BRETHREN HILLCREST GATEWAY PROJECT

Case Nos. 88-25GPA, 27-25ZC, 26-25MPA, 25-25PM, 103-25PM, and 24-25PPR

CITY OF LA VERNE

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

November 2025

Draft

Lead Agency:

City of La Verne
3660 "D" Street,
La Verne, California 91750

Prepared by:

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(LSA Project No. 20241974)

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INITIAL STUDY

1. **PROJECT TITLE:** Brethren Hillcrest Gateway Project

2. **LEAD AGENCY NAME AND ADDRESS:** City of La Verne
3660 "D" Street
La Verne, California 91750

3. **CONTACT PERSON AND TELEPHONE NUMBER:** Candice Bowcock, Principal Planner
City of La Verne
(909) 596-8706
cbowcock@cityoflaverne.org

4. **PROJECT LOCATION:** The project consists of four separate sites located adjacent to or within the west campus of the Brethren Hillcrest community which is a continuing care retirement community in the southern portion of La Verne.

   - The North Gateway Site and South Gateway Site include Assessor's Identification Numbers (AINs) 8381-010-006, -028, and -033 These sites are approximately 150 feet apart. The South Gateway includes AIN 8381-010-006 containing 2675, 2677, 2681, 2683 A Street and 2692 Park Avenue, and the North Gateway includes AIN 8381-010-028 containing 2730 Park Avenue and AIN 8381-010-033 containing 2712 Park Avenue. In addition to the demolition, construction and/or renovation of residential units on the South Gateway and North Gateway Sites, there are two other areas which are part of the project, neither of which involve any physical changes.

   - The Zone Change Site (AIN 8381-012-013 which includes 2715, 2717, and 2719 Park Avenue) located just west of the North Gateway site is included in the project for incorporation into the Brethren Hillcrest Master Plan.

   - The Master Plan Change Site (AINs 8381-010-043 which includes 2723 and 2725 A Street and 2745 and 2747 A Street and 8381-010-005 which includes 2691 and 2693 A Street and 2703 A Street) is included in the project for a change of neighborhood designation.

   The project sites are located approximately 1 mile south of State Route 210 (SR-210) and approximately 2.2 miles north of Interstate 10 (I-10). The Bracket Field Airport is located approximately 0.9 mile south of the project site, and Puddingstone Reservoir is located approximately 1.5 miles southwest of the

project site. Figures 1 and 2 detail the project location and vicinity and existing setting.

5. PROJECT SPONSOR'S NAME AND ADDRESS:

Brethren Hillcrest Homes
2705 Mountain View Drive
La Verne, California 91750

6. EXISTING GENERAL PLAN DESIGNATION:

North and South Gateway Sites: LDR - Low Density Residential (0-5 du/ac)
Zone Change Site: LDR - Low Density Residential (0-5 du/ac)
Master Plan Change Site: Community Facility

7. PROPOSED GENERAL PLAN DESIGNATION:

North and South Gateway Sites: Community Facility (CF)
Zone Change Site: Community Facility (CF)
Master Plan Change Site: No change

8. EXISTING ZONING:

North and South Gateway Sites: Planned Residential 4.5 dwelling units per acre (PR4.5D)
Zone Change Site: Planned Residential 4.5 dwelling units per acre (PR4.5D)
Master Plan Change Site: Institutional (I)

9. PROPOSED ZONING:

North and South Gateway Sites: Institutional (I)
Zone Change Site: Institutional (I)
Master Plan Change Site: No change

10. DESCRIPTION OF PROJECT:

The proposed project is an update to the Brethren Hillcrest Homes (Hillcrest) Master Plan (Master Plan). Hillcrest consists of 239 residential homes and apartments, 48 assisted living units, 24 dementia beds, and 59 skilled nursing facility beds. Hillcrest is divided into twenty-three neighborhoods on approximately 53 acres. As further described below, the project involves Neighborhoods 5 and 10.

The project consists of the following components:

<u>North Gateway and South Gateway Sites</u>

The proposed project includes demolition of four residential homes which are not currently part of the Hillcrest Master Plan community and construction of seven single-family homes in their place to be added to Neighborhood 5 of the Hillcrest Master Plan community with common area landscaping on 1.19 acres encompassing the North and South Gateway Sites. All of the existing units are vacant.

The four residential units to be demolished include two single family homes (2692 Park Avenue and 2677 A Street) within the South Gateway, and two single family homes (2730 Park Avenue and

2712 Park Avenue) within the North Gateway. A total of 5,831 square feet will be demolished. Three existing residences on the South Gateway Site (2675 A Street, 2681 A Street, and 2683 A Street), each between 765 and 779 square feet in size (2,309 square feet total) would be renovated to blend with the architectural design and style of the seven residential units to be constructed. Figures 3a through 3e provide photographs of the existing environmental conditions of the project sites.

The seven residential units to be constructed include three single-family homes within the South Gateway and four single-family homes within the North Gateway. Each of the seven proposed single-family residential units would be one-story with two bedrooms, two baths, and a two-car garage. A total of 10,989 square feet will be constructed for a net increase of 5,158 square feet. The project also includes reconstruction of portions of the curb, gutter, sidewalk, and driveway aprons along the project frontages of Park Avenue and A Street, as well as reconstruction of public paseos traversing these properties to improve the connection between the east and west campuses of the Hillcrest Community. The project also includes removal of 24 trees and retention of 7 mature trees to be incorporated into the landscape plan of the proposed development. Figures 4a and 4b detail the conceptual site plan of the proposed project.

The required project approvals for the North Gateway and South Gateway Sites are:

- General Plan Amendment from LDR - Low Density Residential (0-5 du/ac) to CF – Community Facility;
- Zone Change from Planned Residential 4.5 dwelling units per acre (PR4.5D) to Institutional (I);
- Conditional Use Permit for Master Plan Amendment to incorporate the North Gateway and South Gateway Sites into Neighborhood 5 of the Master Plan;
- Parcel merger to merge two parcels (AIN 8381-010-028 and AIN 8381-010-033) comprising the North Gateway Site into one parcel; and
- Precise Plan Review to facilitate the proposed development on the North Gateway and South Gateway Sites as shown in the conceptual site plan shown in Figures 4a and 4b.

As originally submitted, the application included the demolition of three additional units at 2675, 2681 and 2683 A Street and the construction of a total of nine new units. The air quality and noise

analyses evaluate 8,106 square feet of demolition and 13,778 square feet of construction and assume a net increase of 5,672 square feet of residential uses. Accordingly, the discussions below in those respective sections disclose potentially greater environmental effects than would occur under the proposed project.

Zone Change Site

A 0.27-acre parcel, which includes three existing dwelling units (2715, 2717, and 2719 Park Avenue) would be added to Neighborhood 5 of the Hillcrest Master Plan (the "Zone Change Site"). This change does not involve any demolition or construction. The required project approvals for this change are:

- General Plan Amendment from LDR - Low Density Residential (0-5 du/ac) to CF – Community Facility;
- Zone Change from Planned Residential 4.5 dwelling units per acre (PR4.5D) to Institutional (I);
- Conditional Use Permit for Master Plan Amendment to incorporate this site into Neighborhood 5 of the Master Plan; and
- Parcel Merger to merge the Zone Change Site (AIN 8381-012-013) with the property adjacent to the south (AIN 8381-012-029) into one parcel.

Master Plan Change Site

Two parcels composing approximately 0.95 acre of Neighborhood 10 of the Hillcrest Master Plan will be redesignated from Neighborhood 10 to Neighborhood 5, as the existing development within these parcels match the development pattern of Neighborhood 5 which includes independent living units. The properties to be redesignated include three duplex residential structures and one single-family residence from Neighborhood 10 to Neighborhood 5 of the Hillcrest Master Plan (refer to Figures 5 and 7). Except for the properties being redesignated, neighborhood 10 focuses on gathering and activity areas and congregate living and consists of the Hillcrest Administrative Offices (2705 Mountain View Drive) and a 24-unit multi-family residential building (2765 Mountain View Drive). Neighborhood 10 is intended to locate resident activities and administrative services in the center of the Hillcrest campus.[1]

[1] *Ibid*. Page 58.

The transfer of approximately 0.95 acre of Neighborhood 10 to Neighborhood 5 will require a conditional use permit for a Master Plan amendment. This change does not involve any demolition or construction.

Figure 5 details the existing and proposed zoning, Figure 6 details the existing and proposed General Plan land use designations, and Figure 7 details the existing and proposed Neighborhood 5 and Neighborhood 10 of the Brethren Hillcrest Homes Master Plan.

11. SURROUNDING LAND USES AND SETTING:

The project is located in the southern portion of the city and is surrounded by residential uses on all sides. The residences to be demolished at 2692 Park Avenue and 2712 Park Avenue were developed prior to 1948, and the remaining residences were developed by 1964.[2]

The South Gateway Site is bounded to the north and south by single-family and multi-family residences, to the west by Park Avenue, and to the east by A Street. The North Gateway Site is bounded to north and south by single-family residences, to the west by Park Avenue, and to the east by single-family and multi-family residences. The Zone Change Site is bounded to the north and south and west by multi-family residences and to the east by Park Avenue. The Master Plan Change Site is bounded by A Street to the east, the South Gateway site to the south, the North Gateway site to the west, and single-family residences to the north. The Brethren Hillcrest continuing care retirement community abuts the project sites to the east and west, and the proposed project would incorporate the subject sites into the Hillcrest Master Plan.

12. PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED:

The project requires approval by the City of La Verne. The entitlements required from the city include:

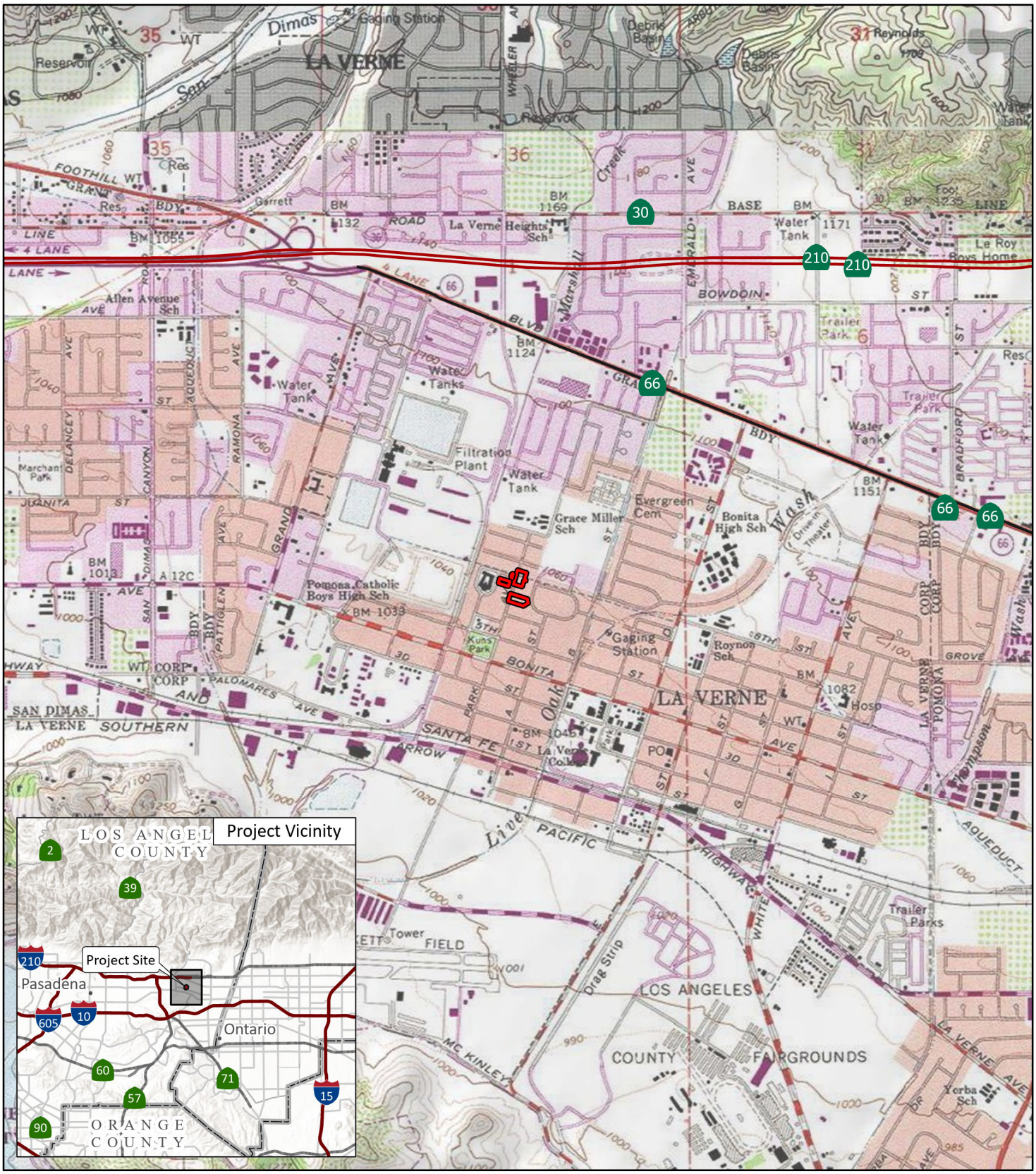
- *General Plan Amendment (88-25GPA)*
- *Zone Change (27-25ZC)*
- *Conditional Use Permit/Master Plan Update (26-25 MPA)*
- *Parcel Mergers*
  - *25-25PM for AIN 8381-010-028 and 8381-010-033*
  - *103-25PM for AIN 8381-012-013 and AIN 8381-012-029*
- *Precise Plan Review (24-25PPR)*

13. HAVE CALIFORNIA NATIVE AMERICAN TRIBES

As detailed in Checklist Section 3.21 (Tribal Cultural Resources), the City of La Verne has consulted with interested Native American Tribes pursuant to Assembly Bill 52 (Section 21080.3.1 of the Public Resources Code) and Senate Bill 18 (Sections 65352.3 and 65352.4 of the Government Code). *Note: Conducting consultation*

[2] Nationwide Environmental Title Research, LLC. *Historic Aerials by NETR Online*. Orthophotography dated 1948 and 1964. Website: https://historicaerials.com/viewer. Accessed September 23, 2024.

TRADITIONALLY AND CULTURALLY AFFILIATED WITH THE PROJECT AREA REQUESTED CONSULTATION PURSUANT TO PUBLIC RESOURCES CODE SECTION 21080.3.1? IF SO, HAS CONSULTATION BEGUN?	*early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code Section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code Section 21082.3(c) contains provisions specific to confidentiality.*



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FIGURE 1

N

0 1000 2000
FEET

SOURCE: USGS 7.5' Quad - *San Dimas (1981)*, CA

Brethren Hillcrest Gateway Project

Project Location and Vicinity

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Project Sites

Photo Location

FIGURE 2

Site photographs are provided in Figures 3a through 3e.

N

0 63 125

FEET

SOURCE: Nearmap Aerial Imagery (May 1, 2024)

Brethren Hillcrest Gateway Project

Existing Setting

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Photo 1: North Gateway Paseo_Facing East.



Photo 2: North Gateway Northern Site Boundary_Facing East.

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FIGURE 3a

Brethren Hillcrest Gateway Project
Site Photographs



Photo 3: North Gateway Southern Site Boundary_Facing East.



Photo 4: North Gateway Site Frontage along Park Avenue_Facing North.

LSA

FIGURE 3b

Brethren Hillcrest Gateway Project
Site Photographs



Photo 5: South Gateway Northern Site Boundary_Facing East.



Photo 6: South Gateway Southern Site Boundary_Facing East.

LSA

FIGURE 3c

Brethren Hillcrest Gateway Project
Site Photographs



Photo 7: South Gateway Site Frontage along Park Avenue_Facing South.



Photo 8: South Gateway Site Frontage along A Street_Facing South.

LSA

FIGURE 3d

Brethren Hillcrest Gateway Project
Site Photographs

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Photo 9: South Gateway Site Frontage along A Street_Facing Northwest.

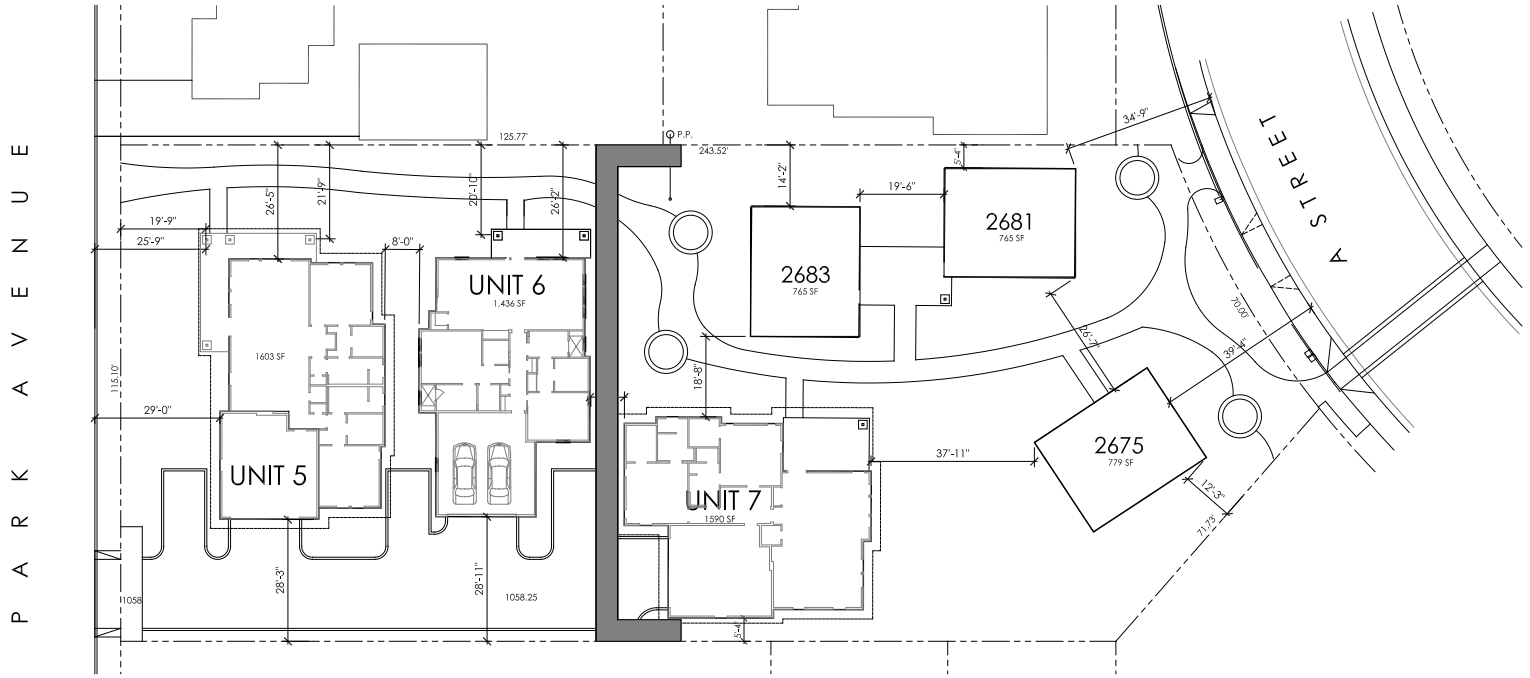


Photo 10: North Gateway Paseo_Facing West.

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FIGURE 3e

Brethren Hillcrest Gateway Project
Site Photographs



LSA

FIGURE 4a

N

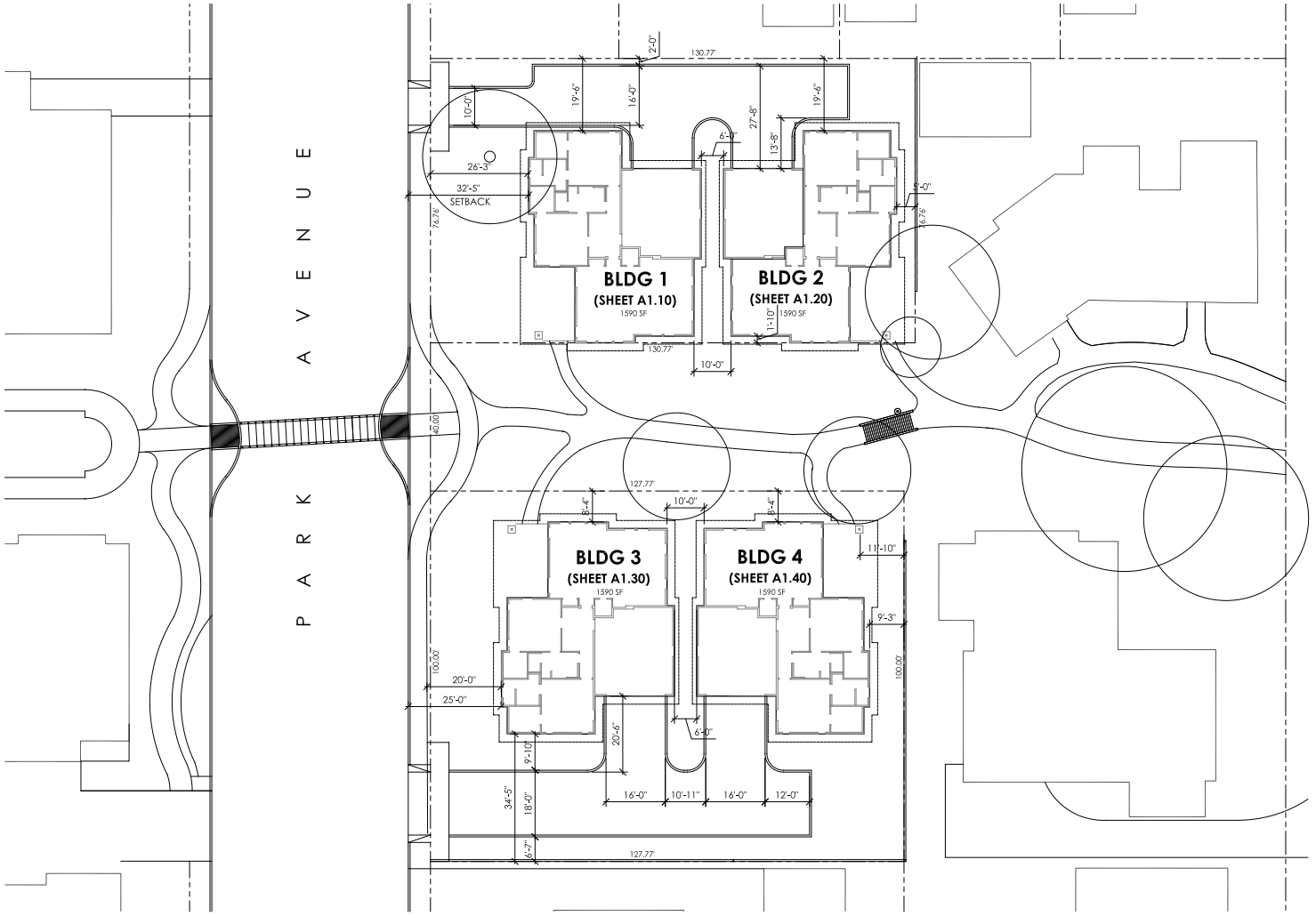
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SOURCE: CEDG Architects

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Brethren Hillcrest Gateway Project

Proposed Conceptual Site Plan - South Gateway



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FIGURE 4b

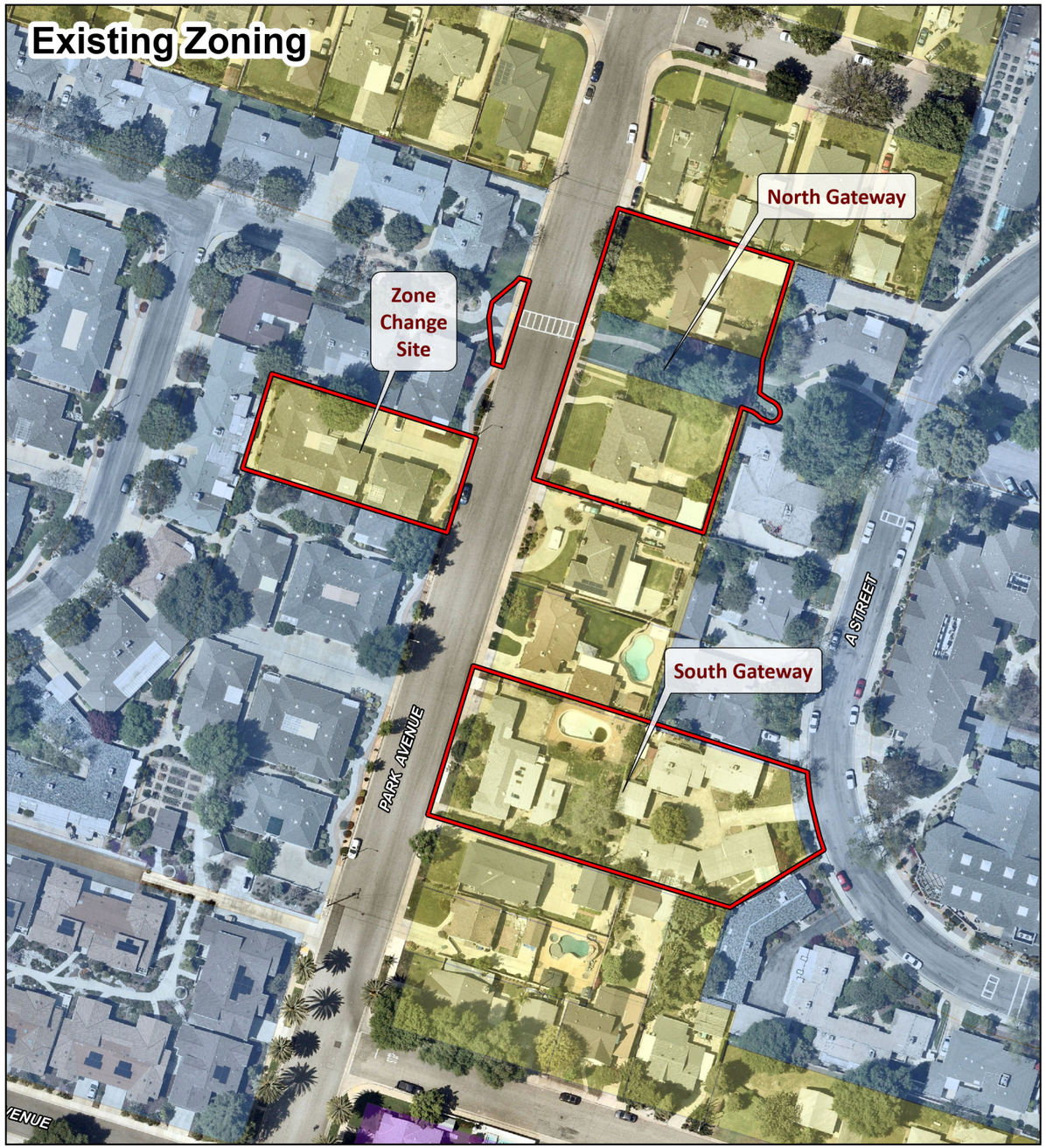
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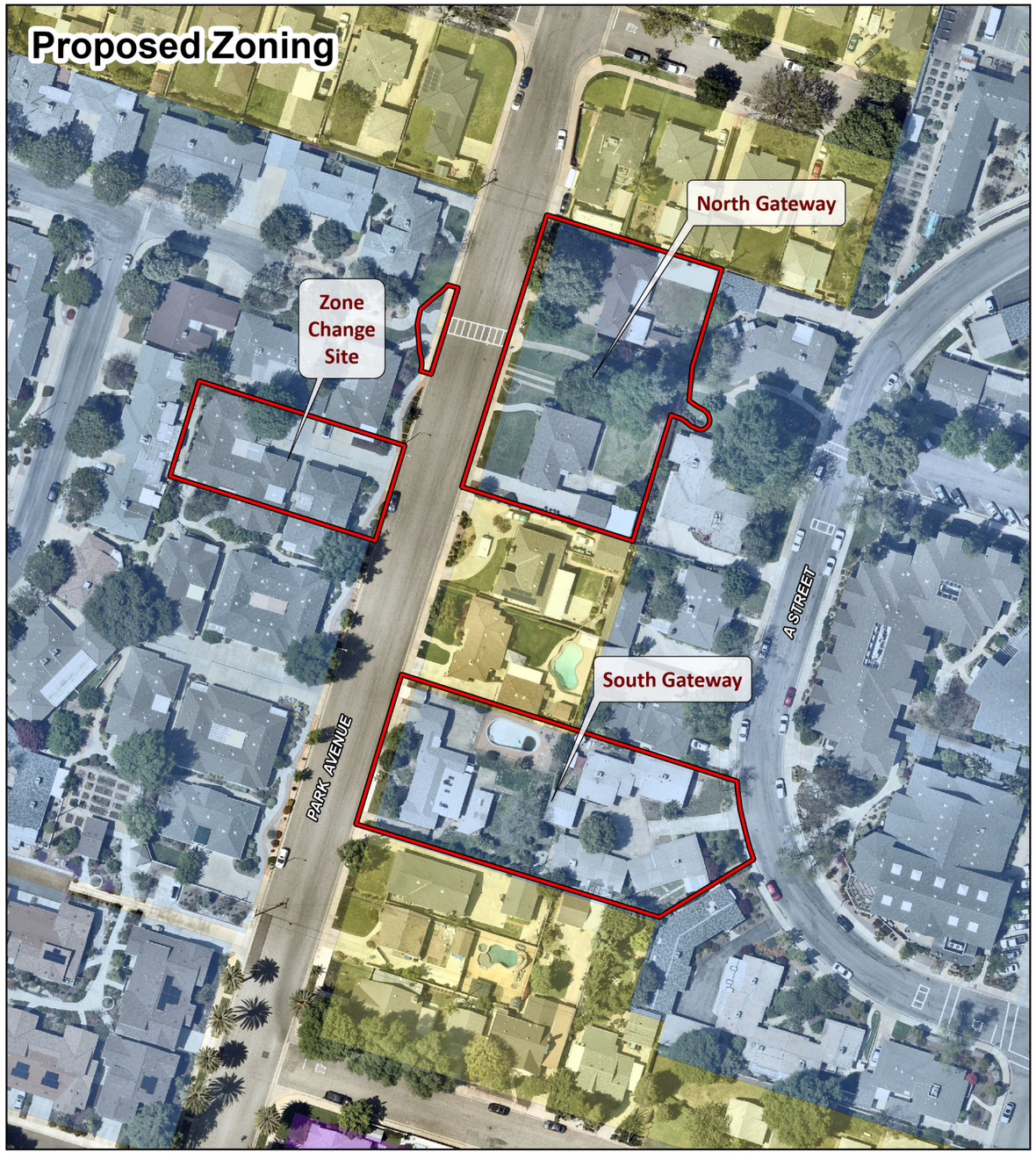
SOURCE: CEDG Architects

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Brethren Hillcrest Gateway Project

Proposed Conceptual Site Plan - North Gateway





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Institutional
Planned Residential Development
Lordsburg Specific Plan
Project Sites

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SOURCE: Nearmap Aerial Imagery (May 1, 2024)

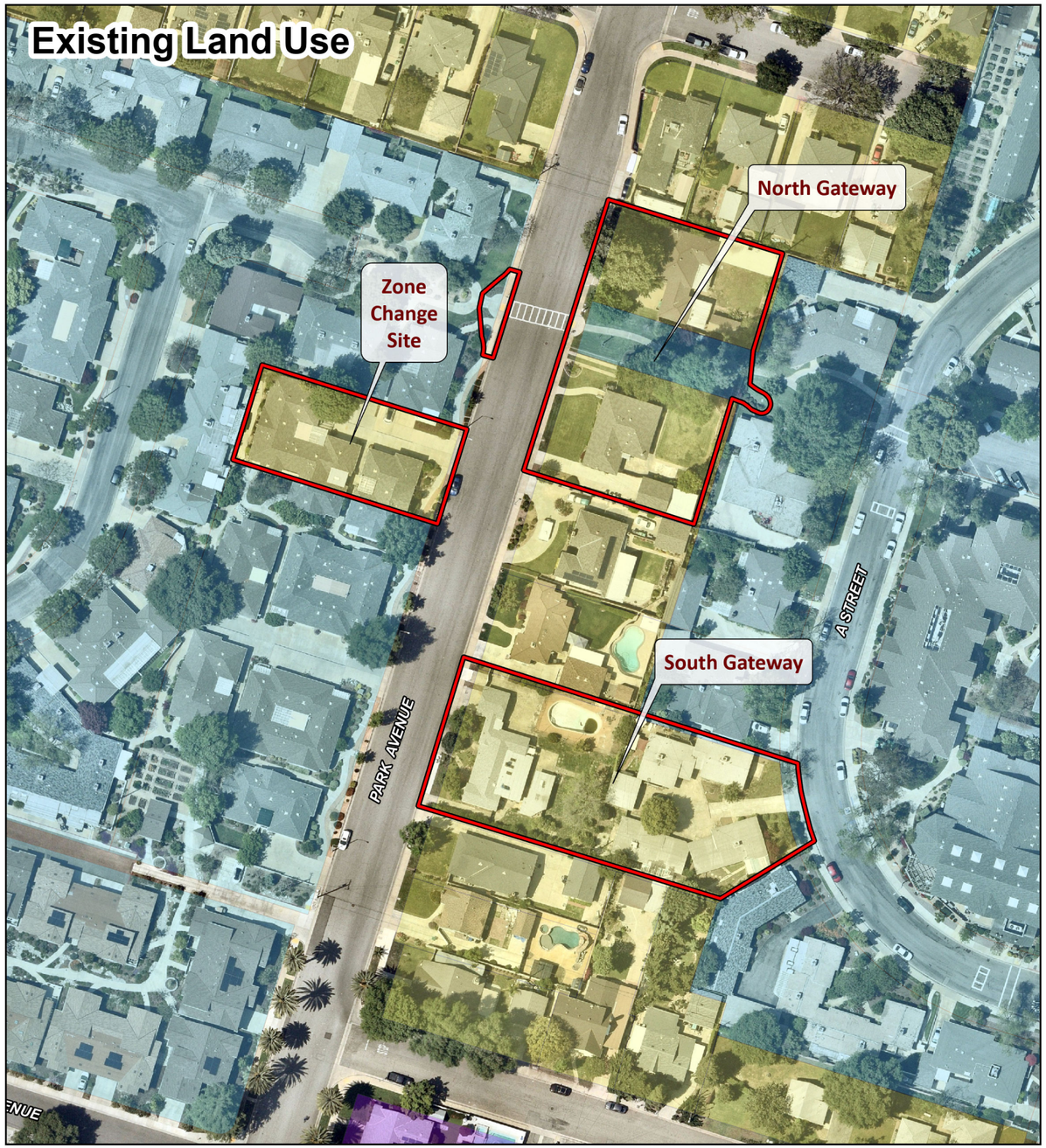
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FIGURE 5

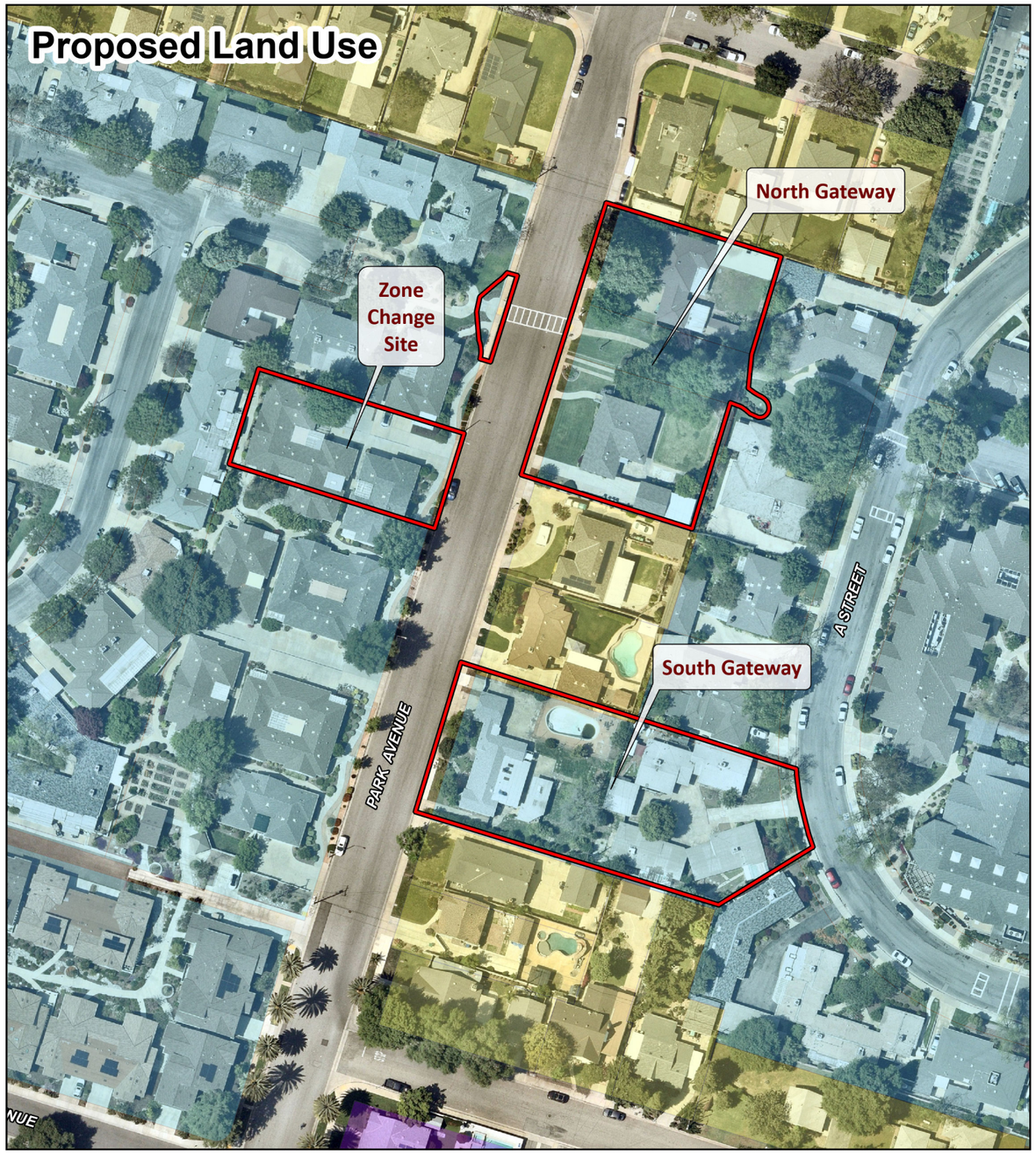
Brethren Hillcrest Gateway Project

Existing and Proposed Zoning

Existing Land Use



Proposed Land Use



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General Plan Land Use

- CF - Community Facility
- LDR - Low Density Residential (0-5 du/ac)
- SP-R - Specific Plan Residential

Project Sites

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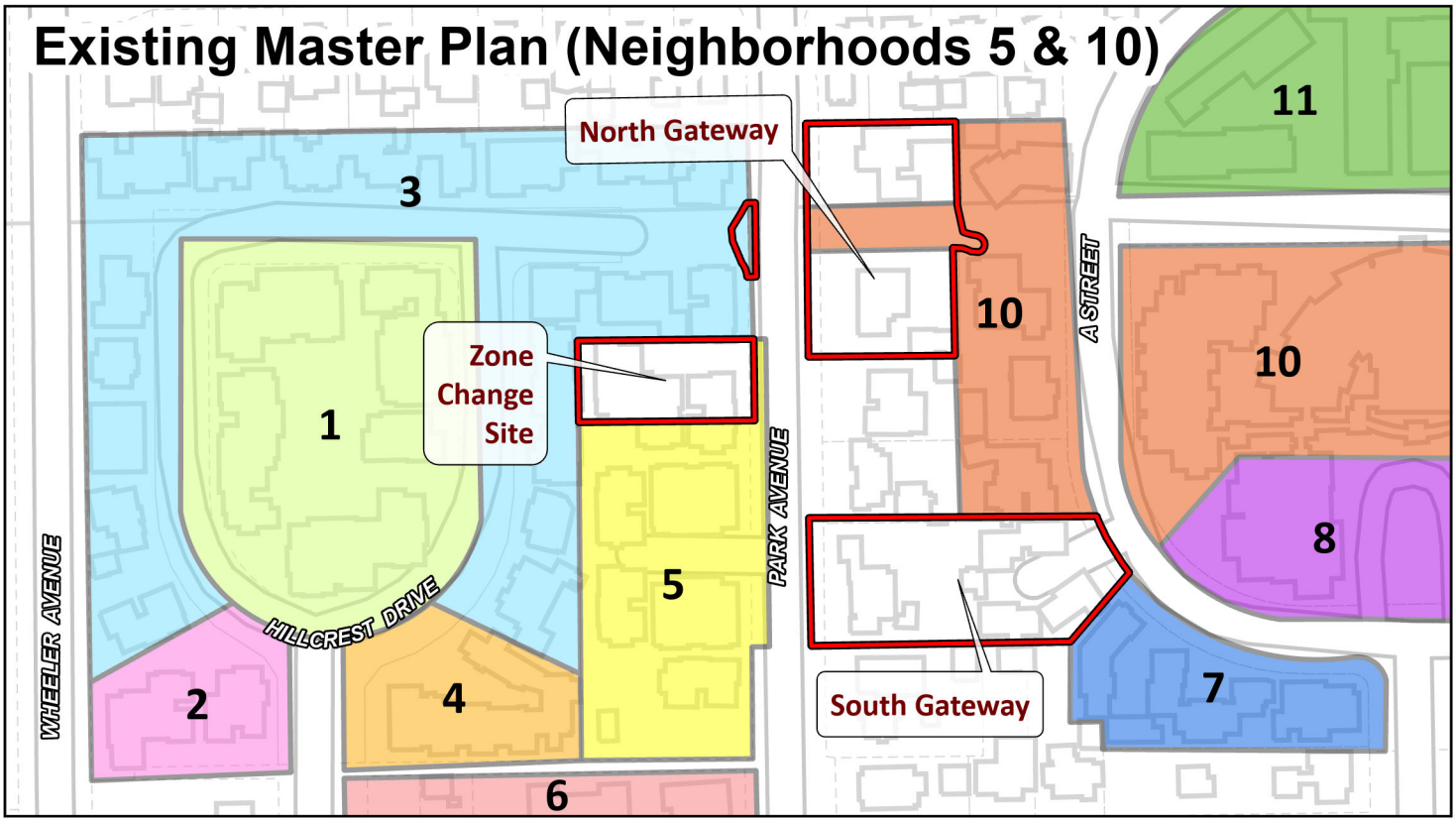
SOURCE: Nearmap Aerial Imagery (May 1, 2024)

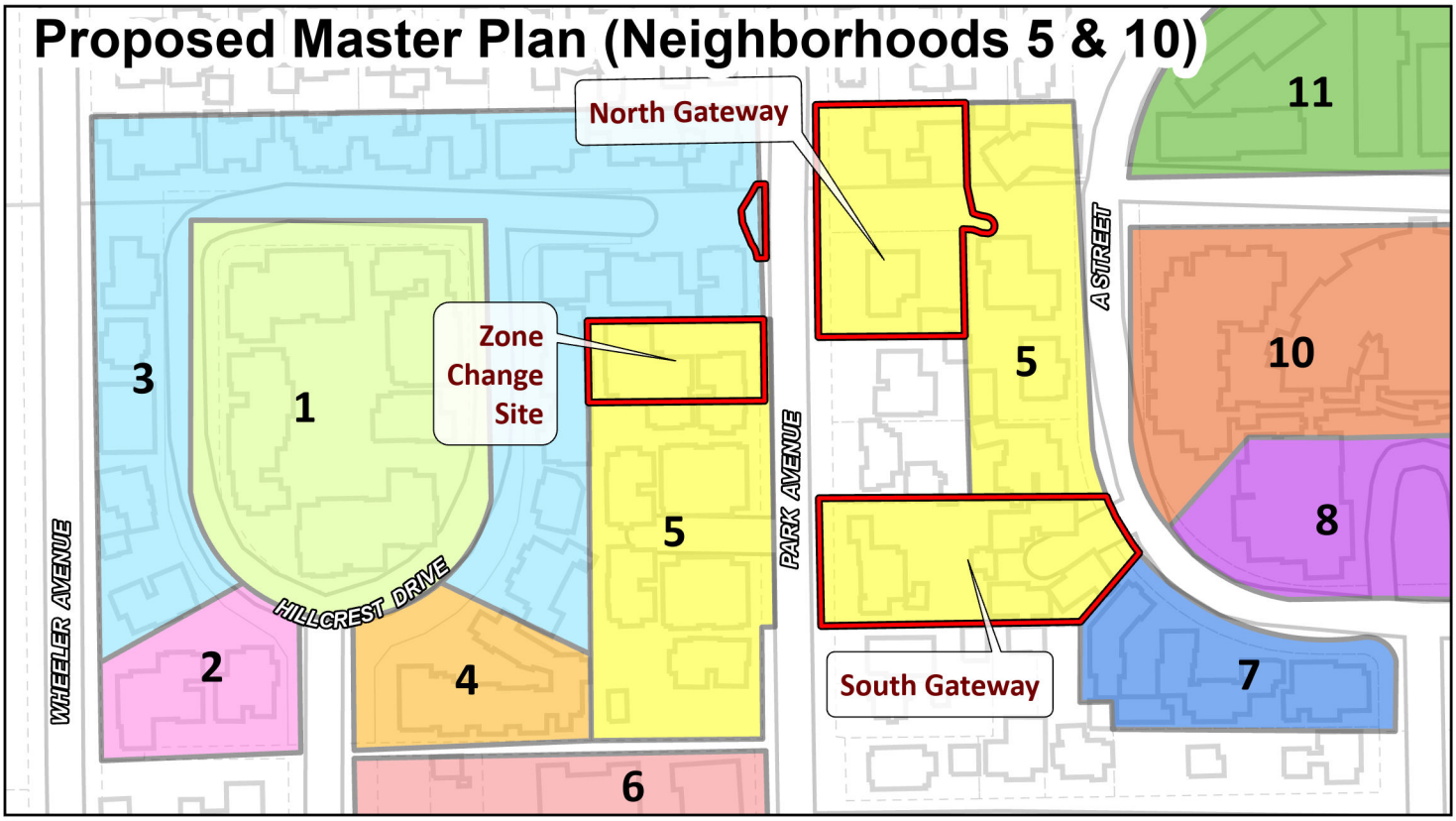
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FIGURE 6

Brethren Hillcrest Gateway Project

Existing and Proposed General Plan Land Use





LSA

Project Sites

FIGURE 7

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SOURCE: Nearmap Aerial Imagery (May 1, 2024)

Brethren Hillcrest Gateway Project

Existing and Proposed Brethren Hillcrest Master Plan (Neighborhoods 5 & 10)

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Environmental Factors Potentially Affected

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

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

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

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

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

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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

Candice Bowcock

Signature

10/30/25

Date

Candice Bowcock

Printed Name

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

    a. The significance criteria or threshold, if any, used to evaluate each question; and

    b. The mitigation measure identified, if any, to reduce the impact to less than significance.

Explanatory Note

Because the Zone Change Site and Master Plan Change Site do not involve any physical changes, unless otherwise specified, the analysis is focused on the North Gateway and South Gateway component.

ENVIRONMENTAL CHECKLIST

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
I. Aesthetics				
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 day or nighttime views in the area?	☐	☐	☒	☐

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

Less than Significant Impact

Discussion of Effects: Scenic views within La Verne consist of the San Gabriel Mountains, foothills, and canyons located in the northern portion of City (i.e., north of the project sites). Views of these features from the project sites are already obstructed by trees, structures, and utility poles (refer to Figure 3b).

The North Gateway Site, South Gateway Site, and Zone Change Site are zoned Planned Residential 4.5 dwelling units per acre (PR4.5D) and will be subject to a zone change from PR4.5D to Institutional (I) and also would be subject to a General Plan Amendment from LDR - Low Density Residential (0-5 du/ac) to CF – Community Facility. The Master Plan Change site would transfer select properties from Neighborhood 10 to Neighborhood 5 of the Hillcrest Master Plan and therefore would not require a zone change or General Plan Amendment. There is no physical development for either the Zone Change Site or Master Plan Site.

Implementation of the proposed project would be subject to compliance with Chapter 18.60 (Institutional Zone) of the City Municipal Code, which includes requirements for setbacks, building height, lot coverage, and landscaping. Furthermore, a precise plan preview would be required and subject to approval by the Development Review Committee pursuant to Chapter 18.16 (Development Review). The process would ensure compliance with all applicable regulations pertaining to building orientation, form, massing, setbacks, height, color palette, building materials, and drought-tolerant landscaping.

The only physical changes will be to the North Gateway and South Gateway Sites. The project includes an amendment to the Master Plan to incorporate three of the project sites, comprised of the South Gateway (AIN 8381-010-006), North Gateway (AIN 8381-010-028 and AIN 8381-010-033), and Zone Change Site (AIN 8381-012-013) into Neighborhood 5 of the Hillcrest Master Plan and a redesignation of a portion of Neighborhood 10 as Neighborhood 5. The existing Master Plan requires all units along the Master Plan perimeter streets (e.g., Park Avenue) to maintain a minimum setback distance of 25 feet from the public right-of-way (curb).[3] The proposed project includes reconstruction of portions of the curb, gutter, sidewalk, and driveway aprons within the North Gateway Site and South Gateway Site along the project frontages of Park Avenue; however, Park Avenue would maintain its existing roadway width. As required by the Master Plan, redevelopment of the North Gateway and South Gateway Sites would maintain a minimum setback distance of 25 feet from the curb. One existing property to be transferred from Neighborhood 10 to Neighborhood 5 (2747 A Street/) would maintain the existing 15-foot setback from the public right-of-way and remain as a legal, non-conforming residential use within the Hillcrest Master Plan with regard to setback distance from the public right-of-way. The proposed residential structures within the North Gateway site and South Gateway site would be single-story homes constructed to heights commensurate with the surrounding buildings and well below the maximum building height of 25 feet permitted along Park Avenue and 35 feet in other portions of Neighborhood 5 of the Master Plan.[4,5]

The proposed project includes construction of 7 single-story residential structures to heights commensurate with the surrounding buildings pursuant to Section 18.10.080 and below the maximum building height permitted in the Master Plan. Additionally, development will maintain the sites' existing flat topography. Views of the City's scenic

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3 City of La Verne. *Brethren Hillcrest Homes Master Plan, Design Development Guidelines.* Page 102. Approved November 2, 1992.

4 *Ibid.* Page 46.

5 In accordance with Section 18.60.110, greater structural heights, more lot coverage, smaller setbacks, and similar adjustments to the standards of Chapter 18.60 (Institutional Zone) may be permitted in the Master Plan Update upon review and approval by the City Planning Commission pursuant to Chapter 18.108 (Conditional Use Permits, Variances, and Minor Exceptions), as well as the City Council. Such adjustments are permitted provided they are necessary in response to the unique qualities of the institution and its site to support efficient and attractive development; impacts are minimized to the surrounding properties and to cultural, historic, and environmental resources; the proposed improvements otherwise meet the requirements and intent of the City Municipal Code, the City General Plan, and CEQA; and the benefits of the proposed development standard change(s) outweigh any potential adverse effects. *Section 18.60.110 (Institutional Zone Development Standard Changes).* City of La Verne Municipal Code. Title 18 (Zoning). https://ecode360.com/44524769#44524783. (Accessed February 27, 2025).

resources from the project sites and vicinity are mostly obscured by residential development in all directions, as well as by mature trees on the sites and along adjacent roadways and by overhead infrastructure (i.e., distribution utility poles). Furthermore, the project sites are immediately north of the Lordsburg Specific Plan, which does not identify any of the roadways adjacent to the project sites as major corridors for viewing the Lordsburg community.[6] The nearest scenic view corridor is an easterly viewpoint of Bonita Avenue approximately 0.25 mile southwest of the project sites at the intersection of Bonita Avenue and Wheeler Avenue. The proposed residential structures would not obstruct this viewpoint or any other scenic view corridor identified in the Lordsburg Specific Plan, City General Plan, or any other land use plan in the City.

Since the project sites and vicinity are not considered to be part of or within the viewshed of a scenic vista identified by the City, compliance with Chapter 18.60 (Institutional Zone) of the City Municipal Code will ensure impacts to scenic vistas would remain **less than significant**. Mitigation is not required.

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

Discussion of Effects: The nearest State-designated scenic highway is State Route 2, located approximately 35 miles north of the project sites. The project sites would not be visible from State Route 2. Locally, Bonita Avenue east of Wheeler Avenue is designated a scenic corridor by the City. Although the project sites are approximately 0.25 mile northeast of the Bonita Avenue scenic view corridor, none of the project facilities (e.g., residential structures and landscaping) would obstruct views of the historic structures or trees along this viewpoint or any other scenic view corridor.

There are 31 trees on the North and South Gateway Sites. The project includes removal of 24 trees and retention of 7 mature trees to be incorporated into the landscape plan of the proposed development. None of the 31 trees inventoried and evaluated on the project sites qualify as “Significant” or “heritage” trees as defined in Chapter 18.78 of the City’s Municipal Code.[7] The project would not substantially damage scenic resources including, trees, rock outcroppings, and historic buildings within a state scenic highway or locally designated scenic roadway. **No Impact** would occur, and no mitigation is required.

c. Would the project, 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

[6] City of La Verne, Archiplan Urban Design Collaborative, Martin Eli Weil Restoration Architect, and Stevens/Garland Associates. *A Specific Plan for Lordsburg, The City of La Verne.* Figure 3 (Visual Analysis) and Page 20. September 1992, Chapter 5 updated March 2004.

[7] LSA. *Arborist Report for the Hillcrest Gateway Project in La Verne, Los Angeles County, California (LSA Project No. 20241974).* December 11, 2024.

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

Discussion of Effects: The City's 2023 population is estimated to be 29,898 persons and the City's land area is approximately 8.42 square miles;[8] therefore, the City meets the definition of *Urbanized Area* under Section 15387 of the *CEQA Guidelines*. The proposed project would include construction and demolition of single-family residential units, reconstruction of portions of the curb, gutter, sidewalk, and driveway aprons along the project frontages of Park Avenue and A Street, as well as reconstruction of public paseos traversing these properties to improve the connection between the east and west campuses of the Hillcrest Community.

It should be noted that the Gateway Sites are currently developed with residential uses that are unoccupied and in various states of disrepair. Through compliance with the City's Municipal Code, the proposed project would redevelop underutilized properties in the City while maintaining consistency with the existing visual character of the surrounding community.

The project proposes demolition of two single family homes (2692 Park Avenue and 2677 A Street) within the South Gateway, and two single family homes (2730 Park Avenue and 2712 Park Avenue) within the North Gateway. The proposed project would construct seven residential units, three single-family homes within the South Gateway and four single-family homes within the North Gateway. The proposed project would be constructed to provide primary Master Plan components, including informal courtyard configurations and a sense of landscape sanctuary.[9] The seven proposed residential units would be oriented around public paseos that traverse through the properties and serve as courtyards for residents of the Master Plan as well as the surrounding community. The public paseos would feature landscaping consistent with Appendix J of the Master Plan[10] and ultimately improve the connection between the east and west campuses of the Hillcrest Community. Furthermore, the project sites would be thematically landscaped to differentiate them from other neighborhoods of the Master Plan while establishing a unique articulation of space and skyline in the community. As indicated in the Master Plan,[11] thematically oriented landscaping facilitates ease of navigation for pedestrians and other residents of the Master Plan.

Other design elements of the proposed project would support cohesive integration with the existing community. For example, Appendix J of the Master Plan[12] identifies recommended specimens including the Brisbane Box, Strawberry Tree, and Crape Myrtle, all of which are incorporated into the landscape plan for the proposed project. The

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8 United States Census Bureau. *QuickFacts, La Verne City, California.* https://www.census.gov/quickfacts/fact/table/lavernecitycalifornia/PST045218. (Accessed October 21, 2024).

9 City of La Verne. *Brethren Hillcrest Homes Master Plan, Design Development Guidelines.* Page 11. Approved November 2, 1992.

10 City of La Verne. *Brethren Hillcrest Homes Master Plan, Appendix J.* Page 113. Approved November 2, 1992.

11 City of La Verne. *Brethren Hillcrest Homes Master Plan, Design Development Guidelines*. Page 3. Approved November 2, 1992

12 City of La Verne. *Brethren Hillcrest Homes Master Plan, Appendix J.* Page 113. Approved November 2, 1992.

project-specific tree inventory and evaluation identified 31 trees located on the project sites. Seven trees on the project sites would be retained and incorporated into the landscape plan of the proposed development while 24 trees would be removed and new trees planted. None of the 31 trees inventoried qualify as a "Significant" or "heritage" tree as defined in Section 18.78 of the City's Municipal Code. Preservation of seven trees and the incorporation of landscaping per Appendix J of the Master Plan would ensure the consistent pattern of landscaping between existing and proposed uses within the community. Furthermore, all landscaping elements would be implemented in accordance with Section 18.60.080 and Chapter 18.118 (Water Efficient Landscapes) of the City Municipal Code.

Three existing residences on the South Gateway Site (2675 A Street, 2681 A Street, and 2683 A Street), each between 765 and 779 square feet in size (2,309 square feet total) would be renovated to blend with the architectural design and style of the seven residential units to be constructed. All residential structures within the North and South Gateway Sites would incorporate 360-degree architecture where all elevations receive equal articulation and design consideration. Perimeter walls and light fixtures would be architecturally compatible with the overall building designs, which incorporate features of both craftsman (e.g., projecting eves, exposed trusses, and heavily articulated stonework along foundations) and ranch (e.g., single story, low-pitched roof, attached garage) architectural styles. These architectural features are consistent with the architecture of the residential uses within the Lordsburg Specific Plan to the south and Neighborhood 6 of the Hillcrest Master Plan to the north. Structural elements incorporated through architecture, material, and color would achieve an integrated appearance to the building designs while deemphasizing the "box" appearance through the use of multi-form roof combinations, step-backs, varied massing, projecting elements, trim, eaves, material and color massing, and other features. Therefore, it is anticipated that the proposed scale, architectural design, and articulation of the development on the site would complement the surrounding residential uses.

The proposed project includes construction of seven single-story residential structures to heights commensurate with the surrounding buildings pursuant to Section 18.10.080 of the City Municipal Code and below the maximum building height permitted in the Master Plan for Neighborhood 5. Section 18.60.090 of the City Municipal Code requires implementation of master plans in institutional zones to avoid adverse impacts to adjacent properties, including impacts on aesthetics, noise, light, health, privacy, and safety. Compliance with Chapter 18.16 (Development Review), which would require the proposed development plans to be reviewed and approved by the City Development Review Committee pertaining to building orientation, form, massing, setbacks, height, color palette, building materials, and drought-tolerant landscaping, would ensure appropriate placement and design of all facilities proposed through implementation of the proposed project. Through preservation of existing mature landscaping, incorporation of compatible architectural styles, and compliance with Chapter 18.60 (Institutional Zone) and Chapter 18.16 (Development Review) of the City Municipal Code, the proposed project would not conflict with applicable zoning and other regulations governing scenic quality. Impacts would be **less than significant,** and mitigation is not required.

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

Less than Significant Impact

Discussion of Effects: Existing sources of light and glare in the project vicinity include existing residential buildings and vehicle headlights from motorists driving by the project sites on adjacent roadways. These sources emit light and glare during daytime and nighttime hours. Development of the project sites would introduce new sources of light from typical residential uses as well as from security and safety lighting on the properties.

Sources of glare from the project would include reflective building materials, such as windows, and vehicles parked on the premises. The amount of glare would depend on the location of the reflective surfaces and the direction of the sun. Any glare produced by reflective surfaces would be temporary, as the location of the sun would change throughout the day. Exterior surfaces of the proposed residences would be finished with a combination of architectural coatings and other materials (e.g., brick, wood, or stone). Materials utilized for the proposed residences would not contain large expanses of reflective metal or other material that would generate substantial light or glare. All project site improvements would include additional landscaping elements both internally as well as along the perimeter of the sites in accordance with Section 18.60.080 (Institutional Zone – Landscaping) and Chapter 18.118 (Water Efficient Landscapes) of the City Municipal Code that would minimize glare impacts resulting from any reflective surfaces from buildings and vehicles. Furthermore, the project sites currently include residential structures proposed for demolition. Therefore, the proposed project would not significantly increase the amount of daytime light or glare in the project vicinity.

At night, the project's interior and exterior building lights and landscape lighting would be visible from the nearby residential dwellings and surrounding public streets. However, these light sources would not have a significant impact on the night sky, as they would not exceed existing background light levels already occurring from surrounding residential development.

All development in the City, which includes light generated from institutional uses and parking lots, is required to adhere to lighting requirements contained in the City's Municipal Code. Specifically, Section 18.76.090 requires illumination to be designed so that light is shielded and directed away from adjoining properties and the public right-of-way. Furthermore, Section 18.60.090 would ensure implementation of the proposed project would not result in adverse impact to the surrounding community from the introduction of any new sources of light. A precise plan review approval is required to address building design aspects as generally identified under the proposed project. The precise plan will be reviewed and approved by the City's Development Review Committee pertaining to lighting and glare to ensure appropriate placement and design of all proposed facilities pursuant to Chapter 18.16 (Development Review). As such, adherence to these measures would be mandatory and enforceable through review and action on the project plans.

Since all development in the city is required to comply with the lighting requirements contained in the City's Municipal Code, impacts associated with light or glare would be **less than significant.** Mitigation is not required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact

II. Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California 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 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, Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to

the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact

Discussion of Effects: The project sites and surrounding areas are currently developed with residential uses. Review of the Farmland Mapping and Monitoring Program (FMMP) maps prepared by the California Department of Conservation confirmed neither the project sites nor adjacent lands have been mapped as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance pursuant to the FMMP.[13] **No impact** related to the conversion of Prime Farmland, Unique Farmland, and/or Farmland of Statewide Importance would occur with development of the proposed project, Mitigation is not required.

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

No Impact

Discussion of Effects: The project sites are zoned Planned Residential 4.5 dwelling units per acre (PR4.5D) and would be subject to a zone change from PR4.5D to Institutional (I). Therefore, the project sites are not enrolled in a Williamson Act contract or zoned for agricultural and/or timber production. The proposed project would not conflict with any zoning designations designed to promote agriculture. **No impact** related to agricultural zoning or Williamson Act contracts would occur. Mitigation is not required.

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

No Impact

Discussion of Effects: As stated above, the project sites are zoned Planned Residential 4.5 dwelling units per acre (PR4.5D) and would be subject to a zone change from PR4.5D to Institutional (I). The proposed project would not conflict with any zoning designations designed to preserve forest land or promote timber production. **No impact** related to forest land or timber production would occur. Mitigation is not required.

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

No Impact

Discussion of Effects: Neither the project sites nor surrounding areas comprise forest land. The project is proposed on properties developed with residential uses and therefore would not result in the loss of forest land or convert forest land to non-forest use. **No impact** would occur, and no mitigation is required.

[13] California Department of Conservation. *Los Angeles County Important Farmland 2018. California Important Farmland Finder*. 2018. http://www.conservation.ca.gov/dlrp/fmmp/Pages/LosAngeles.aspx. (Accessed October 25, 2024).

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

Discussion of Effects: As stated previously, the project sites are currently developed with residential uses. The residences at 2692 Park Avenue and 2712 Park Avenue were developed prior to 1948, and the remaining residences were developed by 1964.[14] Therefore, development of the project would have **no impact** related to the conversion of farmland to non-agricultural use. Mitigation is not required.

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

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

Discussion of Effects: The project site is located in the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The SCAQMD and the Southern California Association of Governments (SCAG) are responsible for formulating and implementing the Air Quality Management Plan (AQMP), which has a 20-year horizon for the Basin. The SCAQMD and SCAG must update the AQMP every three years.

[14] Nationwide Environmental Title Research, LLC. *Historic Aerials by NETR Online.* Orthophotography dated 1948 and 1964. Website: https://historicaerials.com/viewer (Accessed September 23, 2024).

The current regional air quality plan is the Final 2022 AQMP adopted by the SCAQMD on December 2, 2022.[15] On October 1, 2015, the U.S. Environmental Protection Agency (EPA) strengthened the National Ambient Air Quality Standards (NAAQS) for ground-level ozone, lowering the primary and secondary ozone standard levels to 70 parts per billion (ppb). The Basin is classified as an "extreme" nonattainment area. The 2022 AQMP was developed to address the requirements for meeting this standard. The Basin is currently a federal and State nonattainment area for particulate matter less than 10 microns in size (PM_{10}), particulate matter less than 2.5 microns in size ($PM_{2.5}$), and ozone (O_3).

Consistency with the AQMP for the Basin means that a project would be consistent with the goals, objectives, and assumptions in the respective plan to achieve the federal and State air quality standards. Pursuant to the methodology provided in Chapter 12 of the 1993 SCAQMD *CEQA Air Quality Handbook*, consistency for project development proposals with the Basin's 2022 AQMP is affirmed when a project (1) does not increase the frequency or severity of an air quality standards violation or cause a new violation; and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented below:

1. The project would result in short-term construction and long-term pollutant emissions that are lower than the CEQA significance emissions thresholds established by the SCAQMD, as demonstrated in response to Checklist Question III(b); therefore, the project would not result in an increase in the frequency or severity of any air quality standards violation and would not cause a new air quality standard violation.

2. The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects.[16] The AQMP uses the assumptions and projections of local planning agencies to determine control strategies for regional compliance status. Therefore, projects that are deemed consistent with a respective General Plan are generally found to be consistent with the AQMP. The North Gateway, South Gateway, and Zone Change Sites will be added to the west campus of the Brethren Hillcrest Community. The project includes a General Plan Amendment from LDR - Low Density Residential (0-5 du/ac) to CF – Community Facility, a Zone Change from Planned Residential 4.5 dwelling units per acre (PR4.5D) to Institutional (I), an amendment to the Master Plan to incorporate all three of these project sites into the Master Plan, a Parcel Merger, and Precise Plan Review to facilitate the proposed development on the North and South Gateway Sites.

   The proposed project includes development of seven single-family homes and renovation of three existing homes. Upon development of the project, the North and South Gateway Sites would contain three more residential units than anticipated for that location in the current General Plan as well as the General Plan upon which the AQMP was based. The projections in the AQMP for achieving air quality goals are based, in

[15] South Coast Air Quality Management District. *2022 Air Quality Management Plan*. December 2, 2022. Website: www.aqmd.gov/home/air-quality/air-quality-management-plans/air-quality-mgt-plan (accessed November 2024).

[16] Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities.

part, on assumptions in Southern California Association of Governments' (SCAG) demographics and growth forecasts and the City's General Plan that was in effect at the time that the AQMP was adopted regarding population, housing, and growth trends. According to the United States Census Bureau, the average household size in the City is 2.62 persons per dwelling unit,[17] Based on these rates, the proposed project could generate 26 residents in the City,[18] of which 18 were already anticipated under the existing General Plan and 8 of which would be additional residents. It should be noted, however, that because the proposed residential uses would be age-restricted to seniors , the population estimates for the proposed project are conservative and are expected to overestimate the actual population that would occupy the proposed project.

Between 2010 and 2020, the total population of the City increased by 2,250 persons to 33,313 (7.2 percent).[19] Between 2000 and 2020, total number of households in the City increased by 667 units to 11,737 (6.0 percent). [20] The proposed project's contribution to the City's population and households is consistent with the City's growth trends and represents an minimal increase (between 0.024 percent and 0.078 percent of the 2020 City population and between 0.026 percent and 0.085 percent of the 2020 City households).[21] Furthermore, the seven proposed age-restricted residential units and three existing units to be renovated would support the following Goals and Policies of the City's General Plan Housing Element:

- General Plan Housing Element Policy 2.4: Facilitate development of senior and low-income housing through the use of financial and/or regulatory incentives.

- General Plan Housing Element Policy 5.4: Encourage housing construction or alteration to meet the needs of residents with special needs such as the elderly and persons with disabilities.

In addition, approximately 15.2 percent of the City's overall population is aged 65 years or older (seniors), and the senior population in La Verne has increased from 4,729 in 2010 to 6,443 in 2019, an increase of 36.2 percent.[22] Because of limited mobility, the elderly typically depend on convenient access to alternative modes of transportation and transit facilities, which the Master Plan facilitates through an on-call pick-up service that transports residents to the Brethren Hillcrest dining hall and other amenities via electric motorized cart. Additionally, the Master Plan community provides a private bus

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17 United States Census Bureau. *QuickFacts, La Verne City, California.* https://www.census.gov/quickfacts/fact/table/lavernecitycalifornia/HSD310223. Accessed March 28, 2025.

18 2.62 persons per household × 10 dwelling units = 26.2 persons.

19 City of La Verne, 2021-2029 Housing Element. *La Verne Housing Element Background Report*. Page BR-22. Adopted November 21, 2022.

20 Southern California Association of Governments. *2021 Local Profiles Dataset.* Website: scag.ca.gov/data-tools-local-profiles (Accessed November 2024).

21 These calculations identify the project's contribution to the City compared to the anticipated population and households under the General Plan Housing Element (e.g., 8 additional residents not anticipated ÷ 33,313 persons = 0.024 percent) (3 additional households not anticipated ÷ 11,737 households = 0.026 percent), as well as the overall project contribution to the City (e.g., 26 project residents ÷ 33,313 persons = 0.078 percent) (10 project households ÷ 11,737 households = 0.085 percent).

22 City of La Verne, 2021-2029 Housing Element. *La Verne Housing Element Background Report*. Page BR-40. Adopted November 21, 2022.

service that transports residents to essential amenities such as banks, doctors' offices, pharmacies, grocery/retail, churches, the Metro Gold Line and Metrolink station respectively 1 mile and 1.75 miles to the southeast, regional bus stations, etc. Finally, the proposed project is located approximately 850 feet from Foothill Transit Bus Route 492 serving the Cities of Montclair, Irwindale, El Monte, and points in between. Accordingly, the proposed project addresses several key issues and implements policies of the AQMP that reduce vehicle miles traveled and associated air pollution emissions without generating a substantial unanticipated increase in population.

As detailed in response to Checklist Question III(b), the proposed project would not exceed any SCAQMD daily emissions threshold or cause a significant impact on air quality. Additionally, implementation of the proposed project would support the City's General Plan Goals to provide additional housing for elderly populations without generating a substantial unanticipated increase in population and would also provide access to alternative modes of transportation and transit facilities in accordance with the AQMP. Therefore, the proposed project would not conflict with the 2022 AQMP. Impacts would be **less than significant,** and mitigation is not required.

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

Discussion of Effects: The SCAQMD's *CEQA Air Quality Handbook* establishes suggested significance thresholds based on the volume of pollution emitted. According to the *Handbook*, any project in the Basin with daily emissions that exceed any of the following thresholds generally is considered as having individually and cumulatively significant air quality impacts:

- 55 lbs. per day of VOC (volatile organic compounds) (75 lbs./day during construction);
- 55 lbs. per day of NOx (oxides of nitrogen) (100 lbs./day during construction);
- 550 lbs. per day of CO (carbon monoxide) (550 lbs./day during construction);
- 150 lbs. per day of PM_{10} (particulate matter with a diameter of 10 microns or smaller) (150 lbs./day during construction)
- 55 lbs. per day of $PM_{2.5}$ (particulate matter with a diameter of 2.5 microns or smaller) (55 lbs./day during construction); and
- 150 lbs. per day of SOx (oxides of sulfur) (150 lbs./day during construction).

The following analysis is based on the California Emissions Estimator Model (CalEEMod) modeling prepared for the project (Appendix A).[23]

[23] As originally submitted, the application included the demolition of three additional units at 2675, 2681 and 2683 A Street and the construction of a total of nine new units. The air quality, noise, and transportation analyses evaluate 8,106 square feet of demolition and 13,778 square feet of construction and assume a net increase of 5,672 square feet of residential uses. Accordingly, the CalEEMod modeling discloses potentially greater environmental effects than would occur under the proposed project.

Construction Emissions. Impacts to air quality could occur during demolition, site preparation, and construction. Major sources of emissions include exhaust emissions from construction vehicles and equipment and fugitive dust generated by demolition activities, construction vehicles and equipment traveling over earthen surfaces, and soil disturbances from grading and filling. Demolition, grading, and construction activities would cause combustion emissions from utility engines, heavy-duty construction vehicles, haul trucks, and vehicles transporting the construction crew.

Emissions during demolition, grading, and construction activities would vary as construction activity levels change. Air pollutant emission sources during project construction would include:

- Exhaust gas and particulate emissions generated by construction equipment engines;
- Fugitive dust from soil disturbance during site preparation, grading, and excavation activities; and
- Volatile organic compounds that evaporate during site paving and architectural coating (e.g., painting of new structures.

The construction analysis includes estimating the construction equipment that would be used during each construction phase, the hours of use for that construction equipment, the quantities of earth and debris to be moved, and on-road vehicle trips (worker, soil hauling, and vendor trips). The proposed earthwork for the project assumes that 220 cubic yards of compacted fill would be imported for filling an existing pool.

The duration of construction activity and associated construction equipment was based on the CalEEMod (version 2022.1.1.29) defaults for phasing. Construction is expected to start in 2026 and conclude in 2028. Table A identifies the maximum daily emissions associated with construction activities and indicates no criteria pollutant emission thresholds would be exceeded from construction of the proposed project.

Table A: Short-Term Regional Construction Emissions

Construction Phase	Total Regional Pollutant Emissions, lbs/day							
	VOC	NOx	CO	SOx	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Demolition	2	23	21	<1	1	<1	<1	<1
Site Preparation	3	32	31	<1	5	1	3	1
Grading	2	17	19	<1	2	<1	1.0	<1
Building Construction	1	10	13	<1	<1	<1	<1	<1
Architectural Coating	1	1	1	<1	0	<1	<1	<1
Paving	1	6	10	<1	<1	<1	<1	<1
Peak Daily	**3**	**32**	**31**	**<1**	**6**		**4**	
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**		**55**	
Emissions Exceed Threshold?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: California Emissions Estimator Model (CalEEMod). Compiled by LSA. November 2024 (Appendix A).
Note: These estimates reflect control of fugitive dust required by SCAQMD Rule 403. The values shown are the maximum summer or winter daily emissions results from the California Emissions Estimator Model.

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
VOC = volatile organic compounds

The construction calculations prepared for the project assume that dust control measures (e.g., watering a minimum of three times daily) would be employed to reduce emissions of fugitive dust during soil disturbances, which is required during construction in accordance with SCAQMD Rule 403 regarding the emission of fugitive dust. Adherence to Rule 403, including the implementation of Best Available Control Measures (BACMs), is a standard requirement for any construction activity occurring within the Basin. Among the requirements under this rule, fugitive dust must be controlled so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. These measures include, but are not limited to:

- Water active sites at least three times daily (locations where grading is to occur will be thoroughly watered prior to earthmoving).
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet (0.6 meter) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Reduce traffic speeds on all unpaved roads to 15 miles per hour or less.

SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003 and updated it in July 2008,[24] recommending that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. Localized significance thresholds (LSTs) represent the maximum emissions from a project site of up to 5 acres that are not expected to result in an exceedance of the National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS) for CO, NO_2, PM_{10} and $PM_{2.5}$. LSTs are based on the ambient concentrations of that pollutant within the project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality.

The LST screening table lookup methodology was created for projects up to 5 acres in size. The proposed project would not include any large-scale grading or other mass ground-disturbing activities. The South Gateway 0.67-acre site is bounded to the north and south by single-family and multi-family residences, to the west by Park Avenue, and to the east by A Street. The North Gateway 0.52-acre site is bounded to north and south by single-family residences, to the west by Park Avenue, and to the east by single-family and multi-family residences. Since construction of the two sites would occur simultaneously and they are very close to each other, for this LST analysis the two sites have been treated as one site. Therefore, as the combination of the North Gateway and

[24] South Coast Air Quality Management District. *Final Localized Significance Thresholds Methodology.* South Coast Air Quality Management District. June 2003, Revised July 2008.

South Gateway Sites is 1.19 acre, the LSTs for a 2-acre site were used. As the nearest sensitive receptors are adjacent to the project sites, the SCAQMD LST methodology specifies that, when the receptor distance is less than 25 meters (82 feet) that thresholds for 25 meters should be used.[25] For this project, the appropriate SRA is the Pomona Walnut Valley area (SRA 10).

Table B lists the LST emissions thresholds that apply during project construction and operation.

Table B: SCAQMD Localized Significance Thresholds (lbs/day)

Emissions Source Category	NOx	CO	PM_{10}	$PM_{2.5}$
Construction (2-acre, 25-meter distance)	149	885	6	4
Operations (2-acre, 25-meter distance)	149	885	2	1

Source: South Coast Air Quality Management District. *Final Localized Significance Thresholds Methodology.* South Coast Air Quality Management District. June 2003, Revised July 2008.
Note: Based on Source Receptor Area (SRA) 10 - Pomona Walnut Valley.
CO = carbon monoxide PM_{10} = particulate matter less than 10 microns in size
lbs/day = pounds per day $PM_{2.5}$ = particulate matter less than 2.5 microns in size NOx = nitrogen oxides

Table C shows that the on-site construction emissions would not exceed the LSTs for the adjacent residences. Therefore, construction of the project would not result in a locally significant air quality impact.

Table C: Construction Localized Impact Analysis

Emissions Sources	Pollutant Emissions (lbs/day)			
	NOx	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	32	30	6	4
LST	**149**	**885**	**6**	**4**
Emissions Exceed Threshold?	**No**	**No**	**No**	**No**

Source: California Emissions Estimator Model (CalEEMod). Compiled by LSA. November 2024 (Appendix A).
Note: Source Receptor Area: Pomona Walnut Valley, 2 acres, 25 meters (82 feet) distance
CO = carbon monoxide NOx = nitrogen oxides
lbs/day = pounds per day $PM_{2.5}$ = particulate matter less than 2.5 microns in size
LST = local significance threshold PM_{10} = particulate matter less than 10 microns in size

As detailed in Tables A and C, emissions generated during project construction would not exceed SCAQMD thresholds for regional construction emissions or LSTs for the existing sensitive receptors adjacent to the project site.

Operational Emissions. Long-term (operational) air pollutant emissions are those associated with area sources, stationary sources, and mobile sources involving any project-related changes. Area sources include architectural coatings, consumer products, hearths, and landscaping. Energy sources include natural gas consumption for heating and cooking. Mobile-source emissions usually result from vehicle trips associated with a project.

The Trip Generation Analysis that was originally prepared for the project treated the new homes as single-family and based on the ITE trip generation rate for that land use (Code

[25] *Ibid.* Page 3-3.

210). It was determined that there would be 85 trips without any credit for the demolition of the existing units. Upon further review, it was determined that the appropriate land use ITE trip generation rate should be that for a continuing care retirement community (Code 255), which resulted in only 25 total trips, without credit for the existing units.[26] The CalEEMod modeling was completed prior to the ITE Code correction and emissions were evaluated based on trip generation of nine standard single-family homes, (85 vehicle trips per day). CalEEMod defaults were used for all the other operational parameters, including energy consumption, water use, waste generation, and area sources. Table D shows the results of the CalEEMod analysis.

As shown in Table D, emissions from operation of the originally proposed nine residences would not exceed the corresponding SCAQMD daily emission thresholds for any criteria pollutant, even using the ITE Code for single-family use. Therefore, there was no need to rerun the CalEEMod with the lower, continuing care retirement community rate, which would have reflected even fewer emissions of criteria pollutants.

Table D: Opening Year Regional Operational Emissions

Source	Pollutant Emissions, lbs/day					
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Area	<1	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Mobile	<1	<1	3	<1	<1	<1
Total Project Emissions	**<1**	**<1**	**3**	**<1**	**<1**	**<1**
SCAQMD Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Emissions Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: California Emissions Estimator Model (CalEEMod). Compiled by LSA. November 2024 (Appendix A).

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
VOC = volatile organic compounds

By design, the localized impacts analysis includes only on-site sources; however, the CalEEMod output does not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions detailed in Table E assume all area source emissions would occur on site, all of the energy source emissions would occur off site at the utility power stations, and a portion of the mobile sources would occur on site. Table E shows that the localized operational emissions would not exceed the LSTs for the nearby residences. Therefore, operation of the proposed project would not result in a locally significant air quality impact.

[26] LSA. *Hillcrest Gateway Residential Project Trip Generation and Vehicle Miles Traveled Analysis Memorandum*. October 29, 2025.

Table E: Long-Term Operational Localized Impacts Analysis

Emissions Sources	Pollutant Emissions (lbs/day)			
	NOx	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	<1	3	<1	<1
LST	**149**	**885**	**2**	**1**
Emissions Exceed Threshold?	**No**	**No**	**No**	**No**

Source: California Emissions Estimator Model (CalEEMod). Compiled by LSA. November 2024 (Appendix A).

Note: Source Receptor Area: Pomona Walnut Valley, 2 acres, 25 meter (82-foot) distance, on-site traffic 5 percent of total.

CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance threshold
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

Vehicle trips associated with the proposed project may contribute to congestion at intersections and along roadway segments in the project vicinity. Localized air quality impacts could occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile-source pollutant of local concern is carbon monoxide (CO), a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at the Pomona Monitoring Station showed a highest recorded 1-hour concentration of 1.6 ppm (the State standard is 20 ppm) and a highest 8-hour concentration of 1.3 ppm (the State standard is 9 ppm) between 2021 and 2023. The highest CO concentrations would normally occur during peak traffic hours since reduced speeds and vehicular congestion at intersections result in increased CO emissions. Therefore, CO impacts calculated under peak traffic conditions represent a worst-case analysis.

As detailed in Appendix H, the proposed project is anticipated to add only 25 vehicle trips per day spread out over a 24-hour period (including 2 trips during the A.M. peak hour and 2 trips during the P.M. peak hour),[27] the proposed project's contribution to roadway traffic, and therefore to air emissions, is considered minimal. Accordingly, the project would be implemented as an infill development within a built-out setting with no significant peak-hour intersection impacts. Given the extremely low level of CO concentrations in the project area and the lack of traffic impacts at any surrounding intersections, and the minimal number of trips to be added by the seven new homes, project-related vehicles

[27] LSA. *Hillcrest Gateway Residential Project Trip Generation and Vehicle Miles Traveled Analysis Memorandum*. October 29, 2025. (Appendix H).

are not expected to contribute significantly to CO concentrations exceeding the State or federal CO standards. Because no CO hot-spot would occur, there would be no project-related impacts on CO concentrations.

The cumulative impacts analysis is based on projections in the regional AQMP. As detailed in response to Checklist Question III(a), the proposed project is generally consistent with growth projections of the General Plan and would not conflict with or obstruct implementation of the regional AQMP.

No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions would contribute to existing cumulatively significant impacts to air quality. The SCAQMD developed the operational thresholds of significance based on the level above which a project's individual emissions would result in a cumulatively considerable contribution to the Basin's existing air quality conditions. Therefore, a project that exceeds the SCAQMD operational thresholds would also have a cumulatively considerable contribution to a significant cumulative impact.

Due to the nonattainment status of the Basin, the primary air pollutants of concern would be NOx and VOCs, which are ozone precursors, and PM_{10} and $PM_{2.5}$. As detailed in Table D, long-term emissions were calculated for NOx, VOC, CO, SOx, PM_{10}, and $PM_{2.5}$ expected to be generated through operation of the proposed project and indicate project-related emissions would not exceed the established SCAQMD daily emission thresholds for any criteria pollutants.

Without any exceedance in air quality emissions thresholds, the proposed project would not result in a cumulatively considerable contribution to significant air quality impacts. Long-term cumulative air quality impacts would be **less than significant.** Mitigation is not required.

c. Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact

Discussion of Effects: The SCAQMD recommends the evaluation of localized CO, NOx, PM_{10}, and $PM_{2.5}$ construction- and operation-related impacts to sensitive receptors[28] in the immediate vicinity of the project sites. The appropriate SRA is the Pomona Walnut Valley area (SRA 10). The nearest sensitive receptors are the residences adjacent to the project site boundaries. As stated above, SCAQMD LST methodology dictates that, when the receptor distance is less than 25 meters (82 feet), thresholds for 25 meters should be used.

Tables C and E identify the on-site construction and operational emissions of CO, NOx, PM_{10}, and $PM_{2.5}$, respectively, and demonstrate that all emissions of pollutants would not exceed the SCAQMD thresholds of significance for construction and operation of the

[28] According to the SCAQMD's *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* (May 6, 2005), sensitive receptors (individuals) are those segments of a population such as children, athletes, elderly, and sick that are more susceptible to the effects of air pollution than the population at large. Land uses where sensitive receptors are most likely to spend time include schools and schoolyards, parks and playgrounds, day care centers, nursing homes, hospitals, and residential communities (Pp. G-6).

project. Therefore, both short-term (i.e., construction) and long-term (i.e., operational) LST air quality impacts would be **less than significant**. Mitigation is not required.

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

Less than Significant Impact

Discussion of Effects: Project construction would generate limited odors over the short term, mainly from fumes emanating from gasoline- and diesel-powered construction equipment and temporary asphalt laying and paving activities. These odors would be temporary and are expected to be isolated to the immediate vicinity of the construction site.

SCAQMD Rule 402 regarding nuisances states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property." Pursuant to SCAQMD Rule 403, fugitive dust must be controlled so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Additionally, Title 13, Section 2449(d)(D) of the California Code of Regulations requires operators of off-road vehicles (i.e., self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on road) to limit vehicle idling to five minutes or less.

SCAQMD Rules 402 and 403, and Title 13, Section 2449(d)(D) of the California Code of Regulations require the project proponent to implement standard control measures to limit fugitive dust and construction equipment emissions. These temporary emissions are expected to be isolated to the immediate vicinity of the construction site.

The painting of buildings or the installation of asphalt surfaces may also create odors. SCAQMD Rule 1113 outlines standards for paint applications, while Rule 1108 identifies standards regarding the application of asphalt. Adherence to the standards identified in these SCAQMD rules is required for all construction projects in the City to minimize emissions and objectionable odors.

Land uses generally associated with long-term objectionable odors include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities. The project is a proposed residential development that does not include uses that would generate long-term objectionable odors. Because the project would not involve substantial short-term or long-term emissions or sources of odors, impacts would be **less than significant**. Mitigation is not required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
IV. Biological Resources				
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 the 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, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒

a. 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?

Potentially Significant Unless Mitigation Incorporated

Discussion of Effects: The residences at 2692 Park Avenue and 2712 Park Avenue were developed prior to 1948, and the remaining residences were developed by 1964.[29] Collector streets and residential structures border the South and North Gateway Sites on all sides. The sites are dominated by non-native and ornamental vegetation and do not harbor or provide potential to contain sensitive plant species. According to the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system, no critical habitats occur on the project site.[30] Due to the previous and existing residential development, there is no natural open space on site or in the surrounding area.

Raptors and species of small songbirds have potential to occur on the project sites or be present in the surrounding area due to their migratory nature. Even with the urbanization of the region and the project sites, bird species listed in the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB)[31] and the IPaC system for this area that are protected under the Migratory Bird Treaty Act (MBTA) could be present, and mitigation is required to ensure there would be no significant impacts to these species. Mitigation for raptors and other migratory nesting birds is provided through implementation of **Mitigation Measure BIO-1**:

Mitigation Measure

MM BIO-1 Vegetation removal shall be conducted outside of the nesting season (February 1, or January 1 for raptors, through September 15). If avoidance of the nesting season is not feasible, then a qualified biologist hired by the project Applicant and approved by the City of La Verne's Community Development Director or designee shall conduct a nesting bird survey within three days prior to any disturbance of the site, including demolition activities, tree removal, and/or grading.

If a special-status species is located during the survey, consultation with the local California Department of Fish and Wildlife (CDFW) representative shall occur to determine what avoidance actions are required. The qualified biologist shall instruct construction personnel on the sensitivity of the area. If an active avian nest is identified, the biologist shall be present to delineate the boundaries of a 100-foot exclusionary buffer area and monitor the active nest to ensure that nesting behavior is not adversely affected by construction activities. Construction activities must occur outside of the exclusionary buffer around the active nest. For listed and raptor species,

[29] Nationwide Environmental Title Research, LLC. *Historic Aerials by NETR Online*. Orthophotography dated 1948 and 1964. Website: https://historicaerials.com/viewer. Accessed September 23, 2024.

[30] United States Fish and Wildlife Service. *Information for Planning and Consultation (IPaC).* https://ecos.fws.gov/ipac/location/65JKSNVQKFDZJNQVJPIBVKYABM/resources. (Accessed December 26, 2024).

[31] California Department of Fish and Wildlife. *California Natural Diversity Database (CNDDB).* San Dimas, Glendora, Ontario, Yorba Linda, Baldwin Park United States Geological Survey 7.5' Quadrangles. Report Printed on December 26, 2024.

this buffer may be expanded to up to 500 feet from the active nest at the discretion of the qualified biologist in consultation with the City Community Development Director or designee and CDFW.

The biologist shall have the authority to temporarily halt construction if it occurs within an established avian buffer or if new nesting activity occurs and a new buffer is required. Encroachment into buffers around active nests shall be conducted only at the discretion of the biologist. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, construction activities within the buffer area may occur or resume. Upon completion of construction monitoring, the biologist shall prepare a report of findings documenting the results of the recommended protective measures described above to document compliance with applicable State and federal laws pertaining to the protection of nesting birds. This measure shall be implemented to the satisfaction of the City Community Development Director or designee.

Implementation of **Mitigation Measure BIO-1** would reduce impacts to candidate, sensitive, or special-status species with the potential to occur on-site to **less than significant with mitigation incorporated**.

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

No Impact

Discussion of Effects: The project sites are developed with residential uses and are dominated by non-native and ornamental landscape material. The project sites do not contain any riparian habitat, sensitive natural community, critical habitat, or land under the jurisdiction of State or federal resource agencies (i.e., USFWS, U.S. Army Corps of Engineers [USACE], or the CDFW). Therefore, there would be **no impact** to riparian or other sensitive habitat. Mitigation is not required.

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

No Impact

Discussion of Effects: All wetland areas, wetland buffer areas, and non-wetland waters of the U.S. are considered sensitive. Jurisdictional waters of the U.S. and State of California, including wetlands, are regulated by the USACE and Regional Water Quality Control Board (RWQCB) pursuant to Sections 404 and 401 of the Federal Clean Water Act, respectively. Jurisdictional waters that also qualify as streams, lakes, or riparian habitat are regulated by the CDFW pursuant to Section 1602 of the California Fish and Game Code. Isolated waters, including wetlands that do not have a “significant nexus” to a traditional navigable water are typically not subject to USACE jurisdiction; however, they are still regulated by the RWQCB (under the Porter-Cologne Water Quality Control Act)

and also regulated by the CDFW for those features that qualify as streams, lakes or riparian habitat.

The project sites and adjacent areas are developed with residential uses, roadways, and utility infrastructure. The project sites do not contain any natural drainages, riparian resources, or wetlands that would be subject to the jurisdiction of these Federal or State agencies. Therefore, there would be **no impact** to any wetland or related areas. Mitigation is not required.

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

Potentially Significant Unless Mitigation Incorporated

Discussion of Effects: As stated previously, the project sites are developed with residential uses and are dominated by habitats that have been altered by the development of structures, hardscape, and ornamental vegetation. Additionally, the project sites are surrounded by other residential uses and roadways. Development of the proposed project would result in the demolition of four existing residential dwelling units and associated improvements, as well as removal of existing vegetation, including 24 of the 31 trees located on the project sites. These trees could support nesting activities and provide periodic roosting or perching opportunities for migratory birds, including raptors. Protection for raptors and other migratory nesting birds is provided through implementation of **Mitigation Measure BIO-1.**

In addition to supporting nesting activities and periodic roosting or perching opportunities for migratory birds, the uninhabited structures on the project sites may contain potentially suitable bat roosting habitat. Day roosts serve to protect bats from predators and the elements during the day while resting and/or rearing their young. In human-made structures, these roosts are usually in small cavities or crevices.

Bat species that commonly use anthropogenic structures for roosting include the Mexican free-tailed bat (*Tadarida brasiliensis mexicana*), big brown bat (*Eptesicus fuscus*), pallid bat (*Antrozous pallidus*), and Yuma myotis (*Myotis yumanensis*). Bat species that are known to commonly utilize crevices and cavities in trees include pallid bat, big brown bat, California myotis, Yuma myotis, long-legged myotis (*Myotis volans*), western long-eared myotis (*Myotis evotis*), and fringed myotis (*Myotis thysanodes*). With the exception of Mexican free-tailed bat, big brown bat, and California myotis, all of these bat species are designated as a “Species of Special Concern” or “Special Animal” by the CDFW.

Various regulations afford protections to bats, which are classified as indigenous nongame mammal species, regardless of their status under the California or Federal Endangered Species Acts. These regulations include Title 14, Section 251.1 of the California Code of Regulations, which prohibits harassment (defined in that section as an intentional act that disrupts an animal’s normal behavior patterns, including breeding, feeding, or sheltering) of nongame mammals (e.g., bats), and California Fish and Game Code Section 4150, which prohibits “take” or possession of all nongame mammals or

parts thereof.[32] Any activities resulting in bat mortality (e.g., the destruction of an occupied bat roost that results in the death of bats), disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), or various modes of nonlethal pursuit or capture may be considered "take" as defined in Section 86 of the California Fish and Game Code. In addition, impacts to bat maternity colonies, which are considered native wildlife nursery sites, would be potentially significant under the CEQA.

A habitat assessment was performed on June 17, 2025, during the daytime portion of the survey.[33] All trees and structures in the study area were inspected for roosting potential. The roosting suitability of each tree and structure was classified based on the following characteristics:

- Structure/Tree Type 1 – Most Suitable. Trees: the presence of loose bark and abundant cavities within the trunk and limbs. Tree is most likely a hollow snag but can also be alive but with significant amount of decay. Tree is typically large in diameter with good sun exposure (i.e., exposed on the southeastern aspect, or taller than the surrounding canopy). Colonial roosting would be possible in a tree with such features. Structures: Several potential crevices that provide entrances to the attic, chimney or home. Lack of potential entrances to potential predators such as rats. Colonial roosting would be possible.

- Structure/Tree Type 2 – Moderately Suitable. Trees: tree with loose bark and large cavities within the trunk and limbs. Tree is typically still alive. Trunk is typically not hollow. Tree is typically large in diameter. Available features may be present but are less likely to support colonial roosting. Solitary roosting in a tree with such features could be possible. Tree has potential for use by foliage-roosting bats. Structure: There are potential crevices and entrances to the attic. Lack of entrances for potential predators such as rats. Less likely to support colonial roosting due to lower number or crevices.

- Structure/Tree Type 3 – Least Suitable. Trees: Minor amounts of loose bark and small trunk and limb cavities are present. Tree is typically smaller in diameter. Available features are unlikely to support cavity or colonial roosting. Solitary roosting (particularly by foliage-roosting species) in a tree with such features would still be possible. Structure: No crevices or entrances to the structure's attic, chimney or home or predators such as rats are present within the home.

CDFW approved bat biologists visually examined the external physical features of trees and structures located within the study area for evidence of bat use. This included any potential crevices or entrances to the structure's roof, attics, chimneys and garage; presence of guano, culled insect parts, urine staining, odors associated with bats. Biologists used binoculars to assist with the visual assessment. Biologists also listened for chatter indicative of roosting bats at each tree and structure. During the habitat assessment, trees and structures within the study area were examined for the presence

[32] Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

[33] Novaterra Biological Consultants. *Preconstruction Bat Survey Report.* Pages 7 and 8. July 6, 2025.

of roosts and classified for their potential as roosting habitat. The survey was conducted within the maternity roosting period (June-August) to identify maternity roosts, if present.

All structures and trees throughout the entire study area were evaluated for bat roosting potential.[34] All seven of the structures within the North and South Gateway Sites ranked as Type 3 – Least Suitable. All of the buildings in this area had been previously treated by a pest management company due to a rat infestation. All gaps around doors, windows, and seams were sealed with foam. Vents and chimneys all had exclusionary metal netting. One maple tree in the study area received a ranking of Type 2 – Moderately suitable within the study area, the rest identified were not suitable. The maple measured 42 inches diameter at breast height and had a large cavity on top of a dead branch on the southeast-facing side of the tree.

Evidence of bat presence such as guano, culled insect parts, urine staining or odors were not detected on or in the vicinity of any of the structures or trees inspected for roost suitability.

Approximately 30 minutes before sunset, two handheld acoustic bat monitoring systems (Anabat™ Express passive bat detectors) were set up with a tripod within the study area. One was set up at the North Gateway Site and the second one was set up at South Gateway Site (refer to Appendix B1). Three biologists conducted emergence surveys. Two were located at the South Gateway Site, one monitored the main house and maple tree while the other biologist monitored the four remaining residences. The third biologist monitored the two homes at the North Gateway Site. The visual surveys were conducted from 30 minutes before sunset to approximately 120 minutes after sunset. Visual surveys were assisted by the use of night-vision goggles and thermal imaging. During the surveys, each observer was positioned so that they could observe and count bats as the bats exited the potential structures and roost tree assigned. Any bats observed emerging from the vicinity of the survey area would be tallied immediately.[35]

No bats were observed emerging from any of the seven structures or the maple tree identified as a potential roost sites during emergence surveys. Analysis of the echolocation recordings found no species were confirmed to be present during the nighttime surveys.[36]

The study area was not occupied by bats during the survey period, and bats were not observed making out-flights from the vicinity of the structures and trees within the study area. This was likely due to the urban setting. The project sites are in a residential neighborhood with bright lights, moderate insect presence in between two major highways and far from less developed areas such as city parks or golf courses. The structures, while older, did not have any potential crevices or access to the inside of the house due to the exclusionary foam and netting previously placed. Additionally, a great horned owl (*Bubo virginianus*) was heard and striped skunks (*Mephitis mephitis*) were seen during the survey which may pose a perceived predation risk to foraging bats.

[34] *Ibid.* Page 11.
[35] *Ibid.* Page 8.
[36] *Ibid. Page 11.*

No bat species were identified during the surveys and are considered absent from the project sites.[37]

Due to their previously developed nature and the absence of natural or open spaces adjacent to the project sites, there is no potential for connectivity between blocks of natural habitat; therefore, little or no local wildlife movement is expected to occur to or through the project sites. However, nesting or foraging birds may utilize the project sites. Through implementation of **Mitigation Measure BIO-1**, impacts to movement of any native resident or migratory fish or wildlife species or established native resident or migratory wildlife corridors or nursery sites would be reduced to **less than significant with mitigation incorporated**.

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

No Impact.

Discussion of Effects: As described above, the project site does not contain wildlife corridors, riparian habitat, or sensitive natural communities. Therefore, the proposed project would not conflict with policies and/or implementation measures identified in the City's General Plan Resource Management Element for the purposes of protecting biological resources including wildlife corridors and native plant communities and habitats.

The City has adopted Ordinance No. 999 Preservation, Protection, and Removal of Trees (Municipal Code Chapter 18.78), which establishes regulations regarding tree preservation, protection and the removal of trees. The purpose of this ordinance is to "protect certain trees in order to preserve cultural heritage, maintain and enhance the scenic beauty of the city, improve air quality, abate soil and slope erosion, preserve and enhance property values, and thereby promote public health, safety and welfare." The tree ordinance applies to "Significant"[38] trees and "Heritage"[39] trees.

A tree inventory[40] (see Appendix B2) of the project sites was conducted in December 2024. Inventory included an evaluation of all ornamental, fruit, nut, and native trees with

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37 *Ibid.* Page 15.

38 "Significant tree" means any tree that is identified or protected in a specific plan or is protected as a condition of approval of a precise plan, subdivision map, conditional use permit or variance and; any tree located on a parcel of private or public property that has a caliper of eight inches or more and is of the following species: *Cedrus deodara*—Deodar Cedar; *Cinnamomum camphor*—Camphor Tree; All *Quercu*s species of Oak—Oak Trees; *Platanus racemosa*—California Sycamore; and *Juglans californica*—Southern California Black Walnut.

39 "Heritage tree" means any tree or group of trees identified as such by city council resolution upon the city council finding that the tree or group of trees (1) is of historical value because of its association with a place, building, natural feature, or event of local, regional, or national historic significance, (2) is identified on any historic or cultural resources survey as a significant feature of a landmark, historic site or historic district, (3) is representative of a significant period of the city's growth or development, (4) is designated for protection or conservation in a specific plan, conditional use permit, precise plan of design or similar development approval, or (5) is of significant size, age or rareness to warrant protection.

40 LSA. *Arborist Report for the Hillcrest Gateway Project in La Verne, Los Angeles County, California (LSA Project No. 20241974),* December 11, 2024.

a single-stem trunk caliper of at least 4 inches at 4 feet above ground level. The tree inventory and evaluation mapped 31 trees, representing 19 species, as follows:

- Silver maple (*Acer saccharinum*)
- Bougainvillea *(Bougainvillea sp*.)
- Orange (*Citrus sinensis*)
- Carrotwood (*Cupaniopsis anacardioides*)
- Weeping fig (*Ficus benjamina*) (2)
- Ash (*Fraxinus sp*.) (4)
- Maidenhair tree (*Ginkgo biloba*)
- Cypress (*Hesperocyparis* sp.)
- English holly (*Ilex aquifolium*)
- Crape myrtle (*Lagerstroemia indica*) (2)
- Glossy privet (*Ligustrum lucidum*) (7)
- Sweetgum (*Liquidambar styraciflua*) (2)
- Saucer magnolia (*Magnolia soulangiana*)
- White mulberry (*Morus alba*)
- Olive (*Olea europaea*)
- Canary Island pine (*Pinus canariensis*)
- Aleppo pine (*Pinus halepensis*)
- London planetree (*Platanus × hispanica*)
- Queen palm (*Syagrus romanzoffiana*)

None of the inventoried trees are native to the area, and none qualify as Significant Trees or Heritage Trees under the City's tree ordinance. Seven of the 31 trees on the project sites would be retained and incorporated into the landscape plan of the proposed development. Although development of the project sites would require the removal of 24 existing trees on-site, because these trees have not been identified as significant or heritage trees, no conflict with Municipal Code Chapter 18.78 would occur and no tree removal permit is required. In the absence of any conflict**, no impact** would occur; therefore, no mitigation is required.

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?

No Impact

Discussion of Effects: The project site is not within any adopted habitat conservation plans, natural community conservation plans, or any other regional planning areas identified by the USFWS, CDFW, or the City.[41,42] Therefore, implementation of the proposed Master Plan Update would not conflict with the provisions of any adopted local

[41] United States Fish and Wildlife Service. *Information for Planning and Consultation (IPaC).* https://ecos.fws.gov/ipac/location/65JKSNVQKFDZJNQVJPIBVKYABM/resources. (Accessed December 26, 2024).

[42] California Department of Fish and Wildlife. *Biographic Information and Observation System (BIOS)*. https://apps.wildlife.ca.gov/bios/. (Accessed December 26, 2024).

or regional conservation plans. **No impact** to adopted habitat conservation plans would occur. No mitigation is required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
V. Cultural Resources				
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Cultural resources are broadly defined as any physical manifestations of human activity that are at least 50 years of age and may include archaeological resources as well as historic-era buildings and structures. Archaeological resources include both precontact remains and remains dating to the historical period. Precontact (or Native American) archaeological resources are physical manifestations of human activities that predate written records and may include village sites, temporary camps, lithic (stone tool) scatters, rock art, roasting pits/hearths, milling features, rock features, and burials. Historic archaeological resources can include refuse heaps, bottle dumps, ceramic scatters, privies, foundations, and burials and are generally associated in California with the Spanish Mission Period (1769 through 1833) through the mid-late 20th century (1970). Archaeological resources that are eligible for listing in the National Register of Historic Places (National Register), California Register of Historical Resources (California Register), or a local register are considered historical resources pursuant to CEQA Guidelines Section 15064.5. CEQA Guidelines Section 15064.5 defines the term "historical resource" as:

1. A resource listed in or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4850 et seq.).

2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code, Section 5024.1, Title 14 CCR, Section 4852) including the following:

    a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (Criterion 1).

    b. Is associated with the lives of persons important in our past (Criterion 2).

    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 (Criterion 3).

    d. Has yielded, or may be likely to yield, information important in prehistory or history (Criterion 4).

A "substantial adverse change" to a historical resource, according to Public Resources Code (PRC) Section 5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

The information and analysis in this section is based in part on Historical Significance Evaluations for the Hillcrest Gateway Project, La Verne, Los Angeles County, California (LSA Project No. 20241974), LSA Associates, Inc., December 10, 2024, which is provided in Appendix C.

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

Potentially Significant Unless Mitigation Incorporated

Discussion of Effects: The South and North Gateway Sites contain seven existing single-family residential structures, of which four would be demolished and three would be renovated. The seven structures that currently exist on the South and North Gateway Sites are 50 years of age or older. Due to the age of the buildings, each was evaluated for significance and eligibility for the California Register pursuant to CEQA Guidelines Section 15064.5. A historical significance evaluation of the residences, comprising archival research and a field survey, was conducted in November 2024 (Appendix C).

The archival research was conducted to determine the dates of original construction and later alterations and to identify historically important events and people that may be associated with each property, as well as any distinctive characteristics of a type, period, region, or method of construction. Research methods focused on the review of a variety of primary and secondary source materials relating to the history and development of the project area. Sources included, but were not limited to, online sources, published literature in local and regional history, news articles, historic aerial photographs, and

historic maps. As a result of this research, histories of La Verne and the seven structures were developed.

An intensive-level field survey of each property was conducted in November 2024 by architectural historian, Casey Tibbet, M.A., and field photographer Dennis Lechner. During the survey, Mr. Lechner took numerous photographs of the exteriors of the buildings proposed for demolition. Ms. Tibbet made detailed notations regarding the structural and architectural characteristics and current conditions of the buildings and associated features. She then conducted a brief reconnaissance survey of the vicinity. In compliance with CEQA, each property was evaluated for historical significance using the California Register criteria. The evaluations were documented on Department of Parks and Recreation (DPR) 523A (Primary Record), 523B (Building, Structure, and Object Record), 523L (Continuation Sheet), and 523J (Location Map) forms (refer to the DPR forms included in Appendix C for details).

The results of the historic significance evaluation are provided below:

North Gateway Site

The North Gateway Site contains two single-family residential properties (2712 Park Avenue and 2730 Park Avenue) and is situated on the east side of Park Avenue. The properties are separated by a landscaped paseo. The structures located on the North Gateway Site include:

2712 Park Avenue. Built in 1950, this one-story, Minimal Ranch residence is situated on the east side of Park Avenue in a residential neighborhood with a mix of modern and historic-period (50 years of age or older) homes. The residence is L-shaped in plan and rests on a raised foundation. It has a moderately pitched, hipped roof sheathed with composition shingles that has narrow eaves. The exterior walls are covered with stucco and all fenestration is modern. The west-facing, asymmetrical façade has a raised, partial-width porch sheltered beneath the eave that is supported by wood posts spanned by a wood balustrade. Along the porch are a pair of vinyl-framed windows flanked by shutters and a north-facing modern door. The remainder of the façade has a pair of vinyl-framed windows flanked by shutters, a bay window, and a single vinyl-framed window. The balustrades flanking the concrete steps to the front porch appear to be a later addition. The south (side) elevation has three vinyl-framed windows. There is a detached garage with a modern door located southeast of the house. The property appears to be in good condition, but the architectural integrity has been compromised by the modern windows, front door, and balustrade.

This property is eligible for listing in the California Register under Criteria 1 and 2 as follows:

Criterion 1: It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

This residence is associated with the post-World War 2 residential boom that made a significant contribution to the broad patterns of local, regional, and even national history.

These homes were typically modest in size and style and constructed in a short time as part of large tracts marketed to the working class. Tract housing developments characterize postwar housing trends; therefore, a single home typically would not be individually significant in this context. As with most homes associated with this historic context, individually this residence is unimportant and insignificant.

The residence and garage are also associated with the theme of postwar recreation and the sub-theme of drag racing. This residence is the location where the Chrondek electronic timer was invented and first manufactured by engineer, Ollie V. Riley. The first timer was developed at his kitchen table after work hours and on weekends, and the first timers for sale were manufactured in his garage. The Chrondek timer provided a reliable, accurate, consistent, and exact way to time drag racers; it legitimized the sport of drag racing and was a major factor in its early success. Therefore, the residence and garage are significant under this criterion.

Criterion 2: It is associated with the lives of persons important to local, California, or national history.

This residence is associated with Ollie V. Riley, an engineer who invented the timing mechanisms for drag racing in 1953. Known as the Chrondek, the electronic timer provided a reliable and accurate way to time races and gave legitimacy to the fledgling sport. The first orders for the Chrondek were manufactured in Ollie V. Riley's garage at 2712 Park Avenue. The manufacturing process was later moved out of his garage to a location at 2nd Street and D Street in La Verne where the Chrondek Company was established. However, the building that housed the Chrondek Company does not appear to be extant. Without these timers, the sport may never have achieved the stature it has now. The residence is significant under this criterion.

The residence is not significant under either Criterion 3 or 4.

The residence at 2712 Park Avenue is eligible for listing in the California Register under Criteria 1 and 2 as the location where Oliver (Ollie) V. Riley invented the original Chrondek electronic timers used in the sport of drag racing. The period of significance is 1953 to 1954. This encompasses the timeframe when Ollie invented and manufactured the Chrondek timers in his home. Based on this evaluation, this property is a "historical resource" for purposes of CEQA.

As previously stated, according to Section 5020.1(q) of the Public Resources Code, a substantial adverse change" to a historical resource, "…means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired." The CEQA Guidelines Section 15064.5(b)(2)(A-C) state significance of an historical resource is materially impaired when a project:

(A) 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 of Historical Resources; or

(B) 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

(C) 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 of Historical Resources as determined by a lead agency for purposes of CEQA.

As such, the demolition of this structure would result in a significant impact under CEQA, and mitigation is required. **Mitigation Measures CUL-1** and **CUL-2** have been identified to address this impact.

Mitigation Measures

MM CUL-1 Prior to the issuance of a demolition permit for the structures located at 2712 Park Avenue, the project Applicant shall submit to the City for review and approval, information related to the provision of a commemorative plaque to be constructed at this address for this property. This information shall describe the type, style, location, and content of the plaque. The plaque shall be mounted permanently near the sidewalk or other location on the property where it is easy for the public to see and read and shall include a depiction of the residence and a summary about Ollie Riley inventing and manufacturing the Chrondek timer in the kitchen and garage of the property in 1953-1954. The plaque shall also indicate that additional information can be found at the City Clerk's office.

Prior to the issuance of building permits, the project Applicant shall submit evidence to the City that the commemorative plaque, as reviewed and approved by the City, has been incorporated into the project design.

This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director, or designee.

MM CUL-2 Prior to the issuance of a demolition permit for the structures located at 2712 Park Avenue, the project Applicant shall submit evidence to the City that the California Department of Parks and Recreation (DPR) forms 523A (Primary Record), 523B (Building, Structure, and Object Record), 523L (Continuation Sheet), and 523J (Location Map) for 2712 Park Avenue have been offered and/or provided to the La Verne Public Library (local history collection). In addition, this documentation shall be offered to the La Verne Historical Society, Pomona Public Library, Pomona Historical Society, the National Hot Rod Association (NHRA) Motorsports Museum, and/or similar groups and institutions identified by the City.

This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director, or designee.

None of the physical characteristics of the residence, in combination, would cause a historical contemporary to associate it with significant events or persons due to its vernacular ranch style architecture in a tract of similar homes. Therefore, **Mitigation Measures CUL-1** and **CUL-2** are prescribed to display the physical characteristics that convey the residence's historical significance, account for its inclusion in a local register, and account for its identification in an historical resources survey pursuant to CEQA Guidelines Section 15064.5(b)(2)(A-C).

Upon implementation of the actions detailed in **Mitigation Measures CUL-1** and **CUL-2**, potential impacts related to the demolition of the structures located at 2712 Park Avenue are reduced to **less than significant with mitigation incorporated**.

2730 Park Avenue. Built in 1952, this one-story Minimal Ranch residence is situated on the east side of Park Avenue in a residential neighborhood that includes modern and historic-period (50 years of age or older) single- and multi-family homes. The wood-framed residence is irregular in plan and rests on a raised foundation. It has a moderately pitched, cross-hipped roof sheathed with composition shingles that has a brick chimney and narrow eaves. An attached garage is located on the west face of the residence. The backyard has large, freestanding bird cages and a brick fireplace, grill, countertops, and a shed all sheltered beneath a freestanding canopy. The property includes mature trees and appears to be in at least fair condition. Integrity has been compromised by non-original fenestration.

Using the California Register criteria, this residence appears ineligible for listing individually in the California Register at any level of significance under Criteria 1 through 4, and it appears ineligible for designation as a contributor to a local historic district. Therefore, it is not a "historical resource" for purposes of CEQA. N**o impact** associated with the demolition of this structure would occur, and no mitigation is warranted.

South Gateway Site

The South Gateway Site is situated on the east side of Park Avenue and extends to the west side of A Street. It includes five residences, one oriented toward Park Avenue and four oriented toward A Street, and a garage oriented toward A Street. The A Street residences and freestanding garage are generally arranged in a semi-circle around a central driveway. The garage is at the west end. The structures located on this parcel include:

2692 Park Avenue. This residence was built in 1946 and is a one-story, Ranch style residence, irregular in plan, resting on a raised foundation. It is surmounted by a moderately-pitched, side-gable, hip, and gable-on-hip roof sheathed with composition shingles and has narrow eaves and a brick chimney. The back yard includes an empty swimming pool and a freestanding, covered patio. The residence is in poor condition, and the integrity has been compromised by alterations.

2675 A Street. This one-story, Minimal Traditional style residence is irregular in plan and rests on a concrete slab foundation. It has a low-pitched, side-gable roof sheathed with

composition sheets and has moderate eaves. The residence was built in the mid-1960s, is in fair condition, and has minor alterations (modern doors and windows).

2677 A Street. This one-story, Minimal Traditional style residence is roughly rectangular in plan and rests on a concrete slab foundation. The side-gable roof is low-pitched, sheathed with composition sheets, and has moderate eaves. The residence was built in the mid-1960s, is in fair condition, and has sustained alterations (windows and doors).

2681 A Street. This one-story, Minimal Traditional style residence is roughly L-shaped in plan and rests on a concrete slab foundation. It has a low-pitched, side-gable and flat roof with moderate eaves and is sheathed with composition sheets. The exterior walls are covered with stucco. The south-facing façade has a recessed, attached carport, attached to the carport for the 2683 A Street residence. The residence was built in the mid-1960s, is in fair condition, and has sustained alterations (door and window).

2683 A Street. This one-story, Minimal Traditional style residence is irregular in plan and rests on a concrete slab foundation. It has a low-pitched, side-gable roof with moderate eaves and is sheathed with composition sheets. The exterior walls are covered with stucco and one small section of brick skirting (east elevation). The asymmetrical, south-facing façade had two metal-framed, sliding windows, a wood and glass door, and a carport. The residence was built in the mid-1960s, is in fair condition, and has sustained alterations (window and narrow shade structure). The detached, two-car garage is located southwest of the 2683 A Street residence. It has a low-pitched, front-gable roof, stucco walls, and what appears to be the original, wooden door. It is in poor condition but retains integrity.

Using the California Register criteria, these five residences appear ineligible for listing in the California Register under Criteria 1 through 4, and they appear ineligible for designation as a contributor to a local historic district. Therefore, these structures are not historical resources for purposes of CEQA. **No impact** associated with the demolition of these five properties would occur. Mitigation is not required.

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

Potentially Significant Unless Mitigation Incorporated

Discussion of Effects: Analysis of potential impacts to archaeological resources included a records search conducted at the South Central Coastal Information Center (SCCIC). The records search, conducted on October 3, 2024, included a review of all recorded cultural resources (historic and prehistoric resources 50 years of age or older) and known cultural resources survey and excavation reports within one mile of the project sites. In addition, the California State Historic Property Data File was reviewed, which includes a search of the National Register of Historic Places (National Register), California Register, California Historical Landmarks, California Points of Historical Interest, various local historic registers, and historic maps.

The records search indicates 26 historic and/or prehistoric era resources located within a one-mile radius of the project sites. None of these resources are located on or adjacent to the project sites. Previous development on and adjacent to the project sites, including

residential structures, roadways, and utility infrastructure, as well as past and current occupation of the project sites have extensively disturbed on-site soils, rendering the sites unlikely to yield subsurface cultural resources during construction of the proposed project. Nevertheless, the city engaged the Native American Heritage Commission (NAHC) for a Sacred Lands File Search and contact list of Tribes pursuant to California Government Code 65352.3 (SB 18) on September 20, 2024. The NAHC responded on October 9, 2024, and indicated the results of the Sacred Lands File Search are positive and recommended the City contact the Gabrieleño Band of Mission Indians-Kizh Nation in addition to the Tribes listed in the NAHC Tribal Consultation List for the region. The City sent letters to listed Native American Tribes for consultation under AB52 and SB 18 on October 24, 2024.

Three Native American Tribes, the Ft. Yuma Quechan Indian Tribe, Gabrielino Tongva Indians of California, and Yuhaaviatam of San Manuel Nation (formerly the San Manuel Band of Mission Indians) provided input on the project,[43] of which the Yuhaaviatam of San Manuel Nation (formerly the San Manuel Band of Mission Indians) requested the following mitigation measures be made a part of the project/permit/plan conditions to reduce impacts to Cultural Resources:

Mitigation Measures

MM CUL-3 In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed within **MM TCR-1**, regarding any pre-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment. This measure shall be implemented to the satisfaction of the City of La Verne's Community Development Director or designee.

MM CUL-4 If significant pre-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to YSMN for review and comment, as detailed within **MM TCR-1**. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly. This measure shall be implemented to the satisfaction of the City of La Verne's Community Development Director or designee.

With implementation of **Mitigation Measures CUL-3** and **CUL-4** any unanticipated encounters with cultural resources would be managed in accordance with regulatory requirements. Therefore, cultural resources pursuant to CEQA Guidelines Section

[43] For a detailed discussion of Native American Consultation for the project, refer to response to Checklist Questions XVIII (a) and (b).

15064.5 would be protected during project construction, and impacts associated with a substantial change in the significance of an archaeological resource pursuant to Section 15064.5 would be **less than significant with mitigation incorporated**.

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

Potentially Significant Unless Mitigation Incorporated

Discussion of Effects: Considering the extensive ground disturbances that have occurred on the project sites, the likelihood of encountering human remains is minimal. In the event that human remains (or remains that may be human) are discovered at the project sites during grading or earthmoving activities, no further disturbance shall occur within 100 feet of the find until the project Applicant has notified the Los Angeles County Coroner and the City of La Verne Community Development Director or designee immediately, and the County Coroner has made a determination of origin and disposition.[44] Section 7050.5 of the California Health and Safety Code requires that excavation be stopped in the vicinity of the discovered human remains until the coroner can determine whether the remains are those of a Native American. If human remains are determined as those of Native American origin, the developer is required to comply with the State relating to the disposition of Native American burials that fall within the jurisdiction of the Native American Heritage Commission (NAHC) (PRC Section 5097). The coroner shall contact the NAHC to determine the most likely descendant(s) (MLDs). The MLD shall complete his or her inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The disposition of the remains shall be overseen by the MLD to determine the most appropriate means of treating the human remains and any associated grave artifacts.

Specific locations of Native American burials and reburials shall be proprietary and not disclosed to the general public. The County Coroner will notify the NAHC in accordance with California Public Resources Code 5097.98. Additionally, Section 7052 of the California Health and Safety Code states that disturbance of Native American cemeteries is a felony. Although adherence to State regulations is required for all development, the Yuhaaviatam of San Manuel Nation (formerly the San Manuel Band of Mission Indians) requested the following mitigation measure be made a part of the project/permit/plan conditions to ensure impacts to human remains remain less than significant:

Mitigation Measure:

MM CUL-5 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 enforced for the duration of the project. This measure shall be implemented to the satisfaction of the City of La Verne's Community Development Director or designee.

[44] *Division 7, Dead Bodies;* Chapter 2, *General Provisions*, § 7050.5, California Health and Safety Code.

With implementation of **Mitigation Measures CUL-5,** human remains would be protected during project construction and impacts would remain **less than significant with mitigation incorporated.**

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

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

Less than Significant Impact

Discussion of Effects: The project's consumption of energy during construction and operation was calculated via CalEEMod, as detailed in Appendix A.[45]

Construction. Construction would require energy for the manufacture and transportation of building materials, preparation of the site for demolition and grading activities, utility installation, paving, and building construction and architectural coating. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. However, energy usage on the project site during construction would be temporary.

The CalEEMod output for energy consumption incorporates project compliance with SCAQMD Rule 431.2, Title 13-Section 2449 of the CCR, and California Department of Resources Recycling and Recovery (CalRecycle) Sustainable (Green) Building Program regulations, which include implementation of standard control measures for equipment emissions and materials recycling. Adherence to these regulations, including the

[45] As originally submitted, the application included the demolition of three additional units at 2675, 2681 and 2683 A Street and the construction of a total of nine new units. The air quality, noise, and transportation analyses evaluate 8,106 square feet of demolition and 13,778 square feet of construction and assume a net increase of 5,672 square feet of residential uses. Accordingly, the CalEEMod modeling discloses potentially greater environmental effects than would occur under the proposed project.

implementation of Best Available Control Measures, is a standard requirement for any construction or ground disturbance activity occurring within the Basin.

Best Available Control Measures include, but are not limited to, requirements that Hillcrest utilize only low-sulfur fuel having a sulfur content of 15 parts per million by weight or less; ensure off-road vehicles (i.e., self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on road) limit vehicle idling to five minutes or less; register and label vehicles in accordance with the California Air Resources Board (CARB) Diesel Off-Road Online Reporting System; restrict the inclusion of older vehicles into fleets; and retire, replace, or repower older engines or install Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). Additionally, the construction contractor will recycle/reuse at least 50 percent of the construction material (including, but not limited to, proposed aggregate base, soil, mulch, vegetation, concrete, lumber, metal, and cardboard) and use "Green Building Materials," such as those materials that are rapidly renewable or resource efficient, and recycled and manufactured in an environmentally friendly way, for at least 10 percent of the project, in accordance with CalRecycle regulations. Through compliance with SCAQMD Rule 431.2, Title 13-Section 2449 of the CCR, and the CalRecycle Green Building Program as a matter of regulatory policy, construction of the project would demand only the energy required, and impacts from wasteful, inefficient, or unnecessary energy consumption would be less than significant.

Operation. During project operation, electricity would be the main form of energy consumed on the site. Electricity would be used for building heating and cooling, lighting, and water heating. Table F presents the energy use of the proposed project.

Table F: Estimated Annual Energy Use of Proposed Project

Electricity Use (kWh/year)	Natural Gas (kBTU/year)	Vehicles Gasoline (gallons/year)	Vehicles Diesel (gallons/year)
33,015	309,430	10,413	8,384

Source: Table 5.11.2, California Emissions Estimator Model (CalEEMod). Compiled by LSA. November 2024 (Appendix A).
kWh = Thousand watt-hours
kBTU = Thousand British thermal units

As identified in Table F, proposed uses on the site would demand a total of 33,015 kWh of electricity and 309,430 kBTU of natural gas on an annual basis. In addition, the project would result in energy usage associated with consumption of motor vehicle gasoline to fuel project-related trips. As with the discussion above under air quality, the analysis here overestimates the impacts as it is based on a trip generation for single-family homes rather than a continuing care retirement community. Based on a projection of 85 daily trips, instead of 22, the project is estimated to result in 311,200 annual vehicle miles traveled (VMT). Using the 2022 fuel economy estimate of 24.4 miles per gallon (mpg) for cars and 6.8 mpg for trucks,[46] the proposed project would result in the consumption of approximately 10,413 gallons of gasoline and 8,384 gallons of diesel fuel per year.

[46] United States Department of Energy. Average Fuel Economy by Major Vehicle Category. Website: afdc.energy.gov/data/10310#:~:text=This%20chart%20shows%20the%20average%20fuel%20economy,metric%20used%20is%20gasoline%20gallon%20equivalents%20(GGEs) (accessed November 2024).

The State of California provides a minimum standard for building design and construction standards through Title 24 of the CCR, known as the California Building Code (CBC). The CBC is updated every three years, and the current 2022 CBC went into effect in January 2023. Compliance with Title 24 is mandatory at the time new building permits are issued by local governments. Title 24 Building Energy Efficiency Standards (CALGreen) are implemented to reduce greenhouse gas (GHG) emissions and energy consumption from residential and nonresidential buildings. CALGreen code covers the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. The City has adopted both the CBC and CALGreen Code pertaining to energy conservation standards.

Electricity is provided in the State through a complex grid of power plants and transmission lines. In 2023, California's in-state electric generation totaled 215,623 gigawatt-hours (GWh); the State's total system electric generation, which includes imported electricity, totaled 281,140 GWh.[47] Population growth is the primary source of increased energy consumption in the State; due to population projections, annual electricity use is anticipated to increase by approximately 1 percent per year through 2027.[48] The project's electricity usage would total less than 0.00005 percent[49] of electricity generated in the State in 2023, which would not represent a substantial demand on available electricity resources.

The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 mpg in 1980 to 22.8 mpg in 2022.[50] Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007, which originally mandated a national fuel economy standard of 35 mpg by the year 2020, and would be applicable to cars and light trucks of Model Years 2011 through 2020.[51]

As stated previously, implementation of the proposed project would increase the project-related annual vehicle fuel demand by approximately 10,413 gallons of gasoline and 8,384 gallons of diesel fuel. However, new automobiles purchased by residents driving to and from the project site would be subject to fuel economy and efficiency standards applied throughout the State. As such, the fuel efficiency of vehicles associated with the project site would increase throughout the life of the project. In addition, the Hillcrest dining hall is located approximately 700 feet east of the North Gateway and South Gateway Sites, which facilitates senior living dining services to residents without having to leave the Hillcrest campus. The Brethren Hillcrest community also provides an on-call pick-up service that transports residents to the Brethren Hillcrest dining hall and other amenities

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47 California Energy Commission. *Total System Electric Generation*. www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2023-total-system-electric-generation. (Accessed November 2024).

48 California Energy Commission. *California Energy Demand 2018–2030 Revised Forecast.* Table ES-1. efiling.energy.ca.gov/getdocument.aspx?tn=223244. (Accessed November 2024).

49 0.033 GWh (proposed project) ÷ 215,623 GWh (generated in State in 2023) = 0.00002 percent.

50 United States Department of Transportation, Bureau of Transportation Statistics. Table 4-23. *Average Fuel Efficiency of U.S. Light Duty Vehicles.* www.bts.gov/content/average-fuel-efficiency-us-light-duty-vehicles. (Accessed November 2024).

51 United States Department of Energy. *Energy Independence & Security Act of 2007*. www.afdc.energy.gov/laws/eisa. (Accessed November 2024).

via electric motorized cart. Additionally, a private bus service is available that transports residents to essential services such as banks, doctors' offices, pharmacies, grocery/retail, churches, the Metro Gold Line and Metrolink station respectively 1 mile and 1.75 miles to the southeast, regional bus stations, etc. Finally, the proposed project is located approximately 850 feet from Foothill Transit Bus Route 492 serving the cities of Montclair, Irwindale, El Monte, and points in-between. Therefore, implementation of the proposed project would not result in a substantial increase in transportation-related energy uses.

Construction and operation of the proposed project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. Consumption of energy resources as a result of implementation of the proposed project would be comparable to other senior living developments in the city. Impacts would be **less than significant**, and no mitigation is required.

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

Less than Significant Impact

Discussion of Effects: As indicated above, energy usage associated with construction and operation of the proposed project would be relatively small in comparison to the State's available energy sources, and energy impacts would be less than significant at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the project's total impacts to regional energy supplies would be less than significant, the proposed project would not conflict with the CBC or CALGreen Code pertaining to energy conservation standards.

The project would be required to comply with the CBC and CALGreen Code pursuant to Title 11 (Zoning and Development) of the City Municipal Code pertaining to energy conservation standards in effect at the time of construction. These regulations establish minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting to reduce energy usage. In addition, the proposed project would be constructed using energy efficient modern building materials and construction practices, and the proposed project also would use new modern appliances and equipment, in accordance with the Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608). Thus, as shown above, the proposed project would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and would not result in any irreversible or irretrievable commitments of energy. Therefore, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Impacts would be **less than significant**, and mitigation is not required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
VII. Geology and Soils				
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 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 1-B of the Uniform Building Code, creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

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?

No Impact or Less than Significant Impact

The following discussion is based on the Geotechnical Investigation[52] (Appendix D) prepared for the proposed project.

a(i) Discussion of Effects: The project sites are not located within the boundaries of an Earthquake Fault Zone as defined by the Alquist-Priolo Earthquake Fault Zoning Act of 1972. There are no known active or potentially active faults traversing the project sites, and the risk of ground rupture due to fault displacement beneath the sites is low.[53] In the absence of any on-site active faults, **no impact** related to fault rupture would occur on the project sites, and mitigation is not required.

a(ii) Discussion of Effects: The project sites are situated in a seismically active area that has historically been affected by generally moderate to occasionally severe levels of ground motion.[54] A fault is considered active if there is evidence of movement (either directly, observable, or inferred) along one or more of its segments within the last 11,000 years. The closest active faults to the project sites are the Cucamonga Fault and the Durante Fault within the Sierra Madre Fault Zone, located approximately 6 miles to the northeast and 6.4 miles to the northwest, respectively.[55]

Due to the presence of active faults in proximity to the project sites, the Hillcrest community is expected to experience occasionally moderate to severe ground-shaking, as well as some background shaking from other seismically active areas of the Southern California region. The extent of ground-shaking associated with an earthquake is dependent upon the size of the earthquake and the geologic material of the underlying area. Development of the project sites is required to occur in compliance with applicable provisions of the CBC. State law requires the design and construction of new structures comply with current CBC requirements, which address general geologic, seismic (including ground shaking), and soil constraints for new buildings. Accordingly, design and construction of the proposed project would be

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52 RMA Geoscience. *Geotechnical Investigation, Gateway Project Park Avenue and A Street La Verne, CA.* Page 6. June 12, 2024.
53 California Geological Survey. *Earthquake Zones of Required Investigation, Azusa Quadrangle.* November 6, 2014.
54 Southern California Earthquake Data Center, California Institute of Technology. *Historical Earthquakes and Significant Faults in Southern California*. October 16, 2012. http://scedc.caltech.edu/significant/index.html. (Accessed October 25, 2024).
55 California Geological Survey. *Earthquake Zones of Required Investigation, Azusa Quadrangle.* November 6, 2014.

required to adhere to the most current CBC requirements to reduce any potential impacts from seismic related activity.

Chapter 15.04 of the City Municipal Code incorporates, by reference, the design and construction standards of the most current edition of the CBC. Prior to the issuance of a grading permit, the project Applicant would be required to prepare and submit detailed grading plans of the proposed project. The plans must be prepared in conformance the current CBC and applicable City standards and the recommendations in the project-specific Geotechnical Investigation.

Regulatory Compliance Measure GEO-1 is prescribed to ensure that the proposed project is constructed in conformance with the current CBC, applicable City standards, and recommendations identified in the project-specific Geotechnical Investigation to ensure that project development would be safeguarded against the effects of seismic related activity that may occur on-site. Therefore, impacts from seismic ground-shaking would remain **less than significant.** Mitigation is not required.

Regulatory Compliance Measures. Regulatory Compliance Measures are regulatory requirements that the project must adhere to which, like mitigation measures, can reduce the level of impacts. Regulatory Compliance Measures outline compliance with various federal, State, and/or local acts, laws, rules, regulations, municipal codes, and policies.

Regulatory Compliance Measure GEO-1: Prior to issuance of grading and/or building permits, the project Applicant shall provide evidence to the City for review and approval that proposed structures, features, and facilities have been designed and will be constructed in conformance with applicable provisions of the 2022 edition of the California Building Code (CBC) or the most current edition of the CBC in effect at the time the project Applicant's development application is deemed complete by the City.

Additionally, the project Applicant shall provide evidence to the City that the recommendations cited in the project-specific Geotechnical Investigation are incorporated into project plans and/or implemented as deemed appropriate by the City. Geotechnical recommendations include, but are not limited to, removal of existing vegetation, structural foundations, floor slabs, utilities, septic systems, and any other surface and subsurface improvements that would not remain in place for use with the new development. Remedial earthwork, overexcavation, and ground improvement shall occur to depths specified in the Geotechnical Investigation to provide a sufficient

layer of engineered fill or densified soil beneath the structural footings/foundations, as well as proper surface drainage devices and erosion control. Expansion index and plasticity index testing will be required at the completion of rough grading to verify the properties of the near-surface soils. Fill soils shall consist of very low expansive soils. Construction of concrete structures in contact with subgrade soils determined to be corrosive shall include measures to protect concrete, steel, and other metals.

A California-licensed structural engineer must conduct verification testing upon completion of ground improvements to confirm that the compressible soils have been sufficiently densified. Additionally, the structural engineer must determine the ultimate thickness and reinforcement of the building floor slabs based on the imposed slab loading and verify seismic design parameters in accordance with American Society of Civil Engineers (ASCE) 7-16 Section 11.4.8. This measure shall be implemented to the satisfaction of the City Director of Building and Safety or designee.

a(iii) Discussion of Effects: Liquefaction describes the phenomenon where ground-shaking works cohesionless soil particles into a tighter packing, which induces excess pore pressure. Engineering research of soil liquefaction potential indicates that generally three basic factors must exist concurrently in order for liquefaction to occur:

- A source of ground shaking, such as an earthquake, capable of generating soil mass distortions;
- A relatively loose silty and/or sandy soil; and
- A relative shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions that will allow positive pore pressure generation.

The project sites are not located in a mapped California Geologic Survey liquefaction hazard zone.[56] Additionally, the historic high groundwater level of the project site and vicinity is greater than approximately 100 feet below grade.[57] Accordingly, the potential for liquefaction at the project site is minimal. Pursuant to Section 18.60.030 of the City of La Verne's Municipal Code, the proposed project would be required to

[56] California Geological Survey. *Earthquake Zones of Required Investigation, San Dimas Quadrangle*. March 25, 1999.

[57] California Department of Conservation, Division of Mines and Geology. *Seismic Hazard Zone Report for the San Dimas 7.5-Minute Quadrangle, Los Angeles County, California.* Plate 1.2 – Historically Highest Ground Water Contours and Borehole Los Data Locations, San Dimas Quadrangle. 1998; Revised in 2001, June 2005, and January 2006.

prepare and submit a detailed grading plan prior to the issuance of a grading permit. Additionally, implementation of **Regulatory Compliance Measure GEO-1** (compliance with the current edition of the CBC and recommendations in the project-specific Geotechnical Investigation) would ensure the proposed project would be protected from seismic-related ground failure, including liquefaction. Impacts would be **less than significant**. Mitigation is not required.

a(iv) Discussion of Effects: The geologic and topographic characteristics of an area often determine its potential for landslides. Steep slopes, the extent of erosion, and the rock composition of a hillside all contribute to the potential for slope failure and landslide events. In order to fail, unstable slopes typically need to be disturbed; the common triggering mechanisms of slope failure include undercutting of slopes by erosion or grading, saturation of marginally stable slopes by rainfall or irrigation, and shaking of marginally stable slopes during earthquakes.

The project sites are relatively flat and would not naturally be subject to landslides. In addition, the project sites are not located within an identified seismic-induced landslide zone.[58] Nevertheless, implementation of **Regulatory Compliance Measure GEO-1** (compliance with the current edition of the CBC and recommendations in the project-specific Geotechnical Investigation) would ensure the proposed project would be protected from landslides. Impacts would be **less than significant.** Mitigation is not required.

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

Less than Significant Impact

Discussion of Effects: Earthwork activities as part of the construction process would expose soils to the potential for soil erosion or loss of topsoil. Compliance with storm water regulations include minimizing storm water contact with potential pollutants by providing covers and secondary containment for construction materials, designating areas away from storm drain systems for storing equipment and materials, and implementing good housekeeping practices at the construction sites. Prior to the issuance of a grading permit, the project Applicant would be required to prepare and submit site-specific, detailed grading plans to the City in accordance with Section 18.60.030 and Chapter 18.16 of the City Municipal Code.

Construction activities are subject to the State Water Resources Control Board (SWRCB) National Pollution Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2022-0057-DWQ, NPDES No. CAS000002 (Construction General Permit).[59] Any construction activity, including grading, that would result in the disturbance of 1 acre or more would require compliance with SWRCB's Construction General Permit, which requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) and

[58] California Geological Survey. *Earthquake Zones of Required Investigation, San Dimas Quadrangle*. March 25, 1999.

[59] California State Water Resources Control Board. *National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2022-0057-DWQ, NPDES No. CAS000002*. September 8, 2022. Effective September 1, 2023.

implementation of Construction Best Management Practices (BMPs) during construction activities.[60] As specified in **Regulatory Compliance Measure HYD-1** in Section X, Hydrology and Water Quality, the Applicant would be required to obtain coverage under the Construction General Permit, which requires preparation of a SWPPP. The SWPPP would detail erosion control and sediment control BMPs to be implemented during construction to minimize erosion and retain sediment on site. Construction BMPs would include, but not be limited to, erosion control and sediment control BMPs designed to minimize erosion and retain sediment on site, and good housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters.

Adherence to the BMPs contained in the SWPPP through implementation of **Regulatory Compliance Measure HYD-1** would ensure that impacts related to soil erosion would remain **less than significant**. Mitigation is not required.

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

Less than Significant Impact

Discussion of Effects: The project sites are flat and surrounded by urban development. There is no evidence of landslides and/or slope instabilities on the project sites. According to the San Dimas Quadrangle Seismic Hazard Zones Map,[61] the project sites are not located in an area considered susceptible to landslides or liquefaction. Due to the properties' flat topography, the absence of significant nearby slopes or hills, and the planned site development in accordance with **Regulatory Compliance Measure GEO-1**, potential impacts from landslides, slope instabilities, and/or liquefaction at the project sites would remain **less than significant.** Mitigation is not required.

The soils underlying the project sites may be susceptible to seismically induced dry sand settlement when additional loads are imposed on those soils by future on-site structures.[62] Shrinkage, bulking, and subsidence are primarily dependent upon the degree of soil compaction achieved during construction. The degree to which fill soils are compacted and variations in the in-situ density of existing soils will influence earth volume changes. A shrinkage factor of between 5 and 15 percent should be expected as soil is removed and replaced as compacted fill, and the subsidence factor is approximately 0.1 foot.[63] The anticipated maximum total settlement is expected to be 1 inch with a differential settlement of approximately ½ inch in a 30 feet span.[64] Accordingly, the proposed project would incorporate **Regulatory Compliance Measure GEO-1**, which requires proper engineering design and construction in conformance with current CBC standards and the recommendations outlined in the project-specific Geotechnical Investigation to ensure a

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60 Pursuant to the National Pollutant Discharge Elimination System (NPDES) program and Chapter 13.50 of the City Municipal Code.

61 California Department of Conservation, Division of Mines and Geology. *Seismic Hazard Zone Report for the San Dimas 7.5-Minute Quadrangle, Los Angeles County, California.* Plate 1.2 – Historically Highest Ground Water Contours and Borehole Los Data Locations, San Dimas Quadrangle. 1998; Revised in 2001, June 2005, and January 2006.

62 RMA Geoscience, *Geotechnical Investigation, Gateway Project Park Avenue and A Street La Verne, CA,* June 12, 2024.

63 *Ibid.* Page 8.

64 *Ibid.*

sufficient layer of engineered fill or densified soil is prepared beneath any proposed structural footings/foundations. Through incorporation of **Regulatory Compliance Measure GEO-1**, impacts from subsidence and/or collapse would remain **less than significant.** Mitigation is not required**.**

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

Less than Significant Impact

Discussion of Effects: On-site soils at the project sites consist of Urban land-Azuvina-Montebello complex, zero to five percent slopes.[65] The soils underlying the project site may be susceptible to expansion, and additional expansion index and plasticity index testing will be required at the completion of rough grading to verify the properties of the near-surface soils. Construction plans for the proposed project would be subject to City review and approval prior to issuance of grading and building permits in accordance with Section 18.60.030 and Chapter 18.16 of the City's Municipal Code. Furthermore, Section 15.04.110 (Expansive Soils) of the City's Municipal Code amends Section 1809.4 of the CBC to conclude foundation systems within the City are considered to be on expansive soils and shall be constructed in a manner that will minimize damage to the structure from soil movement.

The potential hazards of expansive soils are addressed through the integration of the site-specific recommendations outlined in the Geotechnical Investigation as required under **Regulatory Compliance Measure GEO-1**. Through incorporation of **Regulatory Compliance Measure GEO-1**, impacts from expansive soils would remain **less than significant.** Mitigation is not required.

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

No Impact

Discussion of Effects: The project sites and vicinity are served by existing municipal wastewater infrastructure. All on-site development would connect to the existing wastewater collection and conveyance facilities owned and operated by the City. Therefore, septic tanks will not be necessary. Because the proposed project would not include the installation of septic tanks or alternative wastewater disposal systems, **no impact** would occur. Mitigation is not required.

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

Potentially Significant Unless Mitigation Incorporated

Discussion of Effects: The project site is underlain by the interface between Quaternary Pleistocene non-marine alluvial sediments (Qoa) and younger Holocene alluvial sediments (Qa) emanating from San Dimas Canyon and covering extensive areas of the

[65] United States Department of Agriculture, Natural Resources Conservation Service. *Web Soil Survey.* https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. (Accessed October 25, 2024).

City.[66] These deposits are generally sandy or gravelly alluvial fan deposits known to yield paleontological resources. The nearest Pleistocene vertebrate locality (LACM 1728) in older quaternary deposits (Qoa) is recorded between 10 and 15 feet below grade in English Canyon southwest of the City of Chino approximately 10 miles south of the project sites.[67]

The project sites are currently developed with residential uses. Considering the extensive ground disturbances that have occurred on the project sites, and in light of results and findings from paleontological records searches previously conducted in similar settings, the likelihood of encountering intact and significant subsurface paleontological resources or unique geologic features on the project sites is low. However, ground-disturbing activities at the project sites still have the potential to disturb previously unknown resources if excavation depths reach native, undisturbed sediments.

Due to the age of the sediments underlying the project sites, paleontological resources may be present in these potentially fossil-bearing soils and rock formations below the ground surface. If ground-disturbing activities reach depths of native, undisturbed fossil-bearing sediments, implementation of the proposed project has the potential to damage or destroy paleontological resources. Therefore, **Mitigation Measures GEO-1** and **GEO-2** are required to ensure paleontological resources would be subject to scientific recovery and evaluation in the event that unanticipated paleontological resources are unearthed during construction.

Mitigation Measures

MM GEO-1 Prior to issuance of grading permits, the City shall verify that the following note is included on all grading plans:

> **"**If any suspected paleontological resources (fossils) are discovered during ground-disturbing activities, the construction supervisor shall halt work within a 60-foot radius around the find and establish an exclusionary buffer. Construction personnel shall not collect or move any suspected paleontological materials or further disturb any soils within the exclusionary buffer, but construction activity may continue unimpeded on other portions of the project sites. Construction activity shall not resume within the exclusionary buffer until a qualified paleontologist (defined as an individual with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least one year) can assess the significance of the find. If the paleontologist determines the find is not a paleontological resource, no further evaluation shall be required within the exclusionary buffer, and construction activity shall be allowed to resume therein.

[66] Dibblee, Jr., Thomas W. and John A. Minch. *Geologic Map of the San Dimas and Ontario Quadrangles, Los Angels and San Bernardino Counties, California.* Dibblee Geological Foundation Map #DF-91. 2002. https://ngmdb.usgs.gov/ngm-bin/pdp/zui_viewer.pl?id=34314. (Accessed October 25, 2024).

[67] Rincon Consultants. *Paleontological Resources for the proposed University of La Verne Facilities and Technology Master Plan Update EIR Project, Rincon Project # 16-02821, in the City of La Verne, Los Angeles County, Project Area.* Letter Report by Samuel A. McLeod. August 10, 2016.

However, if the paleontologist determines the find is a paleontological resource, construction activity shall not resume within the exclusionary buffer, and **Mitigation Measure GEO-2** shall apply."

This measure shall be implemented to the satisfaction of the City of La Verne's Community Development Director or designee.

MM GEO-2 If the qualified paleontologist determines paleontological resources are encountered on the project sites, the paleontologist shall prepare a Paleontological Resource Impact Mitigation Plan to be implemented during the balance of ground-disturbing activities. Implementation of the Paleontological Resource Impact Mitigation Plan shall include (but not be limited to) the following:

- Review of project-specific geotechnical report data, with particular regard to location and depth of earthmoving and the rock unit(s) encountered;
- Development of a formal agreement between the project proponent and the San Bernardino County Museum, Natural History Museum of Los Angeles County, Western Science Center, San Diego Natural History Museum, or Riverside Municipal Museum for the final disposition and permanent storage and maintenance of any fossil collections and associated data. Should any of these facilities choose not to accept the fossil collections and associated data, the project Applicant shall consult with the Bonita Unified School District or other educational institution to offer the fossil collections and associated data for donation;
- The construction schedule, term/schedule of on-site paleontological monitor(s) and the extent of areas and activities to be monitored;
- Authority of paleontological monitor(s) to temporarily redirect construction activity in the vicinity of any paleontological discovery;
- Procedures for the evaluation and option to recover large fossil specimens and for the evaluation, recovery, and processing of small fossil specimens;
- Fossil specimen preparation, identification to the lowest taxonomic level possible, curation, and cataloging; and
- A report of findings.

The paleontologist shall monitor remaining ground-disturbing activities in native soils at the project sites and shall be equipped to record and salvage fossil resources that may be unearthed during construction. The paleontologist shall temporarily halt or divert construction equipment to allow recording and removal of the unearthed resources. Any fossils found shall be offered for curation at a curation facility approved by the City. A report of findings, including, when appropriate, an itemized inventory of recovered specimens and a discussion of their significance, shall be prepared upon completion of the steps outlined above. The report and inventory, when submitted to and approved by the appropriate lead agency, will signify completion of the program to mitigate impacts on paleontological

resources. This measure shall be implemented to the satisfaction of the City of La Verne's Community Development Director or designee.

With implementation of **Mitigation Measures GEO-1** and **GEO-2,** impacts to paleontological resources are considered **less than significant with mitigation incorporated**.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
VIII. Greenhouse Gas Emissions				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

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

Less than Significant Impact

The following discussion is based on the project-specific construction and operation CalEEMod analysis, as detailed in Appendix A.[68]

Discussion of Effects: *State CEQA Guidelines* Section 15064(b)(1) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further states that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

Currently, there is no statewide greenhouse gas (GHG) emissions threshold used to determine potential GHG emissions impacts of a project. Air districts in the state are still developing and revising threshold methodology and thresholds. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, the SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) held

[68] As originally submitted, the application included the demolition of three additional units at 2675, 2681 and 2683 A Street and the construction of a total of nine new units. The air quality, noise, and transportation analyses evaluate 8,106 square feet of demolition and 13,778 square feet of construction, and assume a net increase of 5,672 square feet of residential uses. Accordingly, the CalEEMod modeling discloses potentially greater environmental effects than would occur under the proposed project.

in September 2010, the SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where the SCAQMD is not the lead agency. This concept is equivalent to the existing consistency determination requirements in *CEQA Guidelines* Sections 15064(h)(3), 15125(d), and 15152(a). The applicable tier is the SCAQMD-recommended Tier-3/Option 2 threshold of 3,000 MT CO_2e/yr for non-industrial projects.

Calculations of GHG emissions are based on compliance with various regulations designed to reduce GHG emissions. For example, at least 65 percent of all non-hazardous construction materials (including, but not limited to, soil, mulch, vegetation, concrete, lumber, metal, and cardboard) shall be recycled/reused, and "green building materials" (e.g., those materials that are rapidly renewable or resource-efficient, and recycled and manufactured in an environmentally friendly way) shall be used for at least 10 percent of the project in accordance with California Department of Resources Recycling and Recovery (CalRecycle) Sustainable (Green) Building Program.

Construction and operation of the proposed project would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the project's operation (as opposed to during its construction). Overall, the following activities associated with the proposed project could directly or indirectly contribute to the generation of GHG emissions:

- **Construction Activities:** During project construction, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs (e.g., CO_2, CH_4, and N_2O). Furthermore, CH_4 is emitted during the fueling of heavy equipment.
- **Natural Gas, Electricity, and Water Use:** Natural gas use results in the emission of two GHGs: CH_4 (the major component of natural gas) and CO_2 (from the combustion of natural gas). Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy-intensive.
- **Solid Waste Disposal:** Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and they produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. However, landfill-generated CH_4 can also be a source of energy.
- **Motor Vehicle Use:** Transportation associated with the proposed project operations would result in GHG emissions from the combustion of fossil fuels in daily vehicle trips.

Table G lists the annual carbon dioxide equivalent (CO_2e) emissions for the planned construction year (based on the CalEEMod analysis). Per SCAQMD guidance, due to the long-term nature of the GHGs in the atmosphere, instead of determining significance of construction emissions alone, the total construction emissions are amortized over 30 years (an estimate of the life of the proposed project) and are added to the operational emissions for comparison to the applicable GHG significance threshold.

Table G: Construction Greenhouse Gas Emissions

Construction Year	Total Regional Greenhouse Gas Emissions (MT/yr)			
	CO_2	CH_4	N_2O	CO_2e
2025	73	<1	<1	74
2026	297	<1	<1	299
2027	14	<1	<1	14
Total Construction Emissions				**387**
Amortized over 30 years				**13**

Source: Table 2.2. California Emissions Estimator Model (CalEEMod). Compiled by LSA. November 2024 (Appendix A).

CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide

Long-term operation of the proposed project would generate GHG emissions from various source categories. Area-source emissions would be associated with activities including landscaping and maintenance of the proposed project. Energy-source emissions would occur at off-site utility providers as a result of demand for electricity and natural gas by the proposed project. Mobile-source emissions of GHGs would include project-generated vehicle trips associated with on-site energy use and resident and delivery vehicle trips. Waste generated by the project and water used would also result in GHG emissions.

The Trip Generation Analysis that was originally prepared for the project treated the new homes as single-family and based on the ITE trip generation rate for that land use (Code 210). It was determined that there would be 85 trips without any credit for the demolition of the existing units. Upon further review, it was determined that the appropriate land use ITE trip generation rate should be that for a continuing care retirement community (Code 255), which resulted in only 25 total trips, without credit for the existing units. CalEEMod modeling was completed prior to the ITE Code correction, and GHG emissions were evaluated based on trip generation of nine new standard single-family homes, (85 vehicle trips per day). CalEEMod defaults were used for all the other operational parameters, including energy consumption, water use, waste generation, and area sources. Table H shows the results of the CalEEMod analysis.

The GHG emission estimates presented in Table H show the emissions associated with the operation of the proposed project. The project would result in GHG emissions of 153 MT CO_2e per year, which is less than the SCAQMD-recommended Tier-3/Option 2 threshold of 3,000 MT CO_2e/yr for non-industrial projects even using the ITE Code for single-family use. Therefore, there was no need to rerun the CalEEMod with the lower, continuing care retirement community rate, which would have reflected even fewer GHG emissions.

Table H: Annual Total Greenhouse Gas Emissions

Source	Greenhouse Gas Emissions, MT/year						
	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	Refrigerant	CO_2e
Mobile Sources	0	107	107	<1	<1	<1	109
Area Sources	0	<1	<1	<1	<1	0	<1

Table H: Annual Total Greenhouse Gas Emissions

Source	Greenhouse Gas Emissions, MT/year						
	Bio-CO_2	**NBio-CO_2**	**Total CO_2**	**CH_4**	**N_2O**	**Refrigerant**	**CO_2e**
Energy Sources	0	24	24	<1	<1	0	24
Water Sources	<1	1	1	<1	<1	0	2
Waste Usage	<1	0	<1	<1	0	0	2
Refrigerant Sources	0	0	0	0	0	<1	<1
Amortized Construction Emissions							**13**
Total Proposed Emissions							**150**
SCAQMD Threshold							**3,000**
Emissions Exceed Threshold?							**No**

Source: Table 2.6. California Emissions Estimator Model (CalEEMod). Compiled by LSA. November 2024 (Appendix A).

Note: Numbers in table may not appear to add up correctly due to rounding.

Bio-CO_2 = biologically generated CO_2
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide
NBio-CO_2 = Non-biologically generated CO_2
SCAQMD = South Coast Air Quality Management District

The proposed project would be built to meet California Green Building standards, which would further reduce GHG emissions associated with the project. Therefore, the proposed project would not result in a significant level of GHG emissions. Impacts would be **less than significant**, and mitigation is not required.

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

Less than Significant Impact

The City, as a lead agency, may assess the significance of GHG emissions by determining a project's consistency with a local GHG reduction plan that qualifies under Section 15183.5 of the CEQA Guidelines. The City of La Verne has not adopted a GHG reduction plan. Since no other local or regional climate action plan is in place, the project is assessed for its consistency with the California Air Resources Board's (CARB) adopted 2022 Scoping Plan and the 2024 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), also known as Connect SoCal 2024. This would be achieved with an assessment of the project's compliance with the 2022 Scoping Plan and SCAG Connect SoCal 2024 measures.

The following discussion evaluates the proposed project according to the goals of the 2022 Scoping Plan, Executive Order (EO) B-30-15, Senate Bill (SB) 32, Assembly Bill (AB) 197, AB 1279, and SCAG's 2024–2050 RTP/SCS.

2022 Scoping Plan. EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reduction target of at least 40 percent below 1990 levels by 2030 contained in EO B-30-15. CARB released the 2017

Scoping Plan to reflect the 2030 target set by EO B-30-15 and codified by SB 32.[69] SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. AB 197, the companion bill to SB 32, provides additional direction to CARB that is related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 that is intended to provide easier public access to air emission data collected by CARB was posted in December 2016. AB 1279 codifies the State goals of achieving net carbon neutrality by 2045 and maintaining net negative GHG emissions thereafter.

In addition, the 2022 Scoping Plan[70] assesses progress toward the statutory 2030 target while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

The 2022 Scoping Plan focuses on building clean energy production and distribution infrastructure for a carbon-neutral future, including transitioning existing energy production and transmission infrastructure to produce zero-carbon electricity and hydrogen, and utilizing biogas resulting from wildfire management or landfill and dairy operations, among other substitutes. The 2022 Scoping Plan states that in almost all sectors, electrification will play an important role. The 2022 Scoping Plan evaluates clean energy and technology options and the transition away from fossil fuels, including adding four times the solar and wind capacity by 2045 and about 1,700 times the amount of current hydrogen supply. As discussed in the 2022 Scoping Plan, EO N-79-20 requires that all new passenger vehicles sold in California be zero-emission by 2035 and that all other fleets transition to zero-emission as fully as possible by 2045, which will reduce the percentage of fossil fuel combustion vehicles.

Energy-efficient measures are intended to maximize energy-efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. The proposed project would comply with the latest California Energy Code and CALGreen standards regarding energy conservation and green building standards.

The 2022 Building Energy Efficiency Standards requires the installation of solar photovoltaic (solar PV) system requirements for all newly constructed single-family and multi-family building. Section 150.0(s) of the California Energy Code further specifies that plans for new single-family residential development must be Energy Storage System

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69 California Air Resources Board. *Scoping Plan for Achieving Carbon Neutrality.* December, 2022. Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents (Accessed November 2024).

70 California Air Resources Board. *California's 2017 Climate Change Scoping Plan*. November 2017. Website: www.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf (accessed November 2024).

(ESS) ready. Section 160.9 of the 2022 Energy Code provides mandatory requirements for “electric ready” construction in individual dwelling units, including provisions to provide wiring/conduit/electric panel space to accommodate heat pumps (cooling/heating and water heating), electric cooktops, and electric clothes dryers in individual units. The installation of “electric ready” construction would facilitate the future electrification of development, thereby, decreasing the demand for natural gas for heating/cooking.

The project would be required to adhere to all federal, State, and local requirements for energy efficiency, including current Title 24, California Energy Code and CALGreen standards, which establish minimum standards related to various building features, including solar roof, electric vehicle charging capacity, appliances, water and space heating and cooling equipment, building insulation and roofing, electrification, and lighting, which would reduce energy usage. In addition, proposed new development would be constructed using energy efficient modern building materials and construction practices, and the proposed project also would use new modern appliances and equipment in accordance with the Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608). Therefore, the proposed project would comply with applicable energy measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would be required to comply with the latest CALGreen standards, which include a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project would be required to comply with the California Model Water Efficient Landscape Ordinance. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. The second phase of Pavley standards is expected to reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a three percent decrease in average vehicle emissions for all vehicles by 2020. Vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. The project would also comply with the following additional transportation sector policies (through vehicle manufacturer compliance): Advanced Clean Cars II, Advanced Clean Trucks, Advanced Clean Fleets, Zero Emission Forklifts, the Off-Road Zero-Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, In-use Off-Road Diesel-Fueled Fleets Regulation, Off-Road Zero-Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, Amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation, carbon pricing through the Cap-and-Trade Program, and the Low Carbon Fuel Standard. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

The proposed project would comply with existing State regulations adopted to achieve the overall GHG emission reduction goals identified in the 2022 Scoping Plan, EO B-30-15, SB 32, AB 197, and AB 1279.

SCAG's Regional Transportation Plan/Sustainable Communities Strategy. SCAG's 2024–2050 RTP/SCS identifies land use strategies that focus on new housing and job growth in areas served by high-quality transit and other opportunity areas would be consistent with a land use development pattern that supports and complements the proposed transportation network. The core vision in the 2024–2050 RTP/SCS is to better manage the existing transportation system through design management strategies, integrate land use decisions and technological advancements, create complete streets that are safe for all roadway users, preserve the transportation system, and expand transit and foster development in transit-oriented communities. The 2024–2050 RTP/SCS contains transportation projects to help more efficiently distribute population, housing, and employment growth, as well as a forecasted development pattern that is generally consistent with regional-level General Plan data. The forecasted development pattern, when integrated with the financially constrained transportation investments identified in the 2024–2050 RTP/SCS, would reach the regional target of reducing GHG emissions from autos and light-duty trucks by 8 percent per capita by 2020 and 19 percent by 2035 (compared to 2005 levels).[71] The 2024–2050 RTP/SCS does not require that local General Plans, Specific Plans, or zoning be consistent with the 2024–2050 RTP/SCS, but it provides incentives for consistency for governments and developers.

Implementing SCAG's RTP/SCS would greatly reduce the regional GHG emissions from transportation, helping to achieve statewide emissions reduction targets. As demonstrated in Section III, Air Quality, the proposed project does not meet the criteria identified in CEQA Guidelines Section 15205.b.2 (Projects of Statewide, Regional, or Areawide Significance) for projects of statewide, regional, or areawide significance. The proposed project's contribution to the City's population and households is consistent with the City's growth trends and represents a minimal increase (between 0.024 percent and 0.078 percent of the 2020 City population and between 0.026 percent and 0.085 percent of the 2020 City households).[72] As such, the proposed project would not interfere with SCAG's ability to achieve the region's GHG reduction target of 19 percent below 2005 per capita emissions levels by 2035. Furthermore, the proposed project is not regionally significant per *State CEQA Guidelines* Section 15206 and as such, it would not conflict with the SCAG RTP/SCS targets since those targets were established and are applicable on a regional level. The project's consistency with SCAG's 2024-2050 RTP/SCS is presented in Table J, below.

The proposed project would include nine single-family homes operating within a continuing care retirement community that are consistent with existing local and regional planning assumptions for the project site. Therefore, it is anticipated that implementation of the proposed project would not interfere with SCAG's ability to implement the regional strategies outlined in SCAG's 2024-2050 RTP/SCS. Therefore, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of

[71] Southern California Association of Governments. *2024–2050 Regional Transportation Plan/Sustainable Communities Strategy.* Page 97. Adopted April 4, 2024.

[72] These calculations identify the project's contribution to the City compared to the anticipated population or households under the General Plan Housing Element (e.g., 8 additional residents not anticipated ÷ 33,313 persons = 0.024 percent) (3 additional households not anticipated ÷ 11,737 households = 0.026 percent), as well as the overall project contribution to the City (e.g., 26 project residents ÷ 33,313 persons = 0.078 percent) (10 project households ÷ 11,737 households = 0.085 percent).

reducing the emissions of GHGs. Impacts would be **less than significant**, and mitigation is not required.

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

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

Less than Significant Impact

Discussion of Effects: Construction of the project has the potential to create a hazard to the public or environment through the routine transportation, use, and disposal of construction-related hazardous materials such as fuels, oils, solvents, and other materials. Additionally, demolition of the existing residential structure would involve disposal of lead-based materials (LBM) and asbestos-containing materials (ACM), as indicated in the Asbestos Inspection Reports and Lead Inspection Reports prepared for the proposed project (Appendices E1 through E4) , which must be disposed of in accordance with the federal, State, and local (Los Angeles County Department of Health Services and SCAQMD) regulations.

Demolition/Construction. Potential hazardous materials such as fuel, paint products, lubricants, solvents, and cleaning products may be used and/or stored on site during construction of the proposed project. These materials are typical of materials delivered to construction sites. Due to the relatively small scale of proposed development under the proposed project, only limited quantities of these materials are expected to be used during construction, so they are not considered hazardous to the public at large.

The transport, use, and storage of hazardous materials during construction would be regulated by the Los Angeles County Fire Department, the City of La Verne Fire Department, and the California Occupational Safety and Health Administration. Additionally, the United States Department of Transportation Office of Hazardous Materials Safety prescribes strict regulations for the safe transportation of hazardous materials by truck and rail on State highways and rail lines, as described in Title 49 of the Code of Federal Regulations, and implemented by Title 13 of the CCR.

The existing residential structures located within the North Gateway Site were constructed between 1950 and 1952, and existing residential structures located within the South Gateway Site were constructed by 1963.[73] Structures constructed prior to 1978 may contain LBM as well as ACM incorporated into various construction components including paint, roof tiles, and thermal insulation. The Los Angeles County Department of Health Services requires that all workers be properly protected when working with materials containing lead levels at or above 0.7 milligram per square centimeter (mg/cm^2), which is more stringent than the 1 mg/cm^2 threshold established under the Code of Federal Regulations Chapter 29, Section 1926.62 and Title 8, CCR Section 1532.1: Cal/OSHA Construction Safety Orders, Lead. The Federal Environmental Protection Agency defines ACM as a material containing more than one percent asbestos as determined by polarized light microscopy, while Title 8, CCR Section 1529: Asbestos, defines asbestos-containing construction materials as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight. The SCAQMD requires Asbestos Notification for proposed abatement activities and disposal tickets from an SCAQMD-approved disposal facility prior to demolition.

[73] Los Angeles County Office of the Assessor. *Property Assessment Information System.* https://portal.assessor.lacounty.gov/. 2024. (Accessed November 12, 2024).

The five single-family homes on the South Gateway Site (2692 Park Avenue, 2675 A Street, 2677 A Street, 2681 A Street, and 2683 A Street have not been surveyed for LBP or ACM. Since these structures were constructed prior to 1978, they require survey for these materials prior to demolition or renovation in accordance with **Regulatory Compliance Measure HAZ-1**. If LBP is identified at levels above the action level for abatement activities, then **Regulatory Compliance Measure HAZ-2** would be implemented. If ACM is identified at levels above the action level for abatement activities, then **Regulatory Compliance Measure HAZ-3** would be implemented. The two single family homes (2730 Park Avenue and 2712 Park Avenue) within the North Gateway Site have been previously surveyed for LBP and ACM and determined to contain LBP and ACM at levels above the action level for abatement activities.[74,75,76,77] Therefore, **Regulatory Compliance Measures HAZ-2** and **HAZ-3** are required to be implemented for those properties prior to demolition.

Regulatory Compliance Measures

Regulatory Compliance Measure HAZ-1: A comprehensive asbestos-containing materials (ACM) survey and lead-based materials (LBM) survey shall be completed prior to demolition or renovation of 2692 Park Avenue, 2675 A Street, 2677 A Street, 2681 A Street, and 2683 A Street within the South Gateway Site. If the ACM survey reveals any manufactured construction material that contains less than one percent asbestos by weight pursuant to Title 8, CCR Section 1529: Asbestos and if the LBM survey reveals lead levels below 0.7 milligram per square centimeter pursuant to Los Angeles County Code Title 11, Chapter 11.28, Section 11.28.010(c), no further survey or remedial work is required. However, if ACM greater than one percent asbestos by weight are identified within structures proposed for renovation or demolition, **Regulatory Compliance Measure HAZ-2** shall apply. Furthermore, if lead levels at or above 0.7 milligram per square centimeter are identified, **Regulatory Compliance Measure HAZ-3** shall apply. This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director or designee,

74 Vector Environmental Consulting, Inc. *Lead Inspection Report, 2730 Park Avenue, La Verne, CA 91750.* Page 5. October 27, 2023. (Appendix E1)

75 Vector Environmental Consulting, Inc. *Asbestos Inspection Report, 2730 Park Avenue, La Verne, CA 91750.* Page 3. October 27, 2023. (Appendix E2)

76 Vector Environmental Consulting, Inc. *Lead Inspection Report, 2712 Park Avenue, La Verne, CA 91750.* Page 5. October 27, 2023. (Appendix E3)

77 Vector Environmental Consulting, Inc. *Asbestos Inspection Report, 2712 Park Avenue, La Verne, CA 91750.* Page 3. October 27, 2023. (Appendix E4)

and/or Building and Safety Division, or designee.

Regulatory Compliance Measure HAZ-2: Prior to the demolition of 2730 Park Avenue and 2712 Park Avenue within the North Gateway Site, as well as demolition or renovation of any of the properties within the South Gateway Site determined under **Regulatory Compliance Measure HAZ-1** to contain ACM, all ACM shall be abated from the demolition sites. An Asbestos Notification shall be prepared and submitted to the South Coast Air Quality Management District (SCAQMD) for approval before any asbestos abatement may commence. The contractor shall provide a construction and demolition plan with disposal tickets from an SCAQMD-approved disposal facility and air clearances prior to final inspection, and an asbestos report shall be provided to the City prior to the issuance of a demolition or renovation permit. This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director or designee, and/or Building and Safety Division, or designee.

Regulatory Compliance Measure HAZ-3: Prior to the demolition of 2730 Park Avenue and 2712 Park Avenue within the North Gateway Site, as well as demolition or renovation of any of the properties within the South Gateway Site determined under **Regulatory Compliance Measure HAZ-1** to contain LBP, all LBM shall be abated from the demolition site with lead levels at or above 0.7 milligram per square centimeter shall be abated from the demolition site. Furthermore, California Department of Health lead certified staff would be required for all abatement work. The contractor shall provide a construction and demolition plan with disposal tickets from a South Coast Air Quality Management District-approved disposal facility and air clearances prior to final inspection, and a lead report shall be provided to the City prior to the issuance of a demolition or renovation permit. This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director or designee, and/or Building and Safety Division, or designee.

With implementation of **Regulatory Compliance Measures HAZ-1, HAZ-2,** and **HAZ-3** hazards to the public and the environment from demolition of structures containing lead and/or asbestos would remain **less than significant**. Mitigation is not required.

Operation. Residential operations and maintenance within Hillcrest currently utilize relatively small amounts of hazardous materials, such as chemicals associated with heating and cooling systems, fuel for maintenance equipment, solvents, cleaning products, pesticides/fertilizers, and other similar chemicals. These materials are substantially similar to household chemicals and solvents already in general and wide use throughout the City and in the vicinity of the project sites.

As is the case during construction, the transport, use, and storage of hazardous materials during project occupation will be regulated by the Los Angeles County Fire Department, the City Fire Department, and the California Occupational Safety and Health Administration. Additionally, transport of hazardous materials by truck and rail on State highways and rail lines will be regulated by the United States Department of Transportation Office of Hazardous Materials Safety as described above.

These regulations inherently safeguard life and property from the hazards of fire/explosion arising from the storage, handling, and use of hazardous substances, materials, and devices, as well as hazardous conditions due to the use or occupancy of buildings. Through implementation of **Regulatory Compliance Measures HAZ-1** through **HAZ-3** for demolition of the existing residential structures, as well as compliance with all applicable federal, State, and local laws for construction and operation of the proposed project, impacts to the public or environment from the routine transportation, use and disposal of hazardous materials would be reduced to **less than significant.** Mitigation is not required.

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

Less than Significant Impact

Discussion of Effects: The project sites and a one-half-mile radius encompassing the project sites were evaluated via the State Water Resources Control Board (SWRCB) GeoTracker database,[78] the Department of Toxic Substances Control's (DTSC) EnviroStor database,[79] and the Hazardous Waste and Substances Sites (Cortese) List[80] for the purposes of identifying recognized environmental conditions or historical recognized environmental conditions.

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78 State Water Resources Control Board. *GeoTracker Database.* https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=l+averne%2C+ca. (Accessed October 25, 2024).

79 California Department of Toxic Substances Control. *EnviroStor Database.* https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=la+verne%2C+ca. (Accessed October 25, 2024).

80 California Department of Toxic Substances Control. *Hazardous Waste and Substances Site List (Cortese).* https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+(CORTESE). (Accessed October 25, 2024).

"Recognized environmental condition" means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions. "Historical Recognized environmental condition" means an environmental condition which in the past would have been considered a *recognized environmental condition*, but which may or may not be considered a *recognized environmental condition* currently. If a past release of any *hazardous substances* or *petroleum products* has occurred in connection with the *property*, with such remediation accepted by the responsible regulatory agency (for example, as evidenced by the issuance of a case closed letter or equivalent), this condition shall be considered a *historical recognized environmental condition*.

The existing residential structures located within the North Gateway Site were constructed between 1950 and 1952, and existing residential structures located within the South Gateway Site were constructed by 1963.[81] No evidence was identified indicating improper storage, disposal, or application of hazardous materials, and a review of available aerial photographs did not show improvements such as hangers, tanks, or large barns that would indicate significant storage, formulation, and handling of hazardous materials. Based on this information and the historical occupancy of the project sites for residential uses, there is no evidence of recognized environmental conditions in connection with previous uses at the project sites.

Three properties with historical recognized environmental conditions (leaking underground storage tanks) were identified within one half-mile of the project sites, as detailed in Table I.

Table I: Hazardous Materials Database Search

Property	Recognized Environmental Condition	Historical Recognized Environmental Condition	Location Relative to the Project Sites	Status of the Property
MWD F E Weymouth Filter Plant (700 Moreno Ave N, La Verne)	—	Leaking underground storage tank for "waste oil/motor/ hydraulic/lubricating."	Approximately 2,500 feet to the northwest of the project sites.	Completed-Case closed as of 06/27/1991. A closure letter or other formal closure decision document has been issued for the property.

[81] Los Angeles County Office of the Assessor. *Property Assessment Information System.* https://portal.assessor.lacounty.gov/. 2024. (Accessed October 25, 2024).

Table I: Hazardous Materials Database Search

Property	Recognized Environmental Condition	Historical Recognized Environmental Condition	Location Relative to the Project Sites	Status of the Property
American Armenian International College (1975 6th Street, La Verne)	—	Leaking underground storage tank for "aviation."	Approximately 1,700 feet to the east cross gradient of the project sites.	Completed-Case closed as of 01/26/1990. A closure letter or other formal closure decision document has been issued for the property.
La Verne Public Safety Facility (2061 3rd Street, La Verne)	—	Leaking underground storage tank for "gasoline."	Approximately 2,250 feet to the southeast down gradient of the project sites.	Completed-Case closed as of 06/16/1999. A closure letter or other formal closure decision document has been issued for the property.

Sources: State Water Resources Control Board. *GeoTracker Database.* https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=l+averne%2C+ca. (Accessed October 25, 2024).
California Department of Toxic Substances Control. *EnviroStor Database.* https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=la+verne%2C+ca. (Accessed October 25, 2024).
California Department of Toxic Substances Control. *Hazardous Waste and Substances Site List (Cortese).* https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+(CORTESE). (Accessed October 25, 2024).

The properties' conditions have been remediated and formal closure decision documents have been issued; therefore, these locations are unlikely to have adversely affected the project sites.

A review of the Hazardous Waste and Substances Sites (Cortese) List revealed no affected properties on or within five miles of the project sites.

None of the properties identified in the GeoTracker database, EnviroStor database, or the Cortese List occurs on the project sites or has any activities or materials that would represent a significant risk to public health or safety (e.g., on-site storage, leaking tanks, approaching groundwater contamination plume) on the project sites. The project sites do not currently contain any recognized environmental conditions or historical recognized environmental conditions, nor are they subject to vapor migration from any on-site or off-site sources. Implementation of **Regulatory Compliance Measures HAZ-1** through **HAZ-3** for demolition of the existing residential structures, as well as compliance with local, State, and federal laws detailed in response to Checklist Question IX(a), would ensure impacts from reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment remain **less than significant**. Mitigation is not required.

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

Less than Significant Impact

Discussion of Effects: The school closest to the project sites is the Grace Miller Elementary School located at 1629 Holly Oak Street, La Verne, approximately 0.21 mile to the north. The next nearest schools are the University of La Verne (1950 3rd Street, La Verne) approximately 0.3 mile to the southeast, the David & Margaret Youth and Family Services/Joan Macy School (1350 3rd Street, La Verne) approximately 0.38 mile to the southwest, and Damien High School (2280 Damien Avenue, La Verne) located approximately 0.5 mile southwest of the project sites.

As detailed in response to Checklist Question IX(a), the transport, use, and storage of hazardous materials during construction, operation, and occupation of the proposed residences will be regulated by the Los Angeles County Fire Department and the City Fire Department. The United States Department of Transportation Office of Hazardous Materials Safety prescribes strict regulations for the safe transportation of hazardous materials by truck and rail on State highways and rail lines.

None of the land uses identified in the GeoTracker database, EnviroStor database, or the Cortese List occurs on the project sites or has any activities or materials that would represent a significant risk to public health or safety (e.g., on-site storage, leaking tanks, approaching groundwater contamination plume) from construction and operation of the project sites. The project sites do not currently contain any recognized environmental conditions or historical recognized environmental conditions, nor are they subject to vapor migration from any on-site or off-site sources.

Typically, special consultation and notification requirements apply for projects that would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school.[82] However, those requirements do not apply to the proposed project because although the project is within one-quarter mile of Grace Miller Elementary School, the project is not designed to store, handle, or manufacture substantial amounts of hazardous materials. Common hazardous materials that may be present during construction and operation would include fuel, paint products, lubricants, solvents, and cleaning products, as well as household cleaning/chemical products and compounds used in landscaping and pool maintenance present throughout the region. These materials are also commonly found on school campuses and utilized routinely at schools as part of ongoing facility maintenance operations.

The amount of potentially hazardous chemicals present on the project site would be limited and would also occur in compliance with existing government regulations, which inherently safeguard life and property on nearby school sites from the hazards of exposure arising from the storage, handling, and disposal of hazardous substances, materials, and devices, as well as hazardous conditions due to the use or occupancy of buildings. The proposed project would be similar to other residential operations throughout the region that are located close to existing or proposed school sites.

[82] See California Public Resources Code § 21151.4 and 14 California Code of Regulations § 15186.

Furthermore, as detailed above, the proposed project is not expected to result in a significant hazard affecting the public during project construction or operation. Implementation of **Regulatory Compliance Measures HAZ-1** through **HAZ-3** for demolition of the existing residential structures, as well as compliance with all applicable federal, State, and local laws for construction and operation of the proposed project, would ensure impacts from the emission or handling of hazardous materials within one-quarter mile of an existing or proposed school would remain **less than significant**. Mitigation is not required.

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

No Impact

Discussion of Effects: Pursuant to Government Code Section 65962.5, the Hazardous Waste and Substances Sites List has been compiled by the California Environmental Protection Agency Hazardous Materials Data Management Program. The DTSC compiles information from subsets of the following databases to make up the Cortese List:

1. The DTSC list of contaminated or potentially contaminated hazardous waste sites listed in the California Sites database, formerly known as ASPIS, is included;
2. The California State Water Resources Control Board listing of leaking underground storage tanks is included; and
3. The California Integrated Waste Management Board list of sanitary landfills that have evidence of groundwater contamination or known migration of hazardous materials (formerly WB-LF, now AB 3750).

None of the land uses identified in Table I occurs on the project sites or includes any activities or materials that would represent a significant hazard to the public or environment at the project sites. Therefore, **no impact** related to the Cortese List or other governmental databases would occur, and mitigation is not required.

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

Less than Significant Impact

Discussion of Effects: Brackett Field Airport, a general aviation airport, is located approximately 0.9 mile south of the project sites. The project sites are located within Zone E of the Brackett Field Airport Land Use Compatibility Plan (BFALUCP).[83] Within Zone E, residential uses less than eight dwelling units per acre and/or congregate care retirement homes and assisted living facilities are normally compatible and are presumed to comply with safety and airspace protection criteria. Within Zone E, object height limits are

[83] Los Angeles County Airport Land Use Commission. *Brackett Field Airport Land Use Compatibility Plan.* Map 2A, Compatibility Policy Zones. Adopted December 9, 2015.

established at 150 feet or more above runway elevation,[84] which is 966 feet above mean sea level (amsl) at its lowest point. The highest elevation of the project sites grade is 1,064 feet amsl; therefore, any new construction 52 feet or taller[85] would require site-specific airspace review by the Los Angeles County Airport Land Use Commission (ALUC). None of the proposed residential structures exceeds 18 feet 8 inches above surface grade at its tallest point; therefore, no ALUC review is required.

The BFALUCP identifies the project sites within Federal Aviation Administration (FAA) Part 77 Notification Area.[86] The risk level is considered low for normally compatible uses within Zone E. FAA Part 77, Subpart B requires notification to the FAA of any proposed construction or alteration having a height greater than an imaginary surface extending 100 feet outward and 1 foot upward (slope of 100:1) for a distance of 20,000 feet from nearest point of any runway more than 3,200 feet in actual length, and also requires FAA notification for construction of any object taller than 200 feet.[87] The project sites are located as close as 5,140 feet north of the nearest runway of the Brackett Field Airport. Therefore, any development on the project sites equal to or greater than 48 feet in height (equal to a slope of 100:1 in relation to the distance to the nearest runway) would require notification to the FAA. As the height of the proposed residences do not exceed 18 feet 8 inches above surface grade at their tallest point, notification to the FAA for height restrictions is not required.

The project sites are outside the 55 a-weighted decibels (dBA) Community Noise Equivalent Level (CNEL) noise contour of Brackett Field Airport based on the Noise and Overflight Factors Map in the Brackett Field ALUCP.[88] The proposed project's development application is subject to Development Review Committee's review and approval prior to issuance of grading and building permits to ensure consistency with Compatibility Zone E of the BFALUCP and FAA Part 77. Due to the general compatibility of the proposed residential uses within Zone E of the BFALUCP, impacts from excessive noise or safety hazards to people residing or working in the project area from a project within an airport land use plan would be **less than significant.** Mitigation is not required.

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

Less than Significant Impact

Discussion of Effects: The proposed project would be required to design, construct, and maintain structures, roadways, and facilities in accordance with applicable standards

84 *Ibid.* Table 2B, Compatibility Zone Delineation.

85 Highest elevation of project site grade 1,064 feet subtracted by lowest elevation of airport runway 966 feet = 98 feet difference in elevation between the project site and runway. 150-foot object height limit in Zone E subtracted by 98-foot difference in elevation between the project site and runway = 52-foot building height threshold for notification to Los Angeles County Airport Land Use Commission (52-foot building height plus 98-foot difference in elevation between the project site and runway = 150-foot object height limit threshold).

86 *Ibid.* Map 2B, Airspace Protection Map.

87 *§ 77.9(a)(1) Construction or Alteration Requiring Notice.* 14 Code of Federal Regulations 77.9 - Construction or Alteration Requiring Notice. https://www.law.cornell.edu/cfr/text/14/77.9. (Accessed October 25, 2024).

88 Los Angeles County Airport Land Use Commission. *Brackett Field Airport Land Use Compatibility Plan.* Exhibit 5: Noise and Overflight Factors Map. Adopted December 9, 2015.

governing vehicular access, resulting in the provision of adequate vehicular access that would provide for adequate emergency access and evacuation. Access to every residential unit will be provided via Park Avenue (for the North Gateway site) and Park Avenue and A Street (for the South Gateway site). The proposed project includes reconstruction of portions of the curb, gutter, sidewalk, and driveway aprons along the project frontages of Park Avenue and A Street. Demolition and construction activities that may temporarily restrict vehicular traffic would be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures.

The project access and circulation design would be subject to review and approval by the City Fire and Police Departments, City Traffic Engineer, and Public Works Department during the City's precise plan review process. The fire chief will condition the project design, construction, and operation to ensure protection of life and property, including, but not limited to additional fire hydrants, increased turnaround ability, increased sprinkler density and coverage, and additional means of access/egress. Through compliance with Section 18.68.030 of the City Municipal Code,[89] impacts related to emergency access would remain **less than significant.** No mitigation is required.

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

Less than Significant Impact

Discussion of Effects: The project sites are not located within a Fire Hazard Area or within an area susceptible to wildfires identified by the California Department of Forestry and Fire Protection.[90] The project sites are completely surrounded by residential development and no wildlands are located adjacent to the project sites. Nevertheless, the design and construction of all proposed buildings must conform to City Fire Code Section 15.32.10 of the Municipal Code, which requires compliance with the California Fire Code 2022 Edition. Compliance would be verified through the building plan check process pursuant to Section 18.60.030 and Chapter 18.16 (Development Review) of the City Municipal Code prior to issuance of building permits. Because of the low probability that the project sites would be subject or susceptible to wildland fires, impacts related to this issue would be **less than significant.** No mitigation is required.

[89] Pursuant to Section 18.68.030, traffic roadways shall be at least 20 feet wide and passable in all weather. Additionally, dead-end roads shall not exceed 700 feet in length when serving land zoned for residential uses having a density of more than four dwelling units per acre, and they shall end in turnarounds approved by the fire chief to accommodate the needs of fire apparatus.

[90] California Department of Forestry and Fire Protection. *Fire Hazard Severity Zone Viewer.* March 2025. https://experience.arcgis.com/experience/5065c998b4b0462f9ec3c6c226c610a9/page/Compare-old-and-new-LRA-FHSZ (Accessed March 29, 2025).

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
X. Hydrology and Water Quality				
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management in 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 storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d) Result in flood hazard, tsunami, or seiche zones, or risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

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

Less than Significant Impact

Discussion of Effects: The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) regulate the quality of surface water and groundwater bodies throughout California. In Los Angeles County, including the City of La Verne, the Los Angeles RWQCB is responsible for implementation of the Water Quality Control Plan (Basin Plan).[91] The Basin Plan establishes beneficial water uses and water quality objectives for waterways and water bodies within the region. Section 303(d) of the federal Clean Water Act (CWA) requires that states identify water bodies, including bays, rivers, streams, creeks, and coastal areas, that do not meet water quality standards and the pollutants that are causing the impairment. A Total Maximum Daily Loads (TMDL) establishes limits for pollutant discharges into impaired water bodies. A TMDL describes the maximum amount of a pollutant that a water body can receive while still meeting established water quality standards.

The proposed project includes demolition of four residential homes, construction of seven single-family homes, and renovation of three existing single-family homes with common area landscaping on 1.19 acres encompassing the South Gateway Site and North Gateway Site. The South Gateway Site is currently developed with five single-family homes (2692 Park Avenue,2675 A Street, 2677 A Street, 2681 A Street, and 2683 A Street), and the North Gateway Site is currently developed with two single family homes (2730 Park Avenue and 2712 Park Avenue). The existing topography of the North Gateway Site gently slopes from north to south (one percent slope), and stormwater currently drains west towards Park Avenue, where it is discharged to existing stormwater infrastructure. The South Gateway Site has a high point running north to south approximately 80 feet east of the western property line. Currently, stormwater from the west of the high point drains west towards Park Avenue and stormwater from east of the high point drains east towards A Street. Stormwater is then conveyed through an existing stormwater channel before being discharged into Puddingstone Reservoir, approximately 1.6-miles southwest of the project site.

According to the 2024 Clean Water Act (CWA) Section 303(d) list, the current impairments for receiving waters (i.e., Puddingstone Reservoir) include pesticides (chlordane and dichlorodiohenytrichlorethane [DDT]), mercury, polychlorinated biphenyls (PCBs), and organic enrichment/low dissolved oxygen.[92] TMDL implementation plans for these constituents have been adopted, which would be applicable to the proposed project.

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91 Los Angeles Regional Water Quality Control Board. *Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties.* September 2014. Amendments through November 2024.

92 State Water Resources Control Board (SWRCB). *2024 California Integrated Report (Clean Water Act Section 303(d) List and 305(b) Report).* Website: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.waterboards.ca.gov%2Fwater_issues%2Fprograms%2Ftmdl%2F2023_2024state_ir_reports%2Fapx-a-2024-303d-list.xlsx&wdOrigin=BROWSELINK (accessed March 17, 2025).

Runoff water quality is regulated by the National Pollution Discharge Elimination System (NPDES) Program (established through the federal CWA). The NPDES Program objective is to control and reduce pollutant discharges to surface water bodies. Compliance with NPDES permits is mandated by State and federal statutes and regulations. Locally, the NPDES Program is administered by the Los Angeles RWQCB.

Construction activities are subject to the SWRCB's NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2022-0057-DWQ, NPDES No. CAS000002 (Construction General Permit).[93] Any construction activity, including grading, that would result in the disturbance of 1 acre or more would require compliance with SWRCB's Construction General Permit, which requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implementation of Construction Best Management Practices (BMPs) during construction activities. Construction BMPs would include, but not be limited to, erosion control and sediment control BMPs designed to minimize erosion and retain sediment on site, and good housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters.

The City is a Co-Permittee under the Los Angeles RWQCB's Regional Phase 1 MS4 for Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles and Ventura Counties, Order No. R4-2021-0105, NPDES Permit No. CAS004004 (MS4 Permit).[94] The MS4 Permit prohibits discharges, sets limits on pollutants being discharged into receiving waters, and requires implementation of technology-based standards. The MS4 Permit also requires co-permittees to develop and implement a standard design and post-development BMP guidance to guide application of low impact development (LID) BMPs to the maximum extent practicable.

93 State Water Resources Control Board. *National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2022-0057-DWQ, NPDES No. CAS000002*. September 8, 2022. Effective September 1, 2023.

94 California Regional Water Quality Control Board, Los Angeles Region. *Regional Phase 1 MS4 for Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles and Ventura Counties, Order No. R4-2021-0105, NPDES Permit No. CAS004004*. July 23, 2021. Effective September 11, 2021.

Construction. Pollutants of concern during construction include pathogens, nutrients (phosphorous and nitrogen), sediment, metals, oil and grease, trash/debris, pesticides/herbicides, and organic compounds. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction. Any of these pollutants have the potential to be transported via storm water runoff into receiving waters (i.e., Puddingstone Reservoir).

Construction of the proposed project within the North and South Gateway Sites is anticipated to occur simultaneously and would disturb the entire 1.19-acres. Because project construction would disturb greater than 1 acre of soil, the proposed project would be subject to the requirements of the Construction General Permit. The proposed project would also be required to comply with the City's Municipal Code Chapter 13.50, Stormwater and Urban Runoff Pollution Control. Chapter 13.50 requires the implementation of BMPs to ensure that construction practices include measures to address pollutant discharge into storm drains and requires the Construction Contractor to operate and maintain these controls throughout the duration of on-site activities. As specified in **Regulatory Compliance Measure HYD-1,** and as required by the Construction General Permit and the City's Municipal Code, the Construction Contractor would be required to prepare a SWPPP and implement construction BMPs detailed in the SWPPP during construction activities. Construction BMPs would include, but not be limited to, erosion and sediment control (designed to minimize erosion and retain sediment on site), and good housekeeping practices to prevent spills, leaks, and discharge of construction debris and waste into receiving waters.

Regulatory Compliance Measure HYD-1: Construction General Permit and Chapter 13.50 of the City's Municipal Code. Prior to issuance of a grading permit, the Applicant shall obtain coverage under the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction and Land Disturbance Activities, Order No. 2022-0057-DWQ, NPDES No. CAS000002 (Construction General Permit). This shall include submission of Permit Registration Documents (PRDs), including a Notice of Intent for coverage under the permit to the SWRCB via the Stormwater Multiple Application and Report Tracking System (SMARTS). The Applicant shall provide the Waste Discharge Identification Number (WDID) to the Director of the City of La Verne Public Works Department and the Community Development Director or designee, to

demonstrate proof of coverage under the Construction General Permit. Project construction shall not be initiated until a WDID is received from the SWRCB and is provided to the City, or designee. A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented for the proposed project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify Construction Best Management Practices (BMPs) to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities. Upon completion of construction and stabilization of the site, a Notice of Termination shall be submitted via SMARTS.

According to the Geotechnical Investigation[95] prepared for the proposed project, no groundwater was encountered in any of the nine test borings. In addition, the Geotechnical Investigation indicates that the depth to historical high groundwater is greater than 100 feet below the existing ground surface (bgs). Due to the depth of groundwater, it is unlikely that excavation activities would have the potential to encounter groundwater and groundwater dewatering is not anticipated to be required during construction activities.

With adherence to **Regulatory Compliance Measure HYD-1**, including preparation of a SWPPP and implementation of construction BMPs, impacts associated with the violation of water quality standards or waste discharge requirements during project construction would be **less than significant**, and no mitigation is required.

Operation. As previously discussed, the city is a co-permittee under the Los Angeles RWQCB's MS4 Permit, which requires co-permittees to develop and implement a standard design and post-development BMP guidance to guide application of LID BMPs to the maximum extent practicable. The city relies on the Low Impact Development Standards Manual (LID Manual),[96] prepared by Los Angeles County (County), to guide the implementation of LID BMPs in the City. The LID Manual was prepared by the County in February 2014 in order to comply with the MS4 Permit and provides stormwater management requirements for Designated and Non-Designated Projects. Designated Projects must retain 100 percent of the increase in stormwater runoff from existing conditions (i.e., the Stormwater Quality Design Volume [SWQDv]) on-site through infiltration, evapotranspiration, stormwater runoff harvest and use, or a combination thereof unless it is demonstrated that it is technically infeasible to do. Non-Designated Projects are further divided into Small Scale and Large Scale Non-Designated Projects.

95 RMA Geoscience. *Geotechnical Investigation Report.* June 12, 2024.
96 County of Los Angeles, Department of Public Works. *Low Impact Development Standards Manual*. February, 2014.

Small Scale Non-Designated Projects include residential development and redevelopment of four units or less and are required to implement at least two of the simple BMPs provided in the LID Manual into the site design. Large Scale Non-Designated Projects include all Non-Designated residential developments of five units or more and, similar to Designated Projects, are required retain on-site the change in SWQDv through infiltration, evapotranspiration, stormwater runoff harvest and use, or a combination thereof unless it is demonstrated that it is technically infeasible to do so.

Consistent with the requirements of the MS4 Permit and the guidance provided in the County's LID Manual, the specific LID BMPs for the proposed project are detailed in the project-specific LID Studies for the South Gateway Site[97] and North Gateway Site[98] which are provided respectively as Appendices F-1 and F2. The LID Studies also provide the applicable source control measures for the proposed project, including storm drain signage, landscape irrigation practices, and type of building materials. According to the LID Studies, development of the three parcels within the North and South Gateway Sites qualifies as Small Scale Non-Designated Projects As Small Scale Non-Designated Projects, development of the parcels within the North Gateway Site and South Gateway Site would not be required to retain stormwater onsite but would instead implement at least two of the simple BMPs provided in the LID Manual into the site design.

The proposed project would generally maintain existing drainage pattens at the South and North Gateway Sites. As detailed in Appendix F1, with implementation of the proposed project, stormwater runoff from the South Gateway Site would be retained and infiltrated onsite. Sub Area A would use an onsite Infiltration Trench (RET-3) to collect and infiltrate the SWQDv stormwater flow at volumes that exceed the existing condition.[99] Sub Area 1B would be graded to utilize the new, expansive landscape areas to retain and percolate stormwater on site to a much greater degree than the existing condition. Because the post construction impervious area for Sub-Area 1-B is less than the pre-construction impervious area, the LID Study determined no further study is necessary. Storm runoff water would be directed to landscaped areas to be infiltrated rather than surface flowing to A Street as before.

As detailed in Appendix F2, with implementation of the proposed project, stormwater runoff from the North Gateway Site would be retained and infiltrated onsite. The onsite drainage system for the North Gateway Site would include an Infiltration Trench (RET-3) designed to collect and infiltrate the SWQDv stormwater flow at volumes that exceed the existing condition.[100]

Two of the simple BMPs provided in the LID Manual to be incorporated for the North Gateway Site and South Gateway Site include landscape irrigation practices (S-8) and

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97 Cantwell, Richard, P.E. *Low Impact Development (LID) Study, Hillcrest Gateway Project, 2692 Park Avenue, 2675 and 2681 A Street, La Verne, CA.* No Date.

98 Cantwell, Richard, P.E. *Low Impact Development (LID) Study, Hillcrest Gateway Project, 2712 Park Avenue, La Verne, CA*. No Date.

99 Cantwell, Richard, P.E. *Low Impact Development (LID) Study, Hillcrest Gateway Project, 2692 Park Avenue, 2675 and 2681 A Street, La Verne, CA.* Pages 8, 10, and 11. No Date

100 Cantwell, Richard, P.E. *Low Impact Development (LID) Study, Hillcrest Gateway Project, 2712 Park Avenue, La Verne, CA*. Page 8. No Date.

building materials (S-9). The project landscape designer would be directed to employ measures that would reduce excessive irrigation runoff, including but not limited to using:

- Rain triggered shut off devices;
- Adjust irrigation system design to specific plantings;
- Include flow reducers or shut off valves to prevent loss due to breakage; and
- Follow local water conservation methods and techniques.

In addition, alternative building materials would be considered by the project architect. These may include the use of properly coated metal flashing, vents, etc.

Compliance with the requirements of the MS4 Permit is also achieved through adherence to Chapter 13.50 of the City's Municipal Code, which requires compliance with applicable NPDES permits. Section 13.50.093 of the City's Municipal Code also requires the preparation of a Standard Urban Stormwater Mitigation Plan (SUSMP) for certain new development or redevelopment projects, including redevelopment projects that results in the creation, addition, or replacement of five thousand square feet or more of impervious surface area on an already developed site.[101] Because the proposed project is a redevelopment project that would result in the creation, addition, or replacement of five thousand square feet or more of impervious surface area on an already developed site, preparation of a SUSMP is required. SUSMPs include BMPs for source control, pollution prevention, site design, LID implementation, and structural treatment control. Educational materials for Hillcrest staff and residents, employee training, activity restrictions, and other non-structural source controls also may be implemented in order to educate people about stormwater pollution and potentially reduce activities that lead to polluted runoff. As detailed in **Regulatory Compliance Measure HYD-2,** the proposed project would be required to prepare a SUSMP that details the source control and LID BMPs provided in the LID Studies, consistent with the requirements of the MS4 Permit and the City's Municipal Code, which would ensure that the proposed project would adequately target pollutants of concern in stormwater runoff during project operation.

Regulatory Compliance Measure HYD-2: MS4 Permit/Chapter 13.50 of the City's Municipal Code. Prior to issuance of a grading permit, the Applicant shall submit Standard Urban Stormwater Mitigation Plan (SUSMP) to the City of La Verne for review and approval. The SUSMP shall demonstrate that the proposed development plan includes BMPs for source control, pollution prevention, site design, low impact development (LID) implementation, and structural treatment control. Best Management Practices (BMPs) shall be designed and implemented consistent with the requirements outlined in the project-specific LID Studies and Los Angeles County's LID

[101] Section 13.50.093 of the City Municipal Code requires that a standard urban stormwater mitigation plan (SUSMP) shall be required for *"Redevelopment projects that results in the creation, addition, or replacement of five thousand square feet or more of impervious surface area on an already developed site."*

Standards Manual. Periodic maintenance of any required bioretention basin and landscaped areas during project occupancy and operation shall be in accordance with the schedule outlined in the SUSMP. This condition shall be implemented to the satisfaction of the Director of the City of La Verne Public Works Department and the Community Development Director or designee, as appropriate.

With adherence to **Regulatory Compliance Measure HYD-2**, including preparation of a SUSMP and implementation of operational BMPs, impacts associated with the violation of water quality standards or waste discharge requirements during project operation would be **less than significant**, and no mitigation is required.

Overall, with adherence to **Regulatory Compliance Measures HYD-1** and **HYD-2**, the proposed project would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality, during construction or operation. Impacts would be **less than significant**, and mitigation is not required.

b. Substantially decrease groundwater supplies or interfere with groundwater recharge such that the project may impede sustainable groundwater management in the basin?

Less than Significant Impact

Discussion of Effects: The project site is located within the boundaries of the San Gabriel Valley Groundwater Basin.[102] The estimated groundwater storage capacity of the San Gabriel Valley Groundwater Basin is 10,438,000 acre-feet and natural recharge to the basin is primarily from the direct percolation of precipitation and stream flow.[103] Stream flow is a combination of runoff from the surrounding mountains, imported water conveyed in the San Gabriel River channel to spreading grounds in the Central subbasin of the Coastal Plain of Los Angeles Groundwater Basin, and treated sewage effluent.[104]

Construction. As discussed above, according to the Geotechnical Investigation[105] prepared for the proposed project, no groundwater was encountered in any of the nine test borings. In addition, the Geotechnical Investigation indicates that the depth to historical high groundwater is greater than 100 feet bgs. Due to the depth of groundwater, it is unlikely that excavation activities would have the potential to encounter groundwater, and groundwater dewatering is not anticipated to be required during construction activities. In addition, due to the depth of groundwater, it is unlikely that the project site is a significant groundwater recharge area. Nevertheless, soil compaction would be

[102] California Department of Water Resources. *Groundwater Basin Boundary Assessment Tool*. Website: https://gis.water.ca.gov/app/bbat/. Accessed March 2025.
[103] California Department of Water Resources. *California's Groundwater Bulletin 118, San Gabriel Valley Groundwater Basin*. February 27, 2004.
[104] City of La Verne. *Public Review Draft Environmental Impact Report for the La Verne General Plan and Zoning Ordinance Update (SCH: 2023040002)*. August 2024.
[105] RMA Geoscience. *Geotechnical Investigation Report*. June 12, 2024.

minimized during construction, which would promote natural infiltration during construction activities. Therefore, construction impacts related to a decrease in groundwater supplies or interference with groundwater recharge in a manner that may impede sustainable groundwater management would be **less than significant**, and no mitigation is required.

Operation. As described above, it is unlikely that the project site is a significant groundwater recharge area due to the depth to groundwater. The proposed project would also include porous paving on the North Gateway Site and eastern portion of the South Gateway Site that would infiltrate stormwater onsite, and both the South and North Gateway Sites would include an infiltration trench located in the landscaped areas, which would capture and infiltrate the SWQDv stormwater flows in accordance with the MS4 Permit. As such, infiltration would continue to occur at the project site in the post-development condition.

As discussed above, the project site is located within the San Gabriel Valley Groundwater Basin. The San Gabriel Valley Groundwater Basin is identified by the Department of Water Resources as a low priority basin.[106] Therefore, the groundwater basin is not considered critically overdrafted and a Groundwater Sustainability Plan is not required. The San Gabriel Groundwater Basin is divided into three adjudicated sub-basins, including the Main San Gabriel Basin (Main Basin), Puente Basin, and portions of the Six Basins area. In addition, there is the Spadra sub-basin, which is not adjudicated. The city, including the project site, is located within the Main Basin and Six Basins management areas.[107]

Domestic water for the City is provided by the City of La Verne and the Golden State Water Company, San Dimas System (GSWC) through a combination of groundwater and imported water. The City is the water purveyor for the vast majority of the city, with the remaining parts of the city along its western border and unincorporated areas in the sphere of influence being served by GSWC. The City's water sources include imported water from the Three Valleys Municipal Water District's (TVMWD) Miramar Treatment Plant, Metropolitan Water District (MWD), and groundwater extracted from Six Basins. GSWC's main source of water supply is groundwater pumped from the Main Basin.[108] Based on the project site's location within the city, the City would provide domestic water to the project site, primarily extracted from Six Basins in accordance with the Six Basins Judgment. The Six Basins Judgment is overseen by the Six Basins Watermaster. According to the Six Basins Judgment, the City has a right to 7.601 percent of the safe operating yield from the Canyon Basin, Upper Claremont Heights Basin, Lower Claremont Heights Basin, and Pomona Basin and "the right to produce as much groundwater as it may reasonably withdraw from the Two Basins Area on an annual basis so long as it does not substantially injure the rights of any other" parties identified in the Six Basins Judgment.[109] Through compliance with the Six Basins Judgment, groundwater extraction by the City for domestic use would not exceed safe operating yields. In addition, as

[106] California Department of Water Resources. *SGMA Basin prioritization Dashboard*. Website: https://gis.water.ca.gov/app/bp-dashboard/final/. Accessed March 2025.
[107] City of La Verne. *Public Review Draft Environmental Impact Report for the La Verne General Plan and Zoning Ordinance Update (SCH: 2023040002)*. August 2024.
[108] *Ibid.*
[109] City of La Verne. *City of La Verne 2020 Urban Water Management Plan.* Page 5-7. June 2021.

discussed in Section XIX, Utilities and Service Systems, the City has adequate water supplies to meet normal year, single dry year, and multiple dry year demand conditions through the UWMP's 2040 planning horizon. Through a combination of imported water from the TVMWD and MWD and local groundwater extracted from Six Basins in accordance with the Six Basins Judgment, the City would have sufficient water supplies to serve the proposed project. Therefore, operational impacts related to a decrease in groundwater supplies or interference with groundwater recharge in a manner that may impede sustainable groundwater management would be **less than significant**, and mitigation is not required.

Overall, implementation of the proposed project would not deplete groundwater supplies or interfere with groundwater recharge during construction or operation such that the proposed project may impede sustainable groundwater management. Impacts associated with groundwater supply and recharge would be **less than significant**, and mitigation is not required.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i Result in substantial erosion or siltation on or off site?

Less Than Significant Impact

Discussion of Effects: The existing topography of the North Gateway Site gently slopes from north to south (one percent slope), and stormwater currently drains west towards Park Avenue, where it is discharged to existing stormwater infrastructure. The South Gateway Site has a high point running north to south approximately 80 feet east of the western property line. Currently, stormwater from the west of the high point drains west towards Park Avenue and stormwater from east of the high point drains east towards A Street. Stormwater is then conveyed through an existing stormwater channel before being discharged into Puddingstone Reservoir, approximately 1.6-miles southwest of the project site. With implementation of the proposed project, stormwater runoff from the South and North Gateway Sites would be collected via the proposed on-site stormwater collection infrastructure and conveyed to the proposed Infiltration Trenches (RET-3) located in the landscaped areas of each site, which would capture and infiltrate the SWQDv for the project. Overflows from the porous pavement and infiltration basin would discharge to existing stormwater infrastructure in Park Avenue and A Street, similar to existing conditions.

Construction. During construction activities, soil would be exposed and disturbed, drainage patterns would be temporarily altered, and there would be an increased potential for soil erosion and siltation compared to existing conditions. Additionally, during a storm event, soil erosion and siltation could occur at an accelerated rate. As discussed above, and as specified in **Regulatory Compliance Measure HYD-1**, the Applicant would be required to obtain coverage under the Construction General Permit, which requires preparation of a SWPPP. The SWPPP would detail erosion control and sediment control BMPs to be implemented during construction to minimize erosion and retain sediment on site.

With adherence to **Regulatory Compliance Measure HYD-1**, including implementation of construction BMPs, construction impacts related to substantial soil erosion or the loss of topsoil would be **less than significant,** and no mitigation is required.

Operation. The proposed impervious surface areas on the project site would not be prone to on-site erosion or siltation because there would be no exposed soil. The remaining pervious surfaces on the project site would be landscaped with vegetation that would stabilize the soil and promote infiltration, thereby minimizing on-site erosion and siltation. Furthermore, the proposed project would be required to adhere to **Regulatory Compliance Measure HYD-2**, which requires the preparation of a SUSMP in compliance with the MS4 Permit and the implementation of source control and LID BMPs that would minimize stormwater runoff, thereby minimizing on-site erosion and siltation. With adherence to **Regulatory Compliance Measure HYD-2**, operational impacts related to on-site or off-site erosion or siltation would be **less than significant**, and no mitigation is required.

Overall, with adherence to **Regulatory Compliance Measures HYD-1** and **HYD-2**, the proposed project would not result in substantial erosion or siltation on or off site. Impacts would be **less than significant**, and no mitigation is required.

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

and

iv Impede or redirect flood flows?

Less Than Significant Impact

Discussion of Effects: According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06037C1725F (effective September 26, 2008),[110] the project site is mapped as within Zone X, Area of Minimal Flood Hazard, and is not within a 100-year flood zone. As discussed above, project construction would comply with the requirements of the Construction General Permit and the City's Municipal Code (**Regulatory Compliance Measure HYD-1**), which require preparation of a SWPPP that would specify construction BMPs to control and direct on-site surface runoff to ensure that project construction does not increase the rate or amount of surface runoff or impede or redirect flood flows in manner that would

[110] Federal Emergency Management Agency (FEMA). *Flood Insurance Rate Map (FIRM) No. 06037C1725F*. September 26, 2008.

result in on-site or off-site flooding. In addition, the proposed LID BMPs (porous pavement, and infiltration basin), would capture and treat stormwater runoff consistent with the requirements of the MS4 Permit. Compliance with the MS4 Permit (**Regulatory Compliance Measure HYD-2**) would ensure that operational activities would not result in a substantial increase in the rate or amount of surface runoff or impede or redirect flood flows in a manner that would result in on- or off-site flooding.

Overall, with adherence to **Regulatory Compliance Measures HYD-1** and **HYD-2**, the proposed project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site or significantly impede or redirect flood flows. Impacts would be **less than significant**, and mitigation is not required.

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

Less Than Significant Impact

Discussion of Effects: As discussed above, project construction would comply with the requirements of the Construction General Permit and the City's Municipal Code (**Regulatory Compliance Measure HYD-1**), which require preparation of a SWPPP that would specify construction BMPs to control and direct on-site surface runoff to ensure that storm water runoff from the construction site does not exceed the capacity of the stormwater drainage system and does not discharge polluted runoff during construction activities.

As detailed in Appendix F1, with implementation of the proposed project, stormwater runoff from the South Gateway Site would be retained and infiltrated onsite. Sub Area A would use an onsite Infiltration Trench (RET-3) to collect and infiltrate the SWQDv stormwater flow at volumes that exceed the existing condition.[111] Sub Area 1B would be graded to utilize the new, expansive landscape areas to retain and percolate stormwater on site to a much greater degree than the existing condition. Because the post construction impervious area for Sub-Area 1-B is less than the pre-construction impervious area, the LID Study determined no further study is necessary. Storm runoff water would be directed to landscaped areas to be infiltrated rather than surface flowing to A Street as before.

As detailed in Appendix F2, with implementation of the proposed project, stormwater runoff from the North Gateway Site would be retained and infiltrated onsite. The onsite drainage system for the North Gateway Site would include an Infiltration Trench (RET-3) designed to collect and infiltrate the SWQDv stormwater flow at volumes that exceed the existing condition.[112]

Through compliance with the design requirements for Small Scale Non-Designated Projects provided in the LID Manual, which would be detailed in the SUSMP

[111] Cantwell, Richard, P.E. *Low Impact Development (LID) Study, Hillcrest Gateway Project, 2692 Park Avenue, 2675 and 2681 A Street, La Verne, CA.* Pages 8, 10, and 11. No Date

[112] Cantwell, Richard, P.E. *Low Impact Development (LID) Study, Hillcrest Gateway Project, 2712 Park Avenue, La Verne, CA*. Page 8. No Date.

(**Regulatory Compliance Measure HYD-2**), stormwater runoff from the project site would not exceed the capacity of the existing stormwater system pursuant to the requirements of the MS4 Permit.

Overall, with adherence to **Regulatory Compliance Measures HYD-1** and **HYD-2**, the proposed project would not create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Impacts would be **less than significant**, and mitigation is not required.

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

Less than Significant Impact

Discussion of Effects:

Flooding. As discussed above, the project site is not within a 100-year flood zone. During construction, BMPs would be implemented to ensure that during a rain event, pollutants would be retained on site and would be prevented from reaching downstream receiving waters in accordance with **Regulatory Compliance Measure HYD-1**. During operation, the proposed project would generally maintain the existing drainage pattern of the project site, and development would include porous pavement and infiltration trenches that would ensure that pollutants would be treated and prevented from reaching downstream receiving waters, consistent with the requirements of the MS4 Permit. Compliance with the MS4 Permit, as required by **Regulatory Compliance Measure HYD-2**, would ensure the proposed project would not result in the release of pollutants due to flooding during operation.

In addition, according to the California Department of Water Resources Division of Safety of Dams, the project site is not located within a dam inundation area.[113] Therefore, the proposed project would not result in the release of pollutants due to flooding cause by a dam failure.

The proposed project would also be reviewed pursuant to Section 18.60.030 and Chapter 18.16, Development Review, of the City's Municipal Code. If the project site is found to be subject to floodwater inundation, the proposed project would be conditioned to meet the requirements established in Chapter 15.40, Floodplain Management, of the City's Municipal Code, as well as compliance with State Civil Code Sections 1103 through 1103.4 requiring notification to those potentially affected of the risk involved in location within a flood hazard or dam inundation area. These requirements will be confirmed through the City's building plan check process prior to issuance of building permits.

Tsunami. The project site is over 32 miles northeast of the Pacific Ocean, and intervening mountain ranges are located between the project site and the Pacific Ocean. Based on the distance from the Pacific Ocean and the presence of an intervening mountain range,

[113] California Department of Water Resources, Division of Safety of Dams. n.d. *Dam Breach Inundation Map Web Publisher*. Website: https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2. Accessed March 19, 2025.

the project site would not be susceptible to inundation from a tsunami and there is no risk of a release of pollutants from the project site.

Seiches. Seiches are oscillations in enclosed bodies of water (e.g., a bay, lake, or harbor) that are caused by a number of factors, most often wind or seismic activity. Seiches go up and down or oscillate and do not progress forward like standard ocean waves. The nearest sizeable, enclosed body of water to the project site is Puddingstone Reservoir, which is located approximately 1.7 miles southwest of the project site. Given the distance of large standing bodies of water from the project site and that seiches are highly localized, there is no risk of a release of pollutants from the project site due to seiche-related flooding.

Overall, with adherence to **Regulatory Compliance Measures HYD-1** and **HYD-2**, including the inclusion of rain barrels, porous pavement, and an infiltration basin that would treat stormwater and address the volume and rate of stormwater flows, and because the project site is not within a tsunami or seiche zone, implementation of the proposed project would not result in the release of pollutants from a flood, dam inundation, tsunami, or seiche. Impacts would be **less than significant**, and mitigation is not required.

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

Less than Significant Impact

Discussion of Effects: The project site is within the jurisdiction of the Los Angeles RWQCB. The Los Angeles RWQCB adopted a Water Quality Control Plan (Basin Plan) in September 2014, which was updated in November 2024, that designates beneficial uses for all surface and groundwater within its jurisdiction and establishes the water quality objectives and standards necessary to protect those beneficial uses. The proposed project would comply with the Construction General Permit and the existing MS4 Permit, as detailed in **Regulatory Compliance Measures HYD-1** and **HYD-2**, which require preparation of a SWPPP and SUSMP, and implementation of construction and operational BMPs to reduce pollutants of concern in stormwater runoff. Therefore, the proposed project would not result in water quality impacts that would conflict with the Los Angeles RWQCB Basin Plan. Impacts related to a conflict with or obstruction of the implementation of a water quality control plan would be **less than significant**, and no mitigation is required.

The Sustainable Groundwater Management Act (SGMA) was enacted in September 2014. SGMA requires governments and water agencies located within high- and medium-priority groundwater basins to halt overdraft of the basins. SGMA requires the formation of local Groundwater Sustainability Agencies (GSAs), which are required to adopt Groundwater Sustainability Plans (GSPs) to manage the sustainability of the groundwater basins. The project site is located within the San Gabriel Valley Groundwater Basin, which is identified by the Department of Water Resources as a very low priority basin; therefore, development of a GSP is not required.

As discussed previously, no groundwater was encountered in any of the nine test borings. In addition, the Geotechnical Investigation indicates that the depth to historical high

groundwater is greater than 100 feet bgs. Due to the depth to groundwater, it is not expected that any stormwater that may infiltrate during construction would affect groundwater quality because the groundwater table is deep, and pollutants would be filtered prior to reaching groundwater. In addition, the proposed project would include porous pavement and infiltration basins to collect and treat storm water before it could reach groundwater. Further, pollutants in stormwater are generally removed by soil through absorption as water infiltrates. Therefore, in areas of deep groundwater, there is more absorption potential and, as a result, less potential for pollutants to reach groundwater. Due to the depth to groundwater, it is not expected that any storm water that may infiltrate during construction or operation would affect groundwater quality because there is not a direct path for pollutants to reach groundwater.

Although the proposed project would increase impervious surface area on the project site, which would decrease on-site infiltration, the proposed project would collect and infiltrate stormwater on the project site in accordance with the requirements of the MS4 Permit. Therefore, the proposed project would not substantially decrease on-site infiltration and groundwater recharge when compared to existing conditions. Therefore, with adherence to **Regulatory Compliance Measures HYD-1** and **HYD-2**, the proposed project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be **less than significant**, and no mitigation is required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XI. Land Use and Planning				
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒	☐	☐

a. Physically divide an established community?

No Impact

Discussion of Effects: The project sites are located in the southern portion of the City and are surrounded by residential uses on all sides. The South Gateway Site is bounded to the north and south by single-family and multi-family residences, to the west by Park Avenue, and to the east by A Street. The North Gateway Site is bounded to north and south by single-family residences, to the west by Park Avenue, and to the east by single-family and multi-family residences. The Zone Change Site is bounded to the north and south and west by multi-family residences and to the east by Park Avenue. The Master Plan Change Site is already located within the Hillcrest community.

The seven proposed residences would continue the residential pattern of development in the community and be oriented around public paseos that traverse through the properties and serve as courtyards for residents of the Hillcrest Master Plan and surrounding community. Additionally, the three existing residences to be renovated on the South Gateway Site would be designed to match the architecture of the proposed residences. The public paseos will feature landscaping consistent with Appendix J of the Hillcrest Master Plan[114] and ultimately improve the connection between the east and west campuses of the Hillcrest community. Furthermore, the project sites would be thematically landscaped to differentiate them from other neighborhoods of the Master Plan while establishing a unique articulation of space and skyline in the community. As indicated in the Master Plan,[115] thematically oriented landscaping facilitates ease of navigation for pedestrians and other residents of the Master Plan. Through the interconnection of the east and west campuses of the Hillcrest Community and implementation of thematically oriented landscaping, the proposed project would not physically divide an established community. **No impact** would occur, and mitigation is not required.

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

Potentially Significant Unless Mitigation Incorporated

Discussion of Effects: The proposed Master Plan Update is subject to the following planning policy documents:

- City of La Verne General Plan;
- City of La Verne Municipal Code;
- SCAQMD AQMP (Refer to response to Checklist Question III(a)); and
- Brackett Field Airport Land Use Compatibility Plan (Refer to response to Checklist Question IX(e)).

The Master Plan Change Site does not involve any changes to the General Plan, zoning, or existing development and therefore is not relevant to this discussion, as the redesignation of areas within the Master Plan would not create any conflicts.

City of La Verne General Plan. The Land Use Chapter of the General Plan establishes the type and general character of land uses permitted in the City. According to the City of La Verne's General Plan, the North Gateway Site, South Gateway Site, and Zone Change Site are designated as Low Density Residential.[116] The Brethren Hillcrest continuing care retirement community abuts the project sites to the east and west. According to Policy LU-2.10 of the City's General Plan Update Policy Document, the [Hillcrest] Master Plan must provide for the cohesive and integrated development of new areas, large projects,

[114] City of La Verne. *Brethren Hillcrest Homes Master Plan, Appendix J.* Page 113. Approved November 2, 1992.

[115] City of La Verne. *Brethren Hillcrest Homes Master Plan, Design Development Guidelines*. Page 3. Approved November 2, 1992

[116] City of La Verne. *La Verne Permitting Portal.* https://laverne.geoviewer.io/ (accessed November 13, 2024).

complex or multi-parcel sites, areas with multiple property owners, and/or areas of special importance to the community.[117] Development of the three project sites requires an amendment to the General Plan land use designation from Low Density Residential to Community Facility (Figure 6) and would require a corresponding change in zoning from Low Density Residential to Institutional, which implements the Community Facility land use designation (Figure 5). Development within the Institutional zone requires a master plan, and the Hillcrest Master Plan would be amended to incorporate these three sites into the Master Plan area.

General Plan . In support of General Plan Update Policy LU-5.3, adoption and periodic update of a Master Plan for institutional and public facilities must adhere to the City's zoning standards and regulations for specific plan areas, master plan areas, and special overlay zones and districts.[118] The proposed project includes redevelopment of properties in the City while maintaining consistency with the existing residential uses composing the surrounding community.

The North and South Gateway Sites shall be designed and constructed in accordance with the Master Plan's two primary physical components, which are (1) informal courtyard configurations, and (2) a sense of landscape sanctuary.[119] The proposed seven residential units and renovation of three existing units would include reconstruction of public paseos traversing these properties to improve the connection between the east and west campuses of the Hillcrest community. Furthermore, the project sites would be thematically landscaped to differentiate them from other neighborhoods of the Master Plan while establishing a unique articulation of space and skyline in the community.

Additional elements of the Master Plan Update to support cohesive integration of the proposed project within the existing community include preservation of seven mature trees located within the landscaped courtyard of the North Gateway site adjacent to the existing paseo. Incorporation of these trees into the proposed project's landscape plan, in addition to planting of additional trees, maintains consistency with the Landscape and Ambient Guidelines defined in the [Hillcrest] Master Plan requiring that, whenever possible, existing trees should be incorporated into the design of future developments.[120]

The proposed residential structures would incorporate features of both craftsman (e.g., projecting eves, exposed trusses, and heavily articulated stonework along foundations) and ranch (e.g., single story, low-pitched roof, and attached garage) architectural styles consistent with the architecture of the residential uses within the [Hillcrest] Master Plan surrounding the project sites. Structural elements incorporated through cohesive architecture, material, and color would achieve an integrated appearance to the building designs while deemphasizing the "box" appearance through the use of multi-form roof combinations, step-backs, varied massing, projecting elements, trim, eaves, material and color massing, and other features. The proposed residential structures would be single-story homes constructed to heights commensurate with the surrounding buildings and

[117] City of La Verne. *City of La Verne General Plan Update, Policy Document.* Page LU-9. Adopted January 21, 2025.
[118] *Ibid*. LU-13.
[119] City of La Verne*. Brethren Hillcrest Homes Master Plan, Design Development Guidelines*. Page 11. Approved November 2, 1992.
[120] *Ibid.* Page 15.

well below the maximum building height of 25 feet permitted for this area of the Master Plan.[121] Therefore, it is anticipated that the proposed scale, architectural design, and articulation of the development on the site would complement the surrounding residential uses.

In addition, the seven proposed age-restricted residential units and three existing units to be renovated would support General Plan Housing Element Policy 2.6 (Facilitate development of senior and low-income housing through use of financial and/or regulatory incentives) and Policy 5.4 (Encourage housing design standards that promote the accessibility of housing for persons with special needs, such as the elderly, persons with disabilities, including persons with developmental disabilities, large families, single-parent households, and persons experiencing homelessness).[122] The project would result in an incremental increase in land use density on the project sites by proposing three additional dwelling units compared to baseline conditions under which seven units exist. However, approximately 15.2 percent of the City's overall population is aged 65 years or older, and the proposed dwelling units would be age-restricted to help fulfill City's identified need to provide additional housing opportunities for senior residents.[123]

Average household size in the City is approximately 2.62 persons per dwelling unit.[124] The proposed project could generate 26 residents in the City,[125] of which 18 were already anticipated under the existing General Plan, and 8 of which would be additional residents.[126] Between 2010 and 2020, the total population of the City increased by 2,250 persons to 33,313 (7.2 percent).[127] Between 2000 and 2020, total number of households in the City increased by 667 units to 11,737 (6.0 percent).[128] The proposed project's contribution to the City's population and households is consistent with the City's growth trends and represents a minimal increase (between 0.024 percent and 0.078 percent of the 2020 City population and between 0.026 percent and 0.085 percent of the 2020 City households).[129]

The Hillcrest Homes Master Plan community provides an on-call pick-up service that transports residents to the Brethren Hillcrest dining hall and other amenities via electric

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121 *Ibid.* Page 50.

122 City of La Verne, 2021-2029 Housing Element. *City of La Verne, General Plan Update.* Page HP-4 and HP-7. Adopted November 21, 2022.

123 *Ibid.* Page BR-40.

124 United States Census Bureau. *QuickFacts, La Verne City, California.* https://www.census.gov/quickfacts/fact/table/lavernecitycalifornia/HSD310223. Accessed March 28, 2025.

125 2.62 persons per household × 10 dwelling units = 26.2 persons.

126 It should be noted since the proposed residential uses would be age-restricted to seniors, the population estimates for the proposed project are conservative and are expected to be overestimating the actual population that would occupy the proposed project.

127 City of La Verne, 2021-2029 Housing Element. *La Verne Housing Element Background Report.* Page BR-25. Adopted November 21, 2022.

128 Southern California Association of Governments. *2021 Local Profiles Dataset*. Website: scag.ca.gov/data-tools-local-profiles (accessed November 2024).

129 These calculations identify the project's contribution to the City compared to the anticipated population and households under the General Plan Housing Element (e.g., 8 additional residents not anticipated ÷ 33,313 persons = 0.024 percent) (3 additional households not anticipated ÷ 11,737 households = 0.026 percent), as well as the overall project contribution to the City (e.g., 26 project residents ÷ 33,313 persons = 0.078 percent) (10 project households ÷ 11,737 households = 0.085 percent).

motorized cart. Additionally, a private bus service provides transportation to local services such as banks, doctors' offices, pharmacies, grocery/retail, churches, the Metro Gold Line and Metrolink station respectively 1 mile and 1.75 miles to the southeast, and regional bus stations. The project sites are located approximately 850 feet from Foothill Transit Bus Route 492 serving the Cities of Montclair, Irwindale, El Monte, and points in-between.[130] Accordingly, the proposed project addresses several key issues and implements policies of the General Plan and AQMP that reduce vehicle miles traveled and associated air pollution emissions without generating a substantial unanticipated increase in population. Therefore, no potential cumulative overburdening of community infrastructure and service capacity is expected to occur.

As detailed in response to Checklist Question III(c), receptors sensitive to adverse air quality include, but are not limited to, residential land uses, schools, hospitals, resident care facilities, daycare facilities, or other facilities that may house individuals with health conditions that would be affected by poor air quality. The project site is surrounded by residential and independent-living resident care facilities. The nearest sensitive receptors are the residences adjacent to the project site boundaries in all directions. Tables C and E identify the on-site construction and operational emissions of CO, NOx, PM_{10}, and $PM_{2.5}$, respectively, and demonstrate that all concentrations of pollutants would be below the SCAQMD thresholds of significance for construction and operation of the project. Therefore, neither short-term construction nor long-term operation of the proposed project under the Master Plan Update would expose the surrounding community to adverse air quality. Furthermore, demolition of the existing residential structures on the project sites would be subject to **Regulatory Compliance Measures HAZ-1**, **HAZ-2** and **HAZ-3** to ensure surrounding land uses would be protected from hazards related to demolition of structures containing asbestos and/or lead.

The proposed residential units would be substantially similar to the existing and surrounding residential land uses. With implementation of **Regulatory Compliance Measure NOI-1** and **Mitigation Measures NOI-1** through **NOI-3**, surrounding sensitive receptors would not be exposed to significant noise or vibration levels during construction or operation.

The proposed project under the Master Plan Update would be reviewed through the City's development review process for consistency with applicable adopted City policies. Adherence to project Mitigation Measures and Regulatory Compliance Measures, as well as the design and planning principles presented in the proposed Master Plan Update, would ensure compatibility between the institutional and residential land uses in accordance with Policy LU-2.10 and Policy LU-5.3 of the City's General Plan Update Policy Document. **Regulatory Compliance Measures HAZ-1**, **HAZ-2** and **HAZ-3** would ensure surrounding land uses would be protected from hazards related to demolition of structures containing asbestos and/or lead, and **Regulatory Compliance Measure NOI-1** and **Mitigation Measures NOI-1** through **NOI-3** would ensure surrounding sensitive receptors would not be exposed to significant noise or vibration levels during construction

[130] Foothill Transit. *El Monte Station – Arcadia – Montclair – Transit Center Via Arrow Hwy, Line 492*. https://www.foothilltransit.org/line/492 (accessed November 15, 2024).

or operation. Therefore, the project would be consistent with the City's General Plan. Impacts would be **less than significant with mitigation incorporated**.

City of La Verne Municipal Code. As stated above, the project amends the zoning