has prepared this Technical Review Memorandum and Summary of Environmental Activities which outlines the findings of our review of available environmental documents associated with the property located at 26313 Golden Valley Road, Santa Clarita, California 91350 (Site).

SITE DESCRIPTION

The Site consists of an approximate 12.84-acre property and is located just north of the Whittaker-Bermite facility which historically manufactured and tested explosives and is one of the largest perchlorate cleanups in Southern California. The Site and its surrounding area was historically vacant land. The Site was previously occupied by Chemring Energetic Devices, Inc. (Chemring) for use as a powder processing facility where ordnances were stored in magazines and bunkers. According to the State of California Department of Toxic Substance Control's (DTSC's) EnviroStor website, the ordnance bunkers were located in the northern and western portions of the Site. An operations building was located on the eastern portion of the Site, which was divided into ordnance testing rooms in the western portion, a laboratory area in the central portion, and a hazardous materials storage room in the eastern portion.

It is Ninyo and Moore's understanding that Pacific Industrial, LLC proposes to develop a 174,000 square foot industrial warehouse building and associated onsite improvements such as 25 docking stations, paving, landscaping, parking and exterior lighting at the Site.

ENVIRONMENTAL DOCUMENT REVIEW

Documents reviewed which are related to historical environmental assessments and investigations conducted at the Site were sourced from the State of California's DTSC EnviroStor website. Information obtained from this review is summarized below.

AECOM Technical Services, Inc. (AECOM), 2017a, Phase I Environmental Site Assessment, Chemring Energetic Devices, 26313 Golden Valley Road, Santa Clarita, California, April 2017

In April 2017, a Phase I Environmental Site Assessment (ESA) was performed to evaluate recognized environmental conditions (RECs) associated with historical operations conducted at the Site. Results of the April 2017 Phase I ESA identified the long term use (since late 1960’s) of the Site for ordnance testing as a REC, and an approximate one square-foot area of oily stain observed on a concrete pad located at the exterior southern side of the former onsite operations building represented a *de minimis* condition (AECOM, 2017).

Based on these findings, AECOM recommended that a subsurface assessment be performed at the Site to evaluate if historical onsite ordnance testing had impacted the Site.

AECOM, 2017b, Limited Phase II Environmental Site Assessment, Chemring Energetic Devices, 26313 Golden Valley Road, Santa Clarita, California, July 18

In June 2017, AECOM conducted a limited Phase II ESA at the Site to evaluate the one REC and one *de minimis* condition identified in the April 2017 Phase I ESA. On June 23, 2017 four soil borings (GP-1 through GP-4) were advanced around the existing operations building and four soil borings (GP-5 through GP8) were advanced around the former drop tower. Borings GP-1 through GP-8 were advanced to a maximum depth of 10 feet below ground surface (bgs). Soil samples were submitted to Advanced Technology Laboratories (ATL) in Signal Hills, California. Soil samples collected at depths of 0.5 and 2 feet bgs were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (U.S. EPA) Method 8260B, Title 22 metals by U.S. EPA Method 6010B and mercury by U.S. EPA Method 7471A, and perchlorate by U.S. EPA Method 314. The remaining soil samples collected at 5 and 10 feet bgs were placed on hold at the laboratory pending the results of the shallower samples.

Laboratory analytical results reported that VOCs were not detected in any of the soil samples analyzed.

Nine metals, including arsenic, barium, chromium, cobalt, copper, lead, nickel, vanadium, and zinc were detected in one or more of the soil samples collected from GP-1 through GP-8 at concentrations ranging from 2.0 milligrams per kilogram (mg/kg) of arsenic detected in sample GP-6-2, to 120 mg/kg of barium in sample GP-2-2. Although the detected concentrations of arsenic in soil exceeded the Office of Environmental Health Hazard Assessment (OEHHA) commercial/industrial screening level for soil of 0.24 mg/kg, the concentration of arsenic in onsite soils was found to be within the expected range of naturally-occurring background conditions of Southern California. Concentrations of the other eight detected metals were below their respective OEHHA commercial/industrial screening level.

Perchlorate was detected in soil samples collected from GP-4-0.5, GP-5-2, GP-6-0.5, and GP-6-2 at concentrations of 0.028 mg/kg, 0.040 mg/kg, 110 mg/kg, and 2.2 mg/kg, respectively, which are below the OEHHA commercial/industrial screening level for soil of 350 mg/kg. Perchlorate was not detected above laboratory reporting limits in the remaining soil samples collected.

Based on these findings, AECOM stated that it does not appear that historic ordnance testing has impacted the soil in the vicinity of the former drop tower; therefore, AECOM recommended no additional assessment.

Hazard Management Consulting (HMC), 2021a. Phase I Environmental Site Assessment, 26313 Golden Valley Road, Santa Clarita, California 91350, July 2

In June 2021, Hazard Management Consulting, Inc. (HMC) conducted a Phase I ESA at the Site to evaluate the Site for potential RECs that may be present and to assess possible conditions offsite that may impact the Site. During HMC's site reconnaissance, the Site was observed to be vacant of the Chemring facility, with the exception of a water pipe and several utility boxes in the vicinity of the former operations building. Based on HMC's review of available regulatory information, they determined the Site is located in an area with an industrial history that included chemical use and storage. According to HMC, offsite facilities did not pose an environmental threat or concern to the Site. The Site is located adjacent to the Former Whittaker-Bermite Facility where releases of various hazardous materials has occurred and remedial action is underway. According to HMC, operations at this facility are located over a mile from the Site and is separated from the Site by a low range of hills; therefore, they do not consider this ongoing remedial and monitoring case a threat to future development at the Site. According to HMC, the historic uses of the Site by Chemring as an energetic device and ordnance development and testing facility, including reported chemical uses associated with their processes and the potential for unreported releases was considered a REC (HMC, 2021).

Based on these findings, HMC recommended a Phase II Limited Site Investigation (LSI) be conducted to evaluate if a vapor intrusion condition exists at the Site which could affect future development, and to engage the City of Santa Clarita to assess their requirements for development of the Site.

HMC, 2021b. Results of a Phase II Limited Site Investigation at the Property Located at 26313 Golden Valley Road in Santa Clarita, California, July 6

In June 2021, HMC conducted a Phase II LSI to further assess if chemicals of concern affected subsurface conditions at the Site. On June 10, 2021, four soil borings (B1 through B4) were advanced in the vicinity of the former drop tower, one soil boring (B5) was advanced in the vicinity of the former operations building, and three soil borings (B6 through B8) were advanced in the vicinity of the former bunkers. Soil samples collected at a depth of 0.5 ft bgs in the vicinity of the former drop tower (B1-0.5 to B4-0.5), at depths of 5 and 15 ft bgs in the vicinity of the former operations building (B5-5 and B5-15), and at a depth of 1 ft bgs in the vicinity of the former bunkers (B6-1 to B8-1) were submitted to Sunstar Laboratories in Lake Forest, California and analyzed for VOCs by U.S. EPA Method 8260B, Title 22 Metals by U.S. EPA Method 6010, and perchlorate by U.S. EPA Method 314. On June 18, 2021, seven temporary soil vapor probes (SV-1 through SV-7) were installed at the Site at a depth of 5 ft bgs to assess onsite soil vapor conditions. A total of seven soil gas samples and one duplicate sample were collected from the seven temporary soil vapor probes and submitted to Optimal Technology in Thousand Oaks, California. Soil gas samples were analyzed for VOCs by U.S. EPA Method 8260B modified.

Soil analytical results reported that VOCs were not detected in any of the soil samples analyzed, with the exception for low detections of naphthalene, ethylbenzene, m,p-xylenes, and o-xylene in soil samples B6-1 (naphthalene at 5 micrograms per kilogram [µg/kg], ethylbenzene at 19 µg/kg, m,p-xylenes at 85 µg/kg, and o-xylene at 28 µg/kg) and B7-1 (m,p-xylenes at 82 µg/kg and o-xylene at 3.2 µg/kg), which were all below their respective DTSC Soil Screening Levels for industrial/commercial land use (DTSC-SLi), U.S. EPA Regional Screening Levels for industrial/commercial land use (EPA-RSLi), and San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels for industrial/commercial land use (SFBRWQCB-ESLi).

Eight metals, including barium, chromium, cobalt, copper, lead, nickel, vanadium, and zinc were detected at concentrations that are considered to be background concentrations for soil in Southern California area and are below DTSC-SLi, EPA-RSLi, and SFBRWQCB-ESLi (HMC, 2021).

Perchlorate was detected in soil samples B5-5 and B6-1 at a concentration of 87 and 30 µg/kg, respectively, which were below U.S. EPA Regional Screening Levels for industrial/commercial land use (EPA-RSLi) and San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels for industrial/commercial land use (SFBRWQCB-ESLi).

Soil vapor analytical results revealed that VOCs were not detected above laboratory reporting limits in any of the soil gas samples analyzed.

Based on these findings, HMC found no evidence that releases have occurred from historical Site uses and features; therefore, HMC recommended no further subsurface investigations.

AECOM, 2021a, Phase I Environmental Site Assessment, Former Chemring Energetic Devices Property, 26313 Golden Valley Road, Santa Clarita, California, August 31

In August 2021, AECOM performed a Phase I ESA at the Site. During the site reconnaissance by AECOM, the Site was vacant land. A small gravel lot, a concrete stormwater drainage swale, and corrugated metal stormwater culvert were observed in the southeastern portion of the subject property. The western portion of the subject property was observed to be vacant hillside and could not be accessed due to rough terrain and dense vegetation. A concrete stormwater channel was observed in the northeastern portion of the Site. Former utility connections, including electric and water, were observed in the central portion of the Site near the former operations building (AECOM, 2021).

Results of the August 2021 Phase I ESA, identified no RECs, controlled RECs, historical RECs, or vapor encroachment conditions in connection with the Site.

AECOM, 2021b, Preliminary Endangerment Assessment Equivalent, Chemring Energetic Devices, 26313 Golden Valley Road, Santa Clarita, California, December 23 (Revised)

On September 3, 2021 AECOM prepared a Preliminary Endangerment Assessment (PEA) Equivalent, which was subsequently revised on December 10, 2021 and December 23, 2021. AECOM's PEA report presented the results of the Site investigations and a human health risk assessment (HHRA) that was conducted for the Site as part of a proposed property transfer. Human health risks were evaluated for residential and commercial exposure scenarios for Site development. AECOM's evaluation of existing site assessment information determined that the Site has not been impacted by former site operations because concentrations of VOCs, metals, and perchlorate were not detected above applicable screening levels. According to AECOM, the results of the PEA-HHRA indicate that detected concentrations of metals, perchlorate, and VOCs do not present an unacceptable risk to human health. According to AECOM, the cumulative cancer risks for residential and commercial use are 4E-08 and 8E-09, respectively, which are orders of magnitude less than the risk of 1E-06 for residential use and commercial use and less than the Proposition 65 target risk of 1E-05.

Based on the results of the HHRA, AECOM concluded that the Site is acceptable for development for residential and/or commercial land uses. Given the findings of the investigation, HMC recommended no site remediation or additional environmental site investigation.

Department of Toxic Substance Control (DTSC), 2022, No Further Action Determination for 26313 Golden Valley Road, 26313 Golden Valley Road, Santa Clarita (Site Code: 301950), January 20

Based on the results of the PEA report dated September 3, 2021, December 10, 2021 (Revised), and December 23, 2021 (Revised), DTSC issued a no further action (NFA) determination for the Site on January 20, 2022, and determined that the Site is suitable for unrestricted use.

REGULATORY AGENCY INVOLVEMENT

In September 2021, a Request for Agency Oversight Application was filed by Chemring to determine whether DTSC or the Regional Water Quality Control Board (RWQCB) will be the appropriate lead agency to provide oversight for the assessment and/or remediation of the Site. On November 9, 2021, DTSC and Chemring entered into Standard Voluntary Agreement.

At the time of this technical review the DTSC is listed as the lead agency per the EnviroStor website (Site Code: 301950).

CONCLUSIONS

Following a review of historical documents associated with the site, the following conclusions were determined:

- Based on the most recent Phase I ESA conducted by AECOM in August 2021, no RECs, controlled RECs, historical RECs, or vapor encroachment conditions were found in connection with the Site.

- Results of the PEA-HHRA conducted by AECOM in September 2021, December 10, 2021 (Revised), and December 23, 2021 (Revised) indicated that detected concentrations of metals, perchlorate, and VOCs do not present an unacceptable risk to human health and the Site has not been impacted by former site operations. The Site was found by AECOM to be acceptable for development for residential and/or commercial land uses.

- Based on the results of AECOM's PEA report dated September 3, 2021, December 10, 2021 (Revised), and December 23, 2021 (Revised), DTSC issued an NFA determination for the Site on January 20, 2022, and determined that the Site is suitable for unrestricted use.

RECOMMENDATIONS

Based on the findings and conclusions detailed herein, Ninyo & Moore recommends a Soil Management Plan (SMP) should be prepared if soil is to be disturbed during construction activities and should describe the protocols for excavation, temporary stockpiling, handling, and disposal of impacted soil that may be encountered at the site. The SMP should also provide guidance for monitoring requirements to be followed during excavation activities, stockpiling procedures, excavated soil waste characterization requirements, soil disposal requirements based on waste characterization, sampling and analyses requirements in the event impacted soil is detected, soil screening levels, and regulatory reporting requirements.

LIMITATIONS

Our opinions and recommendations are provided in accordance with current practice and the standard of care exercised by environmental consultants performing similar tasks in the project area. No warranty, expressed or implied, is made regarding our opinions and conclusions.

Ninyo & Moore appreciates the opportunity to provide services on this project.

Respectfully submitted,
NINYO & MOORE

Sonia Cisneros-Ortiz

Sonia Cisneros Ortiz
Project Environmental Scientist

Jeff Aguilar, PG
Principal Environmental Operations Manager

SCO/JSC/JA/shs

Attachment: References

REFERENCES

AECOM Technical Services, Inc. (AECOM), 2017a, Phase I Environmental Site Assessment, Chemring Energetic Devices, 26313 Golden Valley Road, Santa Clarita, California, April.

AECOM, 2017b, Limited Phase II Environmental Site Assessment, Chemring Energetic Devices, 26313 Golden Valley Road, Santa Clarita, California, July 18.

AECOM, 2021a, Phase I Environmental Site Assessment, Former Chemring Energetic Devices Property, 26313 Golden Valley Road, Santa Clarita, California, August 31.

AECOM, 2021b, Preliminary Endangerment Assessment Equivalent, Chemring Energetic Devices, 26313 Golden Valley Road, Santa Clarita, California, September 3, December 10 (Revised), December 23 (Revised).

Department of Toxic Substance Control (DTSC), 2022, No Further Action Determination for 26313 Golden Valley Road, 26313 Golden Valley Road, Santa Clarita (Site Code: 301950), January 20.

Hazard Management Consulting (HMC), 2021a. Phase I Environmental Site Assessment, 26313 Golden Valley Road, Santa Clarita, California 91350, July 2.

HMC, 2021b. Results of a Phase II Limited Site Investigation at the Property Located at 26313 Golden Valley Road in Santa Clarita, California, July 6.

State of California Environmental Protection Agency, 2021, Request for Agency Oversight Application, 26313 Golden Valley Road, Santa Clarita, California, September 15.

APPENDIX G

Golden Valley Industrial Facility Noise and Vibration Technical Memorandum

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

MEMORANDUM

To:	Nick Kreuter, Pacific Industrial
From:	Mike Greene, Senior Noise Specialist, Dudek
Subject:	Golden Valley Industrial Facility Noise and Vibration Technical Memorandum
Date:	December 1, 2022
cc:	Michael Leberman, Wilshire 26313 Golden Valley Road Owner, LLC
Attachments:	A – Construction Noise Modeling Input/Output Files B – Mechanical Equipment Calculations

Dudek is pleased to present Pacific Industrial with the following noise and vibration analysis for the proposed Golden Valley Industrial Facility (Project) located in the City of Santa Clarita, California (City). The Project site would be located on approximately 12.85 acres of vacant land at 26313 Golden Valley Road.

This memorandum estimates and assesses noise and vibration levels from construction and operation of the Project in accordance with the California Environmental Quality Act (CEQA) Guidelines and City of Santa Clarita standards.

The contents and organization of this memorandum are as follows: Project Description, General Analysis and Methodology, Thresholds of Significance and Impact Analyses for the Air Quality Assessment and GHG Emissions Assessment, Conclusions, and References Cited.

1 Project Description

The Project is located at 26313 Golden Valley Road in the City (the "Project Site") as shown in Figure 1. The proposed project site is located on the west side of Golden Valley Road between Centre Pointe Parkway and Robert C. Lee Parkway. The project is proposing to construct a 174,000 square foot industrial building, including 9,000 square feet of office space and 238 parking spaces. The Project is located at 26313 Golden Valley Road in the City (the "Project Site"). The proposed project site is located on the west side of Golden Valley Road between Centre Pointe Parkway and Robert C. Lee Parkway. The project (shown in Figure 2) is proposing to construct a 174,000 square foot industrial building, including 9,000 square feet of office space and 238 parking spaces.

2 Environmental Setting

2.1 Noise and Vibration Characteristics

2.1.1 Noise

Sound may be described in terms of level or amplitude (measured in decibels (dB)), frequency or pitch (measured in hertz (Hz) or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the amplitude of sound is the decibel. Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against low and very high frequencies in a manner approximating the sensitivity of the human ear. Several descriptors of noise (noise metrics) exist to help predict average community reactions to the adverse effects of environmental noise, including traffic-generated noise, on a community. These descriptors include the equivalent noise level over a given period (L_{eq}), the statistical sound level (L_n), the day–night average noise level (L_{dn}), and the community noise equivalent level (CNEL). Each of these descriptors uses units of dBA. Table 1 provides examples of A-weighted noise levels from common sounds. In general, human sound perception is such that a change in sound level of 3 dB is barely noticeable; a change of 5 dB is clearly noticeable; and a change of 10 dB is perceived as doubling or halving of the sound level.

Table 1. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
—	110	Rock band
Jet flyover at 300 meters (1,000 feet)	100	—
Gas lawn mower at 1 meter (3 feet)	90	—
Diesel truck at 15 meters (50 feet), at 80 kph (50 mph)	80	Food blender at 1 meter (3 feet) Garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime gas lawn mower at 30 meters (100 feet)	70	Vacuum cleaner at 3 meters (10 feet)
Commercial area Heavy traffic at 90 meters (300 feet)	60	Normal speech at 1 meter (3 feet)
Quiet urban daytime	50	Large business office Dishwasher, next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library
Quiet rural night time	20	Bedroom at night, concert hall (background)
—	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Notes: dBA = A-weighted decibels; kph = kilometers per hour; mph = miles per hour
Source: Caltrans 2013.

L_{eq} is a sound energy level averaged over a specified period (typically no less than 15 minutes for environmental studies). L_{eq} is a single numerical value that represents the amount of variable sound energy received by a receptor during a time interval. For example, a 1-hour L_{eq} measurement would represent the average amount of energy contained in all the noise that occurred in that hour. L_{eq} is an effective noise descriptor because of its ability to assess the total time-varying effects of noise on sensitive receptors (see Section 2.2). L_{max} is the greatest sound level measured during a designated time interval or event.

Unlike the L_{eq} metrics, L_{dn} and CNEL metrics always represent 24-hour periods, usually on an annualized basis. L_{dn} and CNEL also differ from L_{eq} because they apply a time-weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when speech and sleep disturbance is of more concern). "Time weighted" refers to the fact that L_{dn} and CNEL penalize noise that occurs during certain sensitive periods. In the case of CNEL, noise occurring during the daytime (7:00 a.m.–7:00 p.m.) receives no penalty. Noise during the evening (7:00 p.m.–10:00 p.m.) is penalized by adding 5 dB, while nighttime (10:00 p.m.–7:00 a.m.) noise is penalized by adding 10 dB. L_{dn} differs from CNEL in that the daytime period is defined as 7:00 a.m.–10:00 p.m., thus eliminating the evening period. L_{dn} and CNEL are the predominant criteria used to measure roadway noise affecting residential receptors. These two metrics generally differ from one another by no more than 0.5 dB to 1 dB, and as such are often treated as equivalent to one another.

2.1.2 Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities, such as blasting, pile driving, and heavy earthmoving equipment.

Several different methods are used to quantify vibration. Peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. PPV is most frequently used to describe vibration impacts to buildings and is usually measured in inches per second. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body and is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration.

High levels of vibration may cause physical personal injury or damage to buildings. However, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that can affect concentration or disturb sleep. In addition, high levels of vibration can damage fragile buildings or interfere with equipment that is highly sensitive to vibration (e.g., electron microscopes). Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

2.2 Sensitive Receptors

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would be considered noise and vibration sensitive and may warrant unique measures for protection from intruding noise.

Sensitive receptors near the project site are relatively limited. The nearest noise-sensitive land uses an educational facility (CalKids Learning Academy) located approximately 550 feet from the proposed project site and separated by existing commercial/industrial uses. Additional sensitive receptors are located farther from the Project Site (such as the City of Santa Clarita Youth Sports Facility and Aquatics Center, located approximately 1,000 feet away) in the surrounding community and would be less impacted by noise and vibration levels than the above-listed sensitive receptors. Other, non-sensitive land uses in the project vicinity include commercial uses to the east, north and west, and the Santa Clarita Sheriff's Station to the south.

2.3 Existing Noise Conditions

The existing noise environment in a project area can be characterized by the area's general level of development because the level of development and ambient noise levels tend to be closely correlated. Areas which are not urbanized are relatively quiet, while areas which are more urbanized are noisier as a result of roadway traffic, industrial activities, and other human activities.

Table 2 summarizes typical ambient noise levels based on level of development. Given the nature of the project area ambient noise levels are expected to be in the range of 60 to 65 dBA L_{dn}/CNEL. Additionally, a noise measurement conducted for another project was conducted in 2018 at the Santa Clarita Aquatics Center, located approximately 1,000 feet to the east of the project site. The measured daytime ambient noise level was 62.3 dBA L_{eq} (LADWP 2018). The primary noise source in the project vicinity was local and distant traffic noise.

Table 2. Population Density and Associated Ambient Noise Levels

	dBA, L_{dn}
Rural	40–50
Small Town or quiet suburban residential	50
Normal suburban residential	55
Urban residential	60
Noisy urban residential	65
Very noisy urban residential	70
Downtown, major metropolis	75–80
Area adjoining freeway or near major airport	80–90

Source: Hoover and Keith. 2000.

3 Regulatory Setting

3.1 Federal

There are no federal noise standards that would directly regulate environmental noise during construction and operation of the project. The following is provided because guidance summarized herein is used or pertains to the analysis.

Federal Transit Administration

Although no federal regulations are applicable to this project, guidance and methodologies from the Federal Transit Administration's (FTA's) Transit Noise and Vibration Impact Assessment Manual (FTA 2018) pertaining to construction noise and vibration are used in this analysis. For example, in its Transit Noise and Vibration Impact Assessment guidance manual (FTA 2018), the Federal Transit Administration (FTA) offers guidance on the estimation of construction noise levels from a construction Project site. It also provides suggested thresholds that include no more than 80 dBA L_{eq} (over an 8-hour daytime period) as received at a residential land use. Since the City does not provide a quantified construction noise limit, this analysis adopts the 80 dBA $L_{eq\ 8\text{-}hr}$ FTA guidance for quantitative construction noise impact assessment.

Federal Interagency Committee on Noise

In 1992 the Federal Interagency Committee on Noise (FICON) assessed the annoyance effects of changes in ambient noise levels resulting from aircraft operations. Although the FICON recommendations were developed to address aircraft noise impacts, they are used in this analysis to define a substantial increase in community noise levels related to roadway traffic, as detailed in Section 4.1, Thresholds of Significance.

3.2 State

In its Transportation and Construction Vibration Guidance Manual, Caltrans recommends a vibration velocity threshold of 0.2 ips PPV (Caltrans 2020) for assessing annoying vibration impacts to occupants of residential structures. Although this Caltrans guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the local jurisdictional level. Similarly, thresholds to assess building damage risk due to construction vibration vary with the type of structure and its fragility but tend to range between 0.2 ips and 0.3 ips PPV for typical residential structures (Caltrans 2020).

3.3 Local

City of Santa Clarita General Plan Noise Element

The City of Santa Clarita General Plan Noise Element (City of Clarita 2011) is written to ensure compliance with state requirements through a comprehensive, long-range program of achieving acceptable noise levels throughout the City. The Noise Element identifies noise-generating uses and activities within City limits, the most dominant of which include major freeways and highways such as Interstate 5, State Route 14, and Sierra Highway; arterial streets; railroads; and attractions including Magic Mountain and the former Saugus Speedway (which currently is used for swap meets and special events). The City's Noise Element also identifies future growth and development within City limits as a major contributor to future noise increases, particularly with regard to increases in traffic, and mixed-use development. As development proposals are reviewed in the future, the City will evaluate each proposal in the context of the Noise Element to ensure that noise impacts are reduced through planning and project design.

The following goals and policies from the Noise Element would be 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 [see Table 3, modified by the City to eliminate overlapping acceptability categories], 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.

Policy N 2.1.5: Encourage employers to develop van pool and other travel demand management programs to reduce vehicle trip-generated noise in the planning area.

Goal N 3: Protect residential neighborhoods from excessive noise.

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

Policy N 3.1.3: 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.

Goal N 4: Protection of sensitive uses from commercial and industrial noise generators.

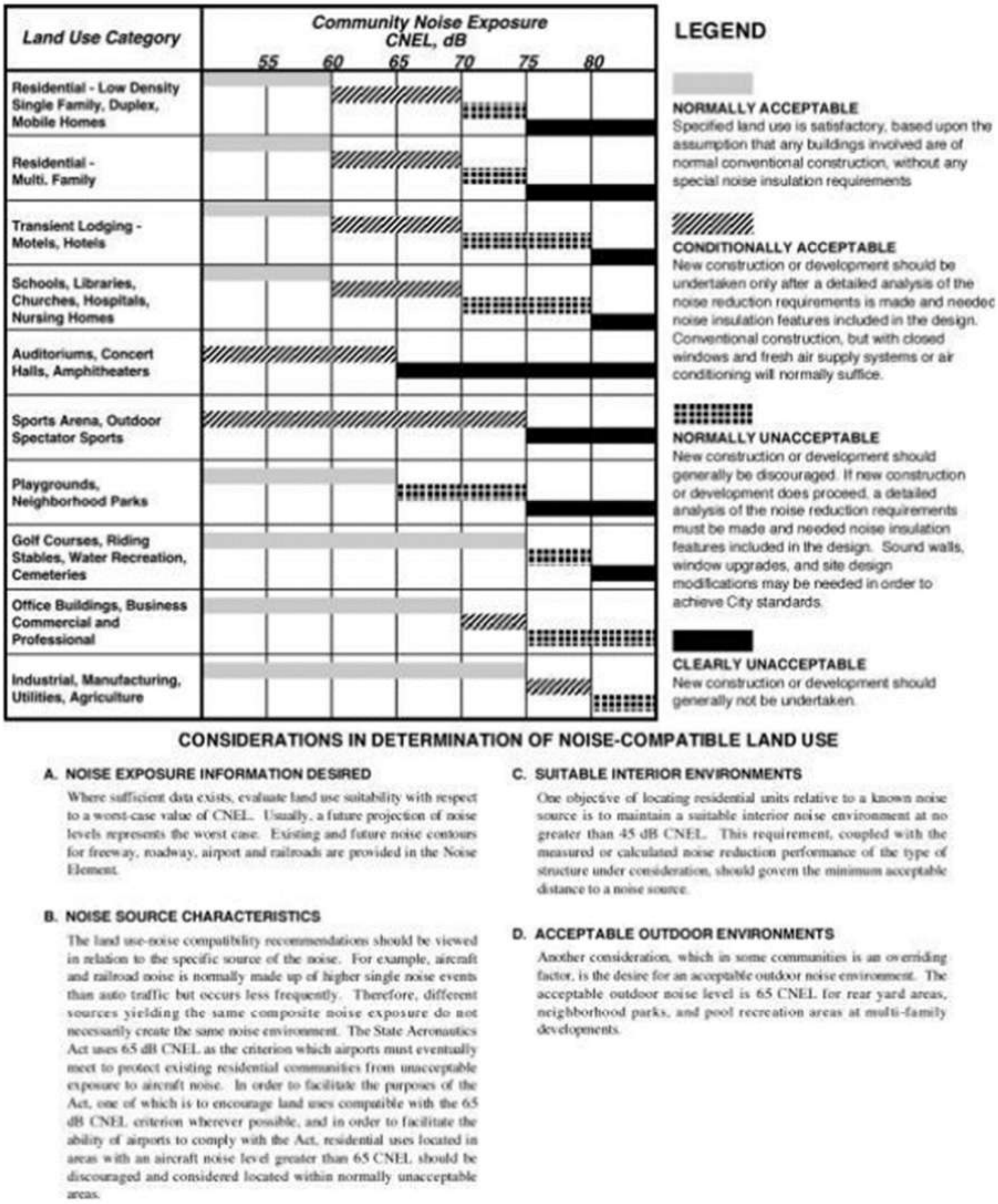
Objective N 4.1: Prevent, mitigate, and minimize noise spillover from commercial and industrial uses into adjacent residential neighborhoods and other noise sensitive uses.

Policy N 4.1.1: Implement and enforce the applicable Noise Ordinance to control noise from commercial and industrial sources that may adversely impact adjacent residential neighborhoods and other sensitive uses.

Policy N 4.1.2: Require appropriate noise buffering between commercial or industrial uses and residential neighborhoods and other sensitive uses.

Policy N 4.1.3: Adopt and enforce standards for the control of noise from commercial and entertainment establishments when adjacent to residential neighborhoods and other sensitive uses.

Table 3. City of Santa Clarita Noise/Land Use Compatibility Guidelines



Land Use Category	Community Noise Exposure CNEL, dB						
		55	60	65	70	75	80
Residential - Low Density Single Family, Duplex, Mobile Homes	░	░	▨	▨	▦	■	■
Residential - Multi. Family	░	░	▨	▨	▦	■	■
Transient Lodging - Motels, Hotels	░	░	▨	▨	▦	▦	■
Schools, Libraries, Churches, Hospitals, Nursing Homes	░	░	▨	▨	▦	▦	■
Auditoriums, Concert Halls, Amphitheaters	▨	▨	▨	■	■	■	■
Sports Arena, Outdoor Spectator Sports	▨	▨	▨	▨	▨	■	■
Playgrounds, Neighborhood Parks	░	░	░	▦	▦	■	■
Golf Courses, Riding Stables, Water Recreation, Cemeteries	░	░	░	░	░	▦	■
Office Buildings, Business Commercial and Professional	░	░	░	░	▨	▦	▦
Industrial, Manufacturing, Utilities, Agriculture	░	░	░	░	░	▨	▦

LEGEND

░ **NORMALLY ACCEPTABLE**
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

▨ **CONDITIONALLY ACCEPTABLE**
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needec noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

▦ **NORMALLY UNACCEPTABLE**
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Sound walls, window upgrades, and site design modifications may be needed in order to achieve City standards.

■ **CLEARLY UNACCEPTABLE**
New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a worst-case value of CNEL. Usually, a future projection of noise levels represents the worst case. Existing and future noise contours for freeway, roadway, airport and railroads are provided in the Noise Element.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in areas with an aircraft noise level greater than 65 CNEL should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. The acceptable outdoor noise level is 65 CNEL for rear yard areas, neighborhood parks, and pool recreation areas at multi-family developments.

City of Santa Clarita Municipal Code

The City of Santa Clarita Municipal Code (SCMC) Noise Ordinance provides exterior noise standards within the City, which 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:

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:

Noise Condition	Correction (in dB)
(1) Repetitive impulsive noise	-5
(2) Steady whine, screech or hum	-5
(3) Noise occurring more than 5 but less than 15 minutes per hour	+5
(4) Noise occurring more than 1but less than 5 minutes per hour	+10
(5) Noise occurring less than 1minute 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 SCMC 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 residential-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.

Emergency work is permitted at all times. As defined in SCMC 11.44.020: Emergency work shall mean work made necessary to restore property to a safe condition following a public calamity, or work required to protect persons or property from an imminent exposure to danger, or work by private or public utilities when restoring utility service. The Department of Community Development may issue a permit for work to be done "after hours"; provided, that containment of construction noises is provided.

4 Noise and Vibration Impacts Assessment

4.1 Thresholds of Significance

The following significance criteria, included in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.), will determine the significance of a noise impact. Impacts related to noise would be significant if the proposed project would result in:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Generation of excessive groundborne vibration or groundborne noise levels.
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the exposure of people residing or working in the project area to excessive noise levels.

Quantitative thresholds of significance have been established for the purposes of this analysis based on the local polices and regulations described in Section 5.3 as well as those of federal and State agencies and are listed below.

- **Construction Noise:** During construction activities, an exceedance of the FTA's 80 dBA $L_{eq\ 8\text{-}hr}$ threshold is considered a significant noise impact.
- **Traffic Noise:** Guidance regarding the determination of a substantial permanent increase in transportation noise levels in the project vicinity above existing levels is provided by the 1992 findings of FICON, which assessed the annoyance effects of changes in ambient noise levels resulting from aircraft operations. The FICON recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Annoyance is a qualitative measure of the adverse reaction of people to noise that generates speech interference, sleep disturbance, or interference with the desire for a tranquil environment.

  The rationale for the FICON recommendations is that it is possible to consistently describe the annoyance of people exposed to transportation noise in terms of L_{dn} (and, by extension, CNEL[1]). The changes in noise exposure that are shown in Table 4 are expected to result in equal changes in annoyance at sensitive land uses. Although the FICON recommendations were developed to address aircraft noise impacts, they are used in this analysis to define a substantial increase in community noise levels related to all transportation noise sources.[2]

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[1] As discussed in Section 2.1, the L_{dn} and CNEL noise metrics are very similar and often used interchangeably.

[2] Traffic noise and other transportation noise sources are similar to aircraft/airport noise in that all of these noise sources can and do operate throughout the daytime and nighttime hours. The FICON recommendations use a weighted 24-hour noise metric, in which noise occurring during nighttime hours has a penalty applied to account for the increased sensitivity of persons to noise at

Table 4. Measures of Substantial Increase for Transportation Noise Sources

Ambient Noise Level Without Project (L_{dn}/CNEL)	Significant Impact Assumed to Occur if the Project Increases Ambient Noise Levels by:
<60 dB	+ 5 dB or more
60–65 dB	+ 3 dB or more
>65 dB	+ 2 dB or more

Source: FICON 1992.

- Project-Related Stationary Noise: A noise impact would be considered significant if predicted noise from typical operation of heating, ventilation and air conditioning (HVAC) and other electro-mechanical systems exceeds the applicable City Municipal Code standards as detailed in Section 3.3.
- Construction Vibration: Groundborne vibration from construction and operation of the project would be considered significant if the project resulted in vibration levels exceeding the Caltrans recommendations (for construction).

4.2 Impact Analysis

4.2.1 Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Noise generated by the Project would include short-term, on-site construction noise; off-site traffic noise along local roadways in the Project Area; and on-site mechanical noise from heating, ventilation, and air conditioning (HVAC) equipment.

Short-Term Construction Impacts

Construction noise and vibration are temporary phenomena. Construction noise and vibration levels vary from hour to hour and day to day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor.

Equipment that would be in use during construction would include, in part, graders, backhoes, concrete saws, rubber-tired dozers, loaders, cranes, forklifts, cement mixers, pavers, rollers, and air compressors. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 5. Note that the equipment noise levels presented in Table 5 are maximum noise levels. Typically, construction equipment operates in alternating cycles of full power and low power, producing average noise levels less than the maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

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night. Additionally, the graduated levels of the FICON guidance for substantial increase account for the diminishing tolerance of the typical person to noise increases as ambient noise levels are increased. Such is the case whether the dominant noise source is aircraft, or some other transportation source.

Table 5. Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (dBA at 50 Feet)
Air compressor	81
Backhoe	85
Concrete pump	82
Concrete vibrator	76
Crane	83
Truck	88
Dozer	87
Generator	78
Loader	84
Paver	88
Pneumatic tools	85
Water pump	76
Power hand saw	78
Shovel	82
Trucks	88

Source: FTA 2018.
Notes: dBA = A-weighted decibels.

The maximum noise levels at 50 feet for typical construction equipment would be 88 dBA for the equipment typically used for this type of development project, although the hourly noise levels would vary. Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling of distance. Project construction would take place both near and far from adjacent, existing noise-sensitive uses. For example, construction near the western project boundary would take place within approximately 550 feet of the private school (CalKids Learning Academy, the nearest noise-sensitive use) to the west, but during construction of other project components, construction would be as far as 1,200 feet from the learning academy. Most construction activities associated with the Project would occur at distances of approximately 850 feet or more from the learning academy, which represents activities both near and far from any one receiver, as is typical for construction projects.

A spreadsheet-based version of the Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels at the nearest occupied noise-sensitive land use. (Although the model was funded and promulgated by the Federal Highway Administration, the RCNM is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are often used for other types of construction.) Input variables for the RCNM consist of the receiver/land use types, the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. No topographical or structural shielding was assumed in the modeling, with the exception of a five decibel (5 dB) reduction to account for the commercial buildings that exist between the project site and the nearest noise-sensitive use. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty-cycle values were used for this noise analysis. Five dB is the minimum amount of noise reduction that occurs when the direct path between a noise source and receiver is blocked by an intervening structure.

Details as to the type and number of pieces of construction equipment (shown in Table 6) are the same as were developed for the project's Air Quality/Greenhouse Gas Emissions Technical Memorandum (Dudek 2022).

Table 6. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Daily Usage Hours
Demolition	16	4	20	Concrete/Industrial Saws	1	8
				Excavators	3	8
				Rubber Tired Dozers	2	8
Site Preparation	18	4	0	Rubber Tired Dozers	3	8
				Tractors/Loaders/Backhoes	4	8
Grading	20	4	0	Excavators	2	8
				Graders	1	8
				Rubber Tired Dozers	1	8
				Scrapers	2	8
				Tractors/Loaders/Backhoes	2	8
Building Construction	236	92	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	3	7
				Welders	1	8
Paving	16	4	0	Pavers	2	8
				Paving Equipment	2	8
				Rollers	2	8
Architectural Coating	48	4	0	Air Compressors	1	6

Source: Dudek 2022.

Using the Federal Highway Administration's RCNM and the provided construction equipment information, the estimated noise levels from the major construction phases were calculated for the nearest noise-sensitive land use, as presented in Table 7. The RCNM inputs and outputs are provided in Attachment A. Using the provided construction information, prediction results are summarized in Table 7 at each of the surrounding noise-sensitive receiver categories for two calculation scenarios as follows:

- Usage of the shortest activity-to-receptor distance for the loudest equipment type and quantity associated with the studied construction phase, with less noisy equipment types at successive distance increments of 50 feet; and
- An "acoustic centroid" approach, akin to the FTA general assessment technique for estimating construction noise, whereby all listed equipment for a construction phases is represented by a common location at the geographic center of the studied construction zone or area.

The first of these methods is considered a conservative approach to assess what might be characterized as a peak exposure level, applicable to not more than approximately 10%–15% of the total construction period and when the studied construction activity is taking place with equipment along the property boundary closest to these nearest off-site receivers. The second approach utilizes the acoustic centroid technique to represent a time-averaged location for the phase equipment and activity, thereby yielding average noise levels to represent overall noise exposure as experienced for adjacent receivers over the duration of each construction phase. Although the quantities and types of equipment per construction phase are the same in each of the two approaches (due primarily to the differences in source-to-receptor distance variables).

As shown in Table 7, typical construction noise levels at the nearest noise-sensitive land uses (the private school to the west) are estimated to range from approximately 43 dBA $L_{eq\ 8\text{-}hr}$ during the architectural coating phase to approximately 57 dBA $L_{eq\ 8\text{-}hr}$ during the demolition phase. As detailed on the worksheets in Attachment A, this 14 dB range of predicted construction noise levels is due to the intensity of construction activity, and expected quantities and types of involved construction equipment. Table 7 and Attachment A worksheets also show construction noise level predictions at distances between the noise-sensitive receptor position and the anticipated nearest boundary associated with a construction phase, which are thus shorter than those with respect to the acoustic centroid for the same phase; however, these scenarios assume that equipment would be operating at a range of distances (because not all equipment for a phase would be operating at the same distance simultaneously) and result in levels that would range from approximately 47 dBA $L_{eq\ 8\text{-}hr}$ during the architectural coating phase to approximately 60 dBA $L_{eq\ 8\text{-}hr}$ during the demolition phase. Table 7 shows that prediction results of both scenarios yield predicted 8-hour L_{eq} values that are well below the FTA guidance threshold of 80 dBA. Noise levels at other noise-sensitive receivers in the project vicinity would be lower, because these receivers are substantially further away from the project site.

As discussed previously, City Municipal Code Section 11.44.080 does not permit construction work within 300 feet of a residential-zoned property between the hours of 7:00 p.m. and 7:00 a.m., 6:00 p.m. and 8:00 a.m. on Saturdays, at any time on Sundays or on designated public holidays. The proposed Project would not conduct noisy construction activities between the specified hours or days, and the estimated noise levels would not exceed the FTA's advisory noise standard of 80 dBA $L_{eq\ 8\text{-}hr}$. Therefore, noise from Project construction would be **less than significant.** No mitigation is required.

Table 7. Construction Noise Model Results Summary

Land Use	Off-site Receptor Location	Distance from Construction Activity to Noise Receptor (feet)	Estimated Construction Noise Levels (dBA $L_{eq\ 8\text{-}hr}$)					
			Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating
Educational (Private School)	West of the Project	Typical Construction Activity /Receiver Distance (850')	57	56	55	53	52	43
		Nearest Construction Activity /Receiver Distance (as near as 550 feet)	60	58	58	53	54	47

Source: Attachment A
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibel.

Off-Site Construction Activities

The project would result in local, short-term increases in roadway noise as a result of construction traffic. Based on information developed as part of the project's air quality analysis, project-related traffic would include workers commuting to and from the project site as well as vendor and haul trucks bringing or removing materials. The highest number of average daily worker trips would be 236 trips, occurring during the building construction phase. The highest number of average daily vendor truck trips would be 92 trips, also occurring during the building construction phase. The highest number of total haul truck trips would be 20 trips, occurring during the demolition phase.

Based upon available data provided as part of the project's transportation analysis, Golden Valley Road carries approximately 30,000 daily trips in the project vicinity, and Sierra Highway carries approximately 34,000 daily trips in this area[3]. Comparing the maximum number of daily construction-related trips (236 worker trips and 92 vendor trips) to the average daily traffic volume of the lowest-volume street (30,000 daily trips on Golden Valley Road), the additional vehicle trips would amount to an increase of approximately 1 percent. Based upon the fundamentals of acoustics, a doubling (i.e., a 100 percent increase) would be needed to result in a 3-dB increase in noise levels, which is the level corresponding to an audible change to the typical human listener. An increase in traffic volumes on the order of 1 percent (all other things being equal) would amount to an increase of approximately 0.05 dB. Therefore, traffic related to construction activities would not result in a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Impacts from project-related construction traffic noise would be **less than significant.** No mitigation measures are required.

Long-Term Operational Impacts

Long-term operational noise associated with the proposed project includes on-site operational noise as well as project-generated traffic offsite. Each of these is addressed below.

On-Site Operational Noise

Outdoor Mechanical Equipment

The proposed warehouse spaces overall would not be served by heating, ventilation or air conditioning (HVAC) equipment. However, the floor plans include approximately 9,000 square feet of office and 4,000 square feet of mezzanine space at the project's southeast corner which would be served by HVAC equipment. For the analysis of noise from HVAC equipment operation, a York Model ZF-048 package HVAC unit was used as a reference. Based upon the square footage of the office and mezzanine spaces (13,000 square feet total), it was assumed that three such units would be required for each of the office areas. The York Model ZF-048 package HVAC unit has a sound power rating of 80 dBA (Johnson Controls 2015). Based on the warehouse roof design information provided, there will be a minimum 3-foot-high parapet extending along the perimeter of the roof, which would minimize sound from the HVAC unit at nearby noise-sensitive land uses

The combined noise levels from the HVAC equipment at the Project property lines, the nearest adjacent land uses, and the nearest noise-sensitive land use (the private school) were calculated and are presented in Table 8.

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[3] Average daily volumes (ADTs) were estimated using the peak-hour traffic volumes provided and the assumption that peak-hour volumes are approximately 10 percent of the ADT.

As shown, the maximum hourly noise level (assuming the equipment would run continuously) for the HVAC equipment operating at each examined location would range from approximately 32 dBA L_{eq} at the private school to the west and the northern property boundary of the project site to 39 dBA L_{eq} at the Project's southern property boundary. These levels are well below the City's Municipal Code noise standards and are also less than the typical ambient noise levels in the Project area. The results of the mechanical equipment operations noise analysis indicate that the Project would comply with the City of Santa Clarita Municipal Code noise ordinance. Mechanical equipment operation would result in noise at the Project site property boundaries/nearest noise-sensitive receiver boundaries that are less than the applicable noise standards and are thus **less than significant.** No mitigation measures are required.

Table 8. Mechanical Equipment (HVAC) Noise

Equipment	Noise Level at Specified Location		Applicable Noise Standard1 (dBA Leq) - Daytime (7 a.m. to 10 p.m.) / Nighttime (10 p.m. to 7 a.m.)	Applicable Noise Standard Exceeded?
	Location	Average Noise Level (dBA L_{eq})		
HVAC	Private School to the West	32	80/70	No
HVAC	Northern Property Boundary	32	80/70	No
HVAC	Southern Property Boundary	39	80/70	No
HVAC	Eastern Property Boundary	35	80/70	No
HVAC	Western Property Boundary	35	80/70	No

Source: Attachment B

[1] Applicable noise standard per City of Santa Clarita Municipal Code Section 11.44.040, as described in Section 5.3.

Parking Lot Activity

A comprehensive study of noise levels associated with surface parking lots was published in the Journal of Environmental Engineering and Landscape Management (Baltrënas et al. 2004). The study found that average noise levels during the peak period of use of the parking lot (generally in the morning with arrival of commuters, and in the evening with the departure of commuters), was 47 dBA at 1 meter (3.28 feet) from the outside boundary of the parking lot. The parking area would function as an area source for noise, which means that noise would attenuate at a rate of 3 dBA with each doubling of distance. The closest employee parking lot to the nearest noise-sensitive receivers (the private school to the west) is proposed to be situated on the north side of the proposed building, no closer than 570 feet from the center of drive-aisle to the private school. At a distance of 570 feet, parking lot noise levels would be approximately 25 dBA L_{eq}, not accounting for shielding from the intervening buildings. Accounting for the acoustical shielding, the parking lot noise level would be approximately 15 dBA. Parking lot activity noise levels at each of the four property boundary locations are summarized in Table 9 (below). As shown in Table 9, parking lot activity noise would be very low and well below applicable noise standards. Thus, noise from project-associated parking lot noise would be **less than significant.** No mitigation measures are required.

Truck Loading Dock / Truck Yard Activity

The parking lot study (Baltrënas et al. 2004) also examined noise levels associated with cargo truck delivery activity. The study concluded that average noise levels from truck loading/unloading areas was 96 dBA at one meter (3.28 feet) from the boundary of the truck activity area. Truck loading docks would be located on the south side of the warehouse building no closer than 780 feet from the nearest noise-sensitive receiver (the private school to the west). Using the outdoor attenuation rate of 6 dBA with each doubling of distance, truck loading activity at the private school would produce noise levels of approximately 49 dBA L_{eq}. However, the proposed design of the warehouse building would provide a substantial amount of noise reduction by blocking the noise path (i.e., the direct line-of-sight) between the truck loading dock area and the private school. Accounting for this acoustical shielding, the truck loading dock noise at the nearest noise-sensitive land use is estimated to be approximately 26 dBA L_{eq}. A perimeter noise barrier 12 feet in height would also be constructed along the southern, southeastern and southwestern loading dock area as part of the project design as shown in Figure 2.

Based upon the project site plan (Figure 2), trucks would enter and exit onto Golden Valley Drive from driveways located on the north and south sides of the warehouse building. Based upon noise data collected for another project by others (Charles Salter 2014), noise from a typical truck pass-by associated with arrival and departure is approximately 68 dBA at a distance of 30 feet. This noise level at any one location near the project site would be very brief because the truck would be in motion as it is enroute to or from the loading dock area. Assuming that the trucks enter the warehouse from the northern driveway (the nearest driveway to the private school), and assuming a travel speed of 5 miles per hour for a “within earshot” driveway distance of 500 feet, a truck would create a 68 dBA noise level for approximately 1 minute. At the nearest noise-sensitive receiver approximately 550 feet from the driveway, the resulting noise level would be 43 dBA for approximately 1 minute. Accounting for acoustical shielding from the intervening buildings, the resulting noise level would be approximately 36 dBA for a brief period of approximately 1 minute. Because (as detailed in the Off-Site Operational Noise discussion below), only 4 truck trips in the AM and 5 truck trips in the PM would be created by the project, the brief 36 dBA noise levels would be negligible on an hourly average (L_{eq}) basis.

Another noise source associated with warehouse activities is noise from trucks’ backup alarm. Based upon noise data collected for another project (Charles Salter 2014), the noise level from a backup alarm is approximately 79 dBA at a distance of 30 feet. Although backup alarm noise can be annoying because its intent is to alert those nearby of a potential hazard, the noise from backup alarms is typically brief, only occurring while the truck is traveling in reverse, within the loading dock area. At the nearest noise-sensitive receiver (the private school located to the west) approximately 780 feet from the loading dock area, the resulting noise level would be approximately 50 dBA. Accounting for acoustical shielding from the warehouse building, the resulting noise level would be approximately 27 dBA for a brief period (typically, 1 minute or less). Because (as detailed in the Off-Site Operational Noise discussion below), only 4 truck trips in the AM and 5 truck trips in the PM would be created by the project, the brief 27 dBA noise levels would be negligible on an hourly average (L_{eq}) basis.

Truck loading dock activity noise levels are summarized in Table 9 and combined with the other on-site noise sources. As shown in Table 9, the combined on-site activities noise at the nearest noise-sensitive land use and at the four property boundaries would be well below the applicable City of Santa Clarita noise exposure limits and would be **less than significant**. No mitigation measures are required.

Table 9. Combined On-Site Noise Summary of Results – Noise Levels (dBA L_{eq}) at Property Boundaries and Nearest Noise-Sensitive Land Use

Location	Zoning	Applicable Noise Standard[1] - Daytime (7 a.m. to 10 p.m.) / Nighttime (10 p.m. to 7 a.m.) (dBA L_{eq})	HVAC (dBA L_{eq})	Parking Lot Activity (dBA L_{eq})	Truck Loading Dock Activity (dBA L_{eq})	Combined HVAC, Parking Lot and Truck Loading Dock Activities Noise (dBA L_{eq})	Applicable Noise Standard Exceeded?
Private School to the West	Commercial / Manufacturing	80/70	32	15	26	33	No
Northern Property Boundary	Commercial / Manufacturing	80/70	32	31	28	36	No
Southern Property Boundary	Commercial / Manufacturing	80/70	39	36	51	52	No
Eastern Property Boundary	Commercial / Manufacturing	80/70	35	35	36	40	No
Western Property Boundary	Commercial / Manufacturing	80/70	35	34	37	41	No

Source: Attachment B

[1] Applicable noise standard per City of Santa Clarita Municipal Code Section 11.44.040, as described in Section 5.3.

Additionally, on-site operational noise levels were estimated on a 24-hour weighted average (CNEL) basis as shown in Table 10, using the conservative assumption that the project would be operational at the same level of intensity around the clock. The resultant noise levels are compared against the City of Santa Clarita General Plan Noise Element's Noise/Land Use Compatibility Guidelines (see Table 3 above). As shown in Table 10, the project would not exceed the City's General Plan Noise/Land Use Compatibility Guidelines threshold for "Normally Acceptable" noise levels. The combined on-site activities noise at the nearest noise-sensitive land use and at the four property boundaries would be well below the applicable City's General Plan noise compatibility guidelines and would be less than significant. No mitigation measures are required.

Table 10. Combined On-Site Noise Summary of Results – Noise Levels (dBA CNEL) at Property Boundaries and Nearest Noise-Sensitive Land Use

Location	Land Use	City of Santa Clarita General Plan Noise/Land Use Compatibility Guidelines (Normally Acceptable) (dBA CNEL)	HVAC (dBA CNEL[1])	Parking Lot Activity (dBA CNEL[1])	Truck Loading Dock Activity (dBA CNEL[1])	Combined HVAC, Parking Lot and Truck Loading Dock Activities Noise (dBA CNEL[1])	General Plan Noise/Land Use Compatibility Guidelines Exceeded?
Private School to the West	School	60	39	22	33	40	No
Northern Property Boundary	Business Commercial/ Professional	70	39	38	35	42	No
Southern Property Boundary	Business Commercial/ Professional	70	45	43	58	58	No
Eastern Property Boundary	Business Commercial/ Professional	70	42	42	42	47	No
Western Property Boundary	Arterial Roadway	n/a	42	41	44	47	No

[1] CNEL Levels conservatively assume that the operational noise levels shown in Table 9 would be maintained continuously over a 24-hour period. The resulting noise levels expressed in terms of the 24-hour weighted average CNEL noise metric would be 6.7 dBA higher than the corresponding hourly L_{eq} noise level.

Off-Site Operational Noise

The project would result in the creation of additional vehicle trips on local roadways. Based upon data from the project's traffic analysis (Translutions Inc. 2022), the proposed project is expected to generate 298 new daily trips to the roadway system; in terms of passenger car equivalent (PCE), which accounts for truck percentages, the project would generate 457 new daily PCE trips. On an hourly basis, the project would result in a total of 30 AM and 31 PM net new peak-hour trips, consisting of 26 passenger vehicles and 4 trucks (ranging in size from 2-axle trucks to 4+ axle trucks) in the AM peak hour and 26 passenger vehicles and 5 trucks in the PM peak hour. In terms of PCE, the project would result in a total of 36 AM and 39 PM new PCE peak-hour trips. Vehicles entering and exiting the project site would use Golden Valley Road, which has average daily traffic volumes of approximately 30,000[4]. The project would not result in a doubling of trips on any particular road segment –the 457 new (PCE) vehicle trips on Golden Valley Road would amount to a percentage increase over the approximately 30,000 ADT of 1.5 percent. Typically, a doubling of the energy of a noise source, such as a doubling of traffic volume (a 100 percent increase), would increase noise levels by 3 dBA. Given that it would result in only a modest increase in traffic on local and regional roadways, the project is expected to result in a traffic noise increase of well under 1 dBA on roadways in the study area. The change in noise level due to the project would not be audible. Therefore, impacts associated with off-site project-generated traffic noise would be **less than significant.** No mitigation measures are required.

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

Construction activities may expose persons to excessive groundborne vibration or groundborne noise, causing a potentially significant impact. Caltrans has collected groundborne vibration information related to construction activities (Caltrans 2020). Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inch/second begin to cause annoyance. Heavier pieces of construction equipment, such as bulldozers, have peak particle velocities of approximately 0.089 inch/second or less at a distance of 25 feet (FTA 2018).

Groundborne vibration typically attenuates over short distances. At the distance from the nearest noise or vibration-sensitive land use (the private school to the west) of approximately 550 feet and with the anticipated construction equipment, the peak particle velocity would be approximately 0.001 inch/second. At the closest sensitive receptors, vibration levels would be well below the vibration threshold of potential annoyance of 0.1 inch/second.

Construction can also affect nearby buildings by inflicting damage from vibration. However, construction vibration associated with this Project would not result in structural building damage. Building damage typically occurs at vibration levels of 0.5 inch/second or greater for buildings of reinforced-concrete, steel, or timber construction. The heavier pieces of construction equipment used for this Project would include backhoes, front-end loaders, and flat-bed trucks. Pile driving, blasting, or other special construction techniques would not be used for construction of the Project; therefore, excessive groundborne vibration and groundborne noise with the potential to adversely affect nearby buildings would not be generated. Once operational, the Project would not generate groundborne vibration. As such, no building damage would be expected to occur as a result of Project-related vibration during construction or operation and impacts would be **less than significant.** No mitigation measures are required.

4.2.3 For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the

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[4] Average daily volume (ADT) for Golden Valley Road was estimated using the peak-hour traffic volumes provided and the assumption that peak-hour volume is approximately 10 percent of the ADT.

project expose people residing or working in the project area to excessive noise levels?

No private airstrips exist in the Project vicinity. The nearest airport is Whiteman Airport, located approximately 11.4 miles to the southeast of the Project site. The Project site is not located within 2 miles of any public airport, nor is it located within the boundaries of any airport land use plans. Therefore, the proposed Project would not expose or result in excessive noise for people residing or working in the Project area, and **no impact** would occur. No mitigation measures are required.

5 Conclusions

In summary, with implementation of standard construction and design techniques and practices, the Project's short- and long-term noise and vibration impacts would be less than significant. The proposed Project was analyzed using the conservative assumption that it may be operational 24 hours per day. Based upon the impacts analysis (Section 4.2), even if operated during nighttime and early morning hours the Project's noise and vibration levels would not exceed applicable standards and would be low relative to existing ambient levels. No mitigation measures are required.

6 References Cited

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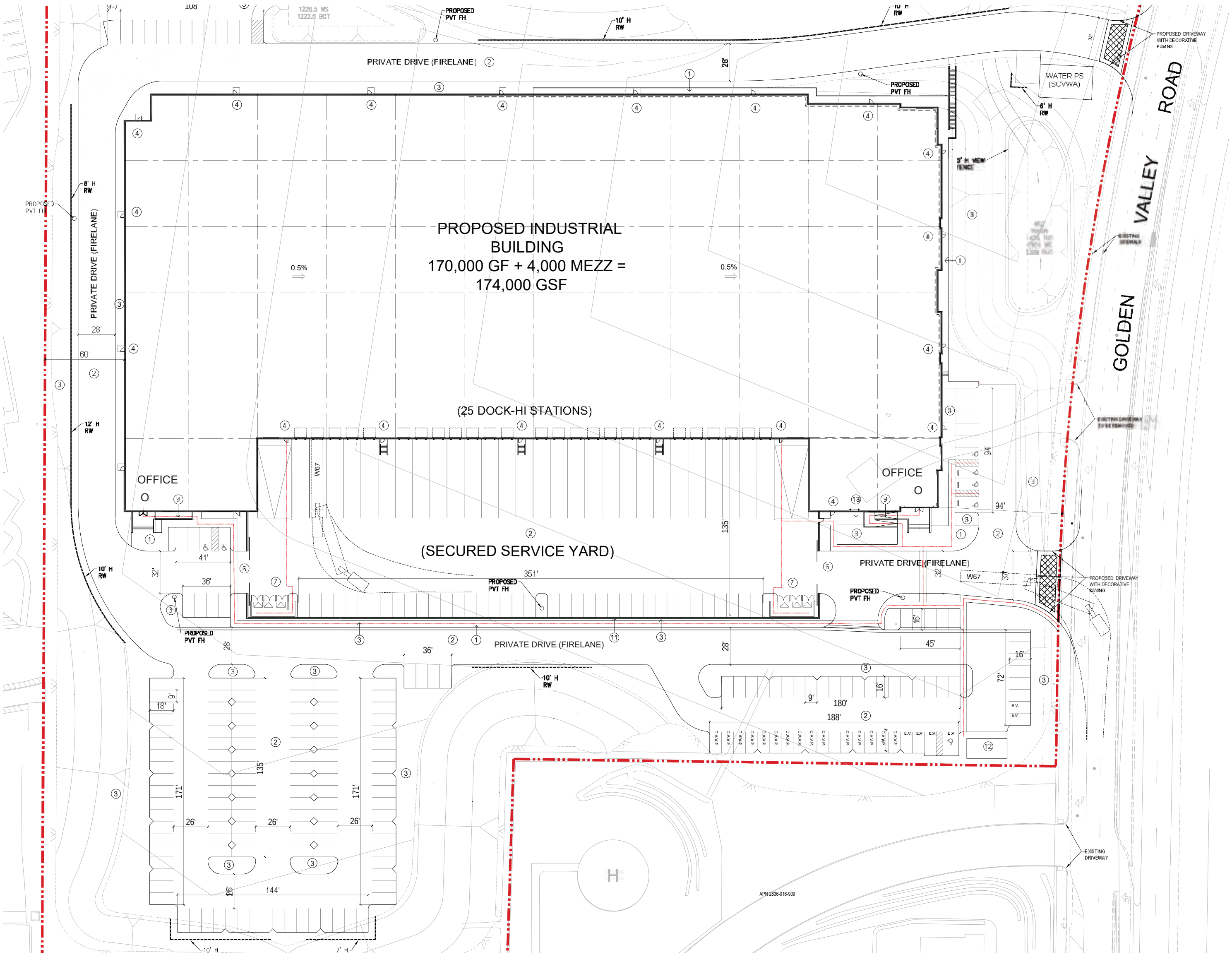
SOURCE: ESRI Imagery 2022, Open Street Map 2019

DUDEK

FIGURE 1

Project Vicinity

Golden Valley Industrial Facility Noise and Vibration Technical Memorandum



GRAPHIC LEGEND:

○ = OFFICE ENTRY

G.D. = GRADE DOOR (14'X14')

= A.D.A. ACCESSIBLE PRKG.

= PROPERTY LINE (SEE CIVIL)

= DOCK DOOR & LEVELER

= CANOPY OR OVERHANG

= CENTERLINE OR GRID LINE

= TRASH ENCLOSURE W/ SOLID ROOF A.D.A ACCESIBLE

= WB-67' TRACTOR TRAILER

= ADA PATH OF TRAVEL

KEY NOTES: (#)

1. ① PEDESTRIAN PAVING (SEE CIVIL & LANDSCAPE)
2. ② CONCRETE VEHICULAR PAVING (SEE CIVIL)
3. ③ LANDSCAPE AREA (SEE LANDSCAPE)
4. ④ ACCESS DOOR OR EMERGENCY ACCESS DOOR
5. ⑤ (NOT USED)
6. ⑥ AUTOMATIC ROLLING GATE (8'-HEIGHT)
7. ⑦ TRASH ENCLOSURE (ADA COMPLIANT)
8. ⑧ (NOT USED)
9. ⑨ ADA RAMP (AS REQUIRED)
10. ⑩ (NOT USED)
11. ⑪ CONCRETE SCREEN WALL (12' HEIGHT)
12. ⑫ EMPLOYEE BREAK AREA WITH TRELLIS/ TABLES
13. ⑬ BIKE RACK AREA

AO Architecture Design 2021

Path: Z:\Projects\j13839\MAPDOC\DOCUMENT\Noise

DUDEK

FIGURE 2

Site Plan

Golden Valley Industrial Facility Noise and Vibration Technical Memorandum

Attachment A

Construction Noise Modeling Input/Output Files

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at occupied building, per FTA guidance = 80

allowable hours over which Leq is to be averaged (example: 8 per FTA guidance) = 8

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Barrier / Topo Insertion Loss (dB)*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	Concrete saw	1	20	90		850	5.0	60.4	8	480	53
	Excavator	1	40	81		850	5.0	51.4	8	480	47
	Excavator	1	40	81		850	5.0	51.4	8	480	47
	Excavator	1	40	81		850	5.0	51.4	8	480	47
	Dozer	1	40	82		850	5.0	52.4	8	480	48
	Dozer	1	40	82		850	5.0	52.4	8	480	48
										Total for Demolition Phase:	**57.2**
Site Preparation	Dozer	1	40	82		850	5.0	52.4	8	480	48
	Dozer	1	40	82		850	5.0	52.4	8	480	48
	Dozer	1	40	82		850	5.0	52.4	8	480	48
	Backhoe	1	40	78		850	5.0	48.4	8	480	44
	Tractor	1	40	84		850	5.0	54.4	8	480	50
	Front End Loader	1	40	79		850	5.0	49.4	8	480	45
	Front End Loader	1	40	79		850	5.0	49.4	8	480	45
										Total for Site Preparation Phase:	**56.2**
Grading	Excavator	1	40	81		850	5.0	51.4	8	480	47
	Excavator	1	40	81		850	5.0	51.4	8	480	47
	Grader	1	40	85		850	5.0	55.4	8	480	51
	Dozer	1	40	82		850	5.0	52.4	8	480	48
	Scraper	1	40	84		850	5.0	54.4	8	480	50
	Scraper	1	40	84		850	5.0	54.4	8	480	50
	Tractor	1	40	84		850	5.0	54.4	8	480	50
	Front End Loader	1	40	79		850	5.0	49.4	8	480	45
										Total for Grading Phase:	**55.0**
Building Construction	Crane	1	16	81		850	5.0	51.4	7	420	43
	Man Lift	1	20	75		850	5.0	45.4	8	480	38
	Man Lift	1	20	75		850	5.0	45.4	8	480	38
	Man Lift	1	20	75		850	5.0	45.4	8	480	38
	Generator	1	50	72		850	5.0	42.4	8	480	39
	Front End Loader	1	40	79		850	5.0	49.4	7	420	45
	Tractor	1	40	84		850	5.0	54.4	7	420	50
	Backhoe	1	40	78		850	5.0	48.4	7	420	44
	Welder / Torch	1	40	73		850	5.0	43.4	8	480	39
											53.2
Paving	Paver	1	50	77		850	5.0	47.4	8	480	44
	Paver	1	50	77		850	5.0	47.4	8	480	44
	Concrete Mixer Truck	1	40	79		850	5.0	49.4	8	480	45
	Concrete Pump Truck	1	20	81		850	5.0	51.4	8	480	44
	Roller	1	20	80		850	5.0	50.4	8	480	43
	Roller	1	20	80		850	5.0	50.4	8	480	43
										Total for Paving Phase:	**52.1**
Architectural Coating	Compressor (air)	1	40	78		850	5.0	48.4	6	360	43
										Total for Architectural Coating Phase:	**43.2**

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at occupied building, per FTA guidance =	80
allowable hours over which Leq is to be averaged (example: 8 per FTA guidance) =	8

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Barrier / Topo Insertion Loss (dB)*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	Concrete saw	1	20	90		550	5.0	64.2	8	480	57
	Excavator	1	40	81		600	5.0	54.4	8	480	50
	Excavator	1	40	81		650	5.0	53.7	8	480	50
	Excavator	1	40	81		750	5.0	52.5	8	480	48
	Dozer	1	40	82		850	5.0	52.4	8	480	48
	Dozer	1	40	82		900	5.0	51.9	8	480	48
										Total for Demolition Phase:	**59.7**
Site Preparation	Dozer	1	40	82		550	5.0	56.2	8	480	52
	Dozer	1	40	82		600	5.0	55.4	8	480	51
	Dozer	1	40	82		650	5.0	54.7	8	480	51
	Backhoe	1	40	78		750	5.0	49.5	8	480	45
	Tractor	1	40	84		850	5.0	54.4	8	480	50
	Front End Loader	1	40	79		900	5.0	48.9	8	480	45
	Front End Loader	1	40	79		950	5.0	48.4	8	480	44
										Total for Site Preparation Phase:	**58.0**
Grading	Excavator	1	40	81		550	5.0	55.2	8	480	51
	Excavator	1	40	81		600	5.0	54.4	8	480	50
	Grader	1	40	85		650	5.0	57.7	8	480	54
	Dozer	1	40	82		750	5.0	53.5	8	480	49
	Scraper	1	40	84		850	5.0	54.4	8	480	50
	Scraper	1	40	84		900	5.0	53.9	8	480	50
	Tractor	1	40	84		950	5.0	53.4	8	480	49
	Front End Loader	1	40	79		1000	5.0	48.0	8	480	44
										Total for Grading Phase:	**57.5**
Building Construction	Crane	1	16	81		550	5.0	55.2	7	420	47
	Man Lift	1	20	75		600	5.0	48.4	8	480	41
	Man Lift	1	20	75		650	5.0	47.7	8	480	41
	Man Lift	1	20	75		750	5.0	46.5	8	480	39
	Generator	1	50	72		850	5.0	42.4	8	480	39
	Front End Loader	1	40	79		900	5.0	48.9	7	420	44
	Tractor	1	40	84		950	5.0	53.4	7	420	49
	Backhoe	1	40	78		1000	5.0	47.0	7	420	42
	Welder / Torch	1	40	73		1050	5.0	41.6	8	480	38
											53.4
Paving	Paver	1	50	77		550	5.0	51.2	8	480	48
	Paver	1	50	77		600	5.0	50.4	8	480	47
	Concrete Mixer Truck	1	40	79		650	5.0	51.7	8	480	48
	Concrete Pump Truck	1	20	81		750	5.0	52.5	8	480	45
	Roller	1	20	80		850	5.0	50.4	8	480	43
	Roller	1	20	80		900	5.0	49.9	8	480	43
										Total for Paving Phase:	**54.1**
Architectural Coating	Compressor (air)	1	40	78		550	5.0	52.2	6	360	47
										Total for Architectural Coating Phase:	**46.9**

Attachment B

Mechanical Equipment Calculations

MECHANICAL EQUIPMENT NOISE LEVEL

Input:

Equipment Locations / Source Noise Data

Site	X	Y	Elev. At Roof or Ground	Source Height	LwA Single Source	Number of Units	Sound Level at 50 feet Total	Equip. Location Site / Number	
Bldg SE Corner HVAC 1	1322.6	1574.8	36.5	3	80	1	62	g SE Corner HVA	York ZF-048
Bldg SE Corner HVAC 2	1349.2	1574.7	36.5	3	80	1	48	g SE Corner HVA	York ZF-048
Bldg SE Corner HVAC 3	1375.9	1575.4	36.5	3	80	1	48	g SE Corner HVA	York ZF-048

Frequency (in Hz) 500

Building Elevation	Roof Elevation
0	36.5

Receivers at P.L. and Vicinity				Applicable Standard
Learning Academy	229.1	1954.5	0	70
N1	1336.8	2001.6	0	70
S1	1125.8	1354.7	0	70
E1	1504.7	1580.7	0	70
W1	731.0	1581.6	0	70

Output:

Location:				Applicable Standard
N1	1336.8	2001.6	0	70

	Source Coordinates			Receiver Coordinates		Location-Equipment	Leq (h) at 50' (dBA)	Receiver Elevation (feet)	Source Elevation (feet)	Source to Receiver (feet)	Source to Barrier (feet)	Receiver to Barrier (feet)	Barrier (base) (feet)	Barrier Height (feet)	Fresnel No. at 500 Hz	Barrier Attenuation (dBA)	Leq w/o Barrier (dBA)	Leq w/Barrier (dBA)
Equip Site	X	Y	Z	X	Y													
Bldg SE Corner HVAC 1	1322.6	1574.8	36.5	1336.8	2001.6	York ZF-048	62	5	39.5	427	137	290	36.5	3.0	0.58	12	44	32
Bldg SE Corner HVAC 2	1349.2	1574.7	36.5	1336.8	2001.6	York ZF-048	48	5	39.5	427	137	290	36.5	3.0	0.58	12	30	18
Bldg SE Corner HVAC 3	1375.9	1575.4	36.5	1336.8	2001.6	York ZF-048	48	5	39.5	428	137	291	36.5	3.0	0.58	12	30	18
																TOTAL Leq:	44	32
																	Without Barrier	With Barrier/ Parapet

MECHANICAL EQUIPMENT NOISE LEVEL

Input:

Equipment Locations / Source Noise Data

Frequency (in Hz) 500

Site	X	Y	Elev. At Roof or Ground	Source Height	LwA Single Source	Number of Units	Sound Level at 50 feet Total	Equip. Location Site / Number	
Bldg SE Corner HVAC 1	1322.6	1574.8	36.5	3	80	1	62	g SE Corner HVA	York ZF-048
Bldg SE Corner HVAC 2	1349.2	1574.7	36.5	3	80	1	48	g SE Corner HVA	York ZF-048
Bldg SE Corner HVAC 3	1375.9	1575.4	36.5	3	80	1	48	g SE Corner HVA	York ZF-048

Building Elevation 0

Roof Elevation 36.5

Receivers at P.L. and Vicinity				Applicable Standard
Learning Academy	229.1	1954.5	0	70
N1	1336.8	2001.6	0	70
S1	1125.8	1354.7	0	70
E1	1504.7	1580.7	0	70
W1	731.0	1581.6	0	70

Output:

Location: S1 1125.8 1354.7 0

Applicable Standard 70

	Source Coordinates			Receiver Coordinates													
Equip Site	X	Y	Z	X	Y	Location-Equipment	Leq (h) at 50' (dBA)	Receiver Elevation (feet)	Source Elevation (feet)	Source to Receiver (feet)	Source to Barrier (feet)	Receiver to Barrier (feet)	Barrier (base) (feet)	Barrier Height (feet)	Fresnel No. at 500 Hz	Barrier Attenuation (dBA)	Leq w/o Barrier (dBA)	Leq w/Barrier (dBA)
Bldg SE Corner HVAC 1	1322.6	1574.8	36.5	1125.8	1354.7	York ZF-048	62	5	39.5	295	30	265	36.5	3.0	0.20	8	47	38
Bldg SE Corner HVAC 2	1349.2	1574.7	36.5	1125.8	1354.7	York ZF-048	48	5	39.5	314	30	284	36.5	3.0	0.18	8	32	24
Bldg SE Corner HVAC 3	1375.9	1575.4	36.5	1125.8	1354.7	York ZF-048	48	5	39.5	334	30	304	36.5	3.0	0.16	8	32	24
																TOTAL Leq:	47	39
																	Without Barrier	With Barrier/ Parapet

MECHANICAL EQUIPMENT NOISE LEVEL

Input:

Equipment Locations / Source Noise Data

Frequency (in Hz) 500

Site	X	Y	Elev. At Roof or Ground	Source Height	LwA Single Source	Number of Units	Sound Level at 50 feet Total	Equip. Location Site / Number	
Bldg SE Corner HVAC 1	1322.6	1574.8	36.5	3	80	1	62	SE Corner HVA	York ZF-048
Bldg SE Corner HVAC 2	1349.2	1574.7	36.5	3	80	1	48	SE Corner HVA	York ZF-048
Bldg SE Corner HVAC 3	1375.9	1575.4	36.5	3	80	1	48	SE Corner HVA	York ZF-048

Building Elevation	Roof Elevation
0	36.5

Receivers at P.L. and Vicinity				Applicable Standard
Learning Academy	229.1	1954.5	0	70
N1	1336.8	2001.6	0	70
S1	1125.8	1354.7	0	70
E1	1504.7	1580.7	0	70
W1	731.0	1581.6	0	70

Output:

Location:				Applicable Standard
E1	1504.7	1580.7	0	70

Equip Site	Source Coordinates X	Y	Z	Receiver Coordinates X	Y	Location-Equipment	Leq (h) at 50' (dBA)	Receiver Elevation (feet)	Source Elevation (feet)	Source to Receiver (feet)	Source to Barrier (feet)	Receiver to Barrier (feet)	Barrier (base) (feet)	Barrier Height (feet)	Fresnel No. at 500 Hz	Barrier Attenuation (dBA)	Leq w/o Barrier (dBA)	Leq w/Barrier (dBA)
Bldg SE Corner HVAC 1	1322.6	1574.8	36.5	1504.7	1580.7	York ZF-048	62	5	39.5	182	75	107	36.5	3.0	1.94	16	51	35
Bldg SE Corner HVAC 2	1349.2	1574.7	36.5	1504.7	1580.7	York ZF-048	48	5	39.5	156	50	106	36.5	3.0	1.53	15	38	23
Bldg SE Corner HVAC 3	1375.9	1575.4	36.5	1504.7	1580.7	York ZF-048	48	5	39.5	129	25	104	36.5	3.0	0.93	13	40	27
																TOTAL Leq:	51	35
																	Without Barrier	With Barrier/ Parapet

MECHANICAL EQUIPMENT NOISE LEVEL

Input:

Equipment Locations / Source Noise Data

Frequency (in Hz) 500

Site	X	Y	Elev. At Roof or Ground	Source Height	LwA Single Source	Number of Units	Sound Level at 50 feet Total	Equip. Location Site / Number	
Bldg SE Corner HVAC 1	1322.6	1574.8	36.5	3	80	1	62	g SE Corner HVA	York ZF-048
Bldg SE Corner HVAC 2	1349.2	1574.7	36.5	3	80	1	48	g SE Corner HVA	York ZF-048
Bldg SE Corner HVAC 3	1375.9	1575.4	36.5	3	80	1	48	g SE Corner HVA	York ZF-048

Receivers at P.L. and Vicinity				Applicable Standard	Building Elevation	Roof Elevation
					0	36.5
Learning Academy	229.1	1954.5	0	70		
N1	1336.8	2001.6	0	70		
S1	1125.8	1354.7	0	70		
E1	1504.7	1580.7	0	70		
W1	731.0	1581.6	0	70		

Output:

Location:				Applicable Standard
W1	731.0	1581.6	0	70

Equip Site	Source Coordinates X	Y	Z	Receiver Coordinates X	Y	Location-Equipment	Leq (h) at 50' (dBA)	Receiver Elevation (feet)	Source Elevation (feet)	Source to Receiver (feet)	Source to Barrier (feet)	Receiver to Barrier (feet)	Barrier (base) (feet)	Barrier Height (feet)	Fresnel No. at 500 Hz	Barrier Attenuation (dBA)	Leq w/o Barrier (dBA)	Leq w/Barrier (dBA)
Bldg SE Corner HVAC 1	1322.6	1574.8	36.5	731.0	1581.6	York ZF-048	62	5	39.5	592	25	567	36.5	3.0	0.04	6	41	35
Bldg SE Corner HVAC 2	1349.2	1574.7	36.5	731.0	1581.6	York ZF-048	48	5	39.5	618	50	568	36.5	3.0	0.08	7	26	20
Bldg SE Corner HVAC 3	1375.9	1575.4	36.5	731.0	1581.6	York ZF-048	48	5	39.5	645	75	570	36.5	3.0	0.11	7	26	19
																TOTAL Leq:	41	35
																	Without Barrier	With Barrier/ Parapet

RAY-TRACE PROGRAM (FOR A POINT-SOURCE)

Uses the Equation: $(A_{e4})_{point}=20*\log[(2*pi*N)^{1/2}/\tanh(2*pi*N)^{1/2}]+5dB$

(Ref. Pg.174, Noise and Vibration Control, L.L. Beranek Editor, 1971 Ed.

Project: Golden Valley Warehouse Project
Date:11/30/22
By: MG

Please Enter: Using English (E) units or Metric (M) units ? E

Ray Trace Number/Description	Source-Receiver Distance (ft. or m)	Source Base Elev. (ft. or m)	Source Height above Ground (ft. or m)	Receiver Base Elev. (ft. or m)	Receiver Height above Ground (ft. or m)	Horizontal Barrier Dist. (in ref. to source) (ft. or m)	Barrier Base Elev. (ft. or m)	Barrier Height (ft. or m)	Dominant Freq.(Hz)	Source-Rcvr Straight-Line Dist. (ft. or m)	Source-Top-of-Barrier Dist. (ft. or m)	Receiver-Top-of-Barrier Dist. (ft. or m)	Lambda	N_{max}	$AE_{(barriers)}$ (dB)
1. Source -Truck Noise at Learning Academy	780.0	0.0	10.0	0.0	5.0	32.0	0.0	36.0	500.0	780.0	41.2	748.6	2.3	8.7	**22.4**
2. Source -Truck Noise at N. PL	405.0	0.0	10.0	0.0	5.0	5.0	0.0	36.0	500.0	405.0	26.5	401.2	2.3	20.1	**26.0**
3. Source -Truck Noise at S. PL	240.0	0.0	10.0	0.0	5.0	130.0	0.0	12.0	500.0	240.1	130.0	110.2	2.3	0.2	**7.4**
4. Source -Truck Noise at E. PL	235.0	0.0	10.0	0.0	5.0	30.0	0.0	36.0	501.0	235.1	39.7	207.3	2.3	10.6	**23.3**
5. Source -Truck Noise at W. PL	190.0	0.0	10.0	0.0	5.0	30.0	0.0	36.0	501.0	190.1	39.7	163.0	2.3	11.2	**23.5**
6. Source -Parking Lot Noise (Northern Lot) at CalKids Learning Academy	570.0	0.0	5.0	0.0	5.0	175.0	0.0	15.0	501.0	570.0	175.3	395.1	2.3	0.4	**9.5**
7. Source -Truck ingress/egress noise (Northern driveway) at CalKids Learning Academy	550.0	0.0	10.0	0.0	5.0	175.0	0.0	15.0	501.0	550.0	175.1	375.1	2.3	0.2	**7.4**

Truck Loading Dock Activities Noise

Ref: 96 dBA at 3.3 feet (Baltrënas, P., D. Kazlauskas, and E. Petraitis. 2004. “Testing on Noise Level Prevailing at Motor Vehicle Parking Lots and Numeral Simulation of its Dispersion.” Journal of Environmental Engineering and Landscape Management 12(2): 63-70.0

Receiver/ Location	**Distance**	**Noise Level w/o Shielding**	**Noise Level w/ Shielding**
Learning A	780	48.5	26.1
N1	405	54.2	28.2
S1	240	58.8	51.3
E1	235	58.9	35.7
W1	190	60.8	37.3

Parking Lot Activities Noise

Ref: 47 dBA at 3.3 feet (Baltrënas, P., D. Kazlauskas, and E. Petraitis. 2004. “Testing on Noise Level Prevailing at Motor Vehicle Parking Lots and Numeral Simulation of its Dispersion.” Journal of Environmental Engineering and Landscape Management 12(2): 63-70.0

Receiver/ Location	**Distance**	**Noise Level w/o Shielding**	**Noise Level w/ Shielding**
Learning A	570	24.6	15.2
N1	120	31.4	n/a
S1	40	36.2	n/a
E1	54	34.9	n/a
W1	65	34.1	n/a

YORK®

TECHNICAL GUIDE

R-410A
ZE/ZF/ZR/XN/XP SERIES
3 - 6 TON
60 Hertz

Description

YORK® ZE/ZF/ZR/XN/XP Series units are convertible single package high efficiency rooftops with a common roof curb for the 3, 4, 5 and 6 Ton sizes (ZE, ZR, XN, XP not available in 6 Ton). Although the units are primarily designed for curb mounting on a roof, they can also be slab-mounted at ground level or set on steel beams above a finished roof.

All ZE/ZF/ZR/XN/XP Series units are self-contained and assembled on rigid full perimeter base rails allowing for overhead rigging. Every unit is completely charged, wired, piped and tested at the factory to provide a quick and easy field installation.

All models (including those with an economizer) are convertible between bottom and horizontal duct connections.

ZE/ZF/ZR Series units are available in the following configurations: cooling only, cooling with electric heat, and cooling with one or two stage gas heat. Electric heaters are available as factory-installed option or field installed accessory.

XN/XP Series units are available in the following configurations: cooling and heating only and cooling and heating with electric heat.

Tested in accordance with:

AHRI CERTIFIED™
www.ahridirectory.org
Unitary Small AC
AHRI Standard 210/240

AHRI CERTIFIED™
www.ahridirectory.org
Unitary Small HP
AHRI Standard 210/240

Sound Performance

ZF/ZR/XP Indoor Sound Power Levels

Size (Tons)	CFM	ESP (IWG)	Blower		Sound Power, dB (10^{-12}) Watts								
					Sound Rating[1] dB (A)	Octave Band Centerline Frequency (Hz)							
			RPM	BHP		63	125	250	500	1000	2000	4000	8000
036 (3.0)	1200	0.2	630	0.41	63	82	77	59	50	43	42	40	45
048 (4.0)	1600	0.2	791	0.54	72	95	84	58	54	46	44	45	44
060 (5.0)	2000	0.2	840	0.67	62	84	71	58	53	50	49	49	49
072 (6.0)	2200	0.3	920	1.45	76	61	71	68	67	72	66	61	54

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings.

ZE/ZF/ZR Outdoor Sound Power Levels

Size (Tons)	Sound Rating[1] dB (A)	Octave Band Centerline Frequency (Hz)							
		63	125	250	500	1000	2000	4000	8000
036 (3.0)	81	87.5	86.0	81.0	77.0	75.0	69.5	65.5	70.5
048 (4.0)	80	84.5	81.0	80.0	78.0	75.0	70.0	67.0	70.5
060 (5.0)	82	86.5	87.5	81.5	77.5	75.0	71.5	68.0	70.5
072 (6.0)	83	-	84.0	85.0	79.0	80.0	72.0	67.5	62.5

1. Rated in accordance with AHRI 270 standard.

XN/XP Outdoor Sound Power Levels

Size (Tons)	Sound Rating[1] dB (A)	Octave Band Centerline Frequency (Hz)							
		63	125	250	500	1000	2000	4000	8000
036 (3.0)	76	83.5	84.5	76.5	72.0	68.0	66.0	60.0	56.0
048 (4.0)	80	85.0	83.0	81.0	77.5	75.5	71.5	67.5	61.5
060 (5.0)	80	86.0	84.0	81.0	77.0	75.5	71.0	66.5	60.5

1. Rated in accordance with AHRI 270 standard.

APPENDIX H

Local Transportation Assessment, 26316 Golden Valley Road Warehouse

translutions
the transportation solutions company...

memorandum

DATE: March 4, 2022

TO: Ian Pari, Senior Traffic Engineer, City of Santa Clarita

FROM: Sandipan Bhattacharjee

SUBJECT: 26313 Golden Valley Road – VMT Analysis

Translutions, Inc. (Translutions) is pleased to provide this memorandum discussing the Vehicle Miles Traveled (VMT) evaluation for the proposed industrial development to be located at 26313 Golden Valley Road in the City of Santa Clarita. This report is intended to satisfy the requirements for a VMT analysis established by the City as well as the requirements for the disclosure of potential impacts and mitigation measures per the California Environmental Quality Act (CEQA).

PROJECT DESCRIPTION

The proposed Project includes 174,000 square feet of warehousing use. The project site is located at 26313 Golden Valley Road, just north of the police station. Access to the project will be provided via two driveways on Golden Valley Road. Based on the Southern California Association of Governments (SCAG) Employee Density Study, the project is anticipated to have 71 employees.

BACKGROUND AND GUIDANCE

Senate Bill 743 (SB-743), which was codified in Public Resources Code section 21099, was signed by the Governor in 2013 and directed the Governor's Office of Planning and Research (OPR) to identify alternative metrics for evaluating transportation impacts under CEQA. Pursuant to Section 21099, the criteria for determining the significance of transportation impacts must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." Recently adopted changes to the CEQA Guidelines in response to Section 21099 include a new section (15064.3) that specifies that Vehicle Miles Traveled (VMT) is the most appropriate measure of transportation impacts. A separate Technical Advisory issued by OPR provides additional technical details on calculating VMT and assessing transportation impacts for various types of projects.

The City of Santa Clarita has prepared and adopted the *Transportation Analysis Updates in Santa Clarita* (Guidelines) in May 2020 to address changes to CEQA pursuant to SB-743 to include VMT analysis methodology, screening tools, and VMT thresholds. For projects that require a VMT analysis and do not screen out, the guidelines recommend using VMT per capita for home-based trips for residential projects.

Analysis Methodology. This analysis was conducted based on the City's Guidelines and in discussion with City staff. The analysis was conducted using the SCAG Regional Transportation Plan Model. Further, based on discussion with City staff, since the project is an employment generating use whereas a majority of the City residents have to leave the City for work, the metric of net change in work VMT was applied to the project.

Further, the thresholds in the Guidelines are based on interpolation between the 2016 and 2040 models to obtain 2020 VMT. However, SCAG has released the 2020 socio-economic dataset (SED), and therefore, the SCAG model was run using the 2020 SED. To present an apples-to-apples comparison, the VMT comparison was conducted for the no-project and with project conditions using the same version of the model and SED. The proposed project is located traffic analysis zone (TAZ, Tier 2) 20249200. The project employment was included in TAZ 20249200 and the existing SED from the zone was moved to the adjacent TAZ 20249100.

PROJECT ANALYSIS

As stated earlier, the VMT analysis was conducted using the SCAG RTP Model. The baseline home-based work (HBW) VMT for the City was calculated to be 1,692,308 miles under without project conditions, which would decrease to 1,582,782 miles when the project is constructed. In addition, the total homebased VMT for the City under without project conditions was calculated to be 6,978,984 miles under without project conditions, which is anticipated to decrease to 6,923,623 miles after the project is in operation. The analysis shows that the project reduces both the home-based work VMT as well as the overall homebased VMT for the City. Table A summarizes the findings of this analysis.

Table A - Project VMT Summary

2020	City of Santa Clarita (With Project)	City of Santa Clarita (Without Project)
Total Employment	85,040	84,969
Total Homebased Work VMT	1,582,782	1,692,308
VMT per Employee	**18.6**	**19.9**
Total Employment + Population (SP)	320,031	319,960
Total Homebased VMT	6,923,623	6,978,984
Homebased VMT/SP	**21.6**	**21.8**

As seen from the table above, the project reduces VMT for the employment and residential uses within the City, and therefore, the project has a less than significant impact.

Based on the City's Guidelines, if a less than significant impact is determined under baseline conditions, a less than significant impact would occur under cumulative conditions as well. Therefore, the project's impacts under cumulative conditions are also anticipated to be less than significant.

VMT REDUCTION MEASURES

While the project reduces VMT for residential and employment uses located in the City of Santa Clarita and therefore has a less than significant on VMT, at the request of the City, the project should try to incorporate the following to further reduce VMT from the project:

- **Provide End-of-Trip Bicycle Facilities.** Through this measure, the project will install and maintain end-of-trip facilities for employee use. End-of-trip facilities include bike parking, bike lockers, showers, and personal lockers. The provision and maintenance of secure bike parking and related facilities encourages commuting by bicycle, thereby reducing VMT and GHG emissions. This can result in up to 4.4% reduction in commute VMT.
- **Implement Commute Trip Reduction Marketing.** Through this measure, the project will implement a marketing strategy to promote the project site employer's CTR program. Information sharing and marketing promote and educate employees about their travel choices to the employment location beyond driving such as carpooling, taking transit, walking, and biking, thereby reducing VMT and GHG emissions. This can result in up to 4% reduction in commute VMT.
- **Implement Preferential Parking Permit Program.** This measure requires projects provide preferential parking in terms of reserved parking in convenient locations (such as building entrances) for commuters who carpool, vanpool, ride-share or use sustainably fueled vehicles. The project will also provide some wide parking spaces to accommodate vanpool vehicles.
- **Provide Bike Parking.** This measure requires projects provide short-term and long-term bicycle parking facilities to meet peak season maximum demand. Parking can be provided in designated areas or added within rights-of-way, including by replacing parking spaces with bike parking corrals.

CONCLUSION

The project reduces VMT for residential and employment uses located in the City of Santa Clarita. Therefore, the project's impacts are considered to be less than significant.

Enclosures:

- Attachment A – Model Outputs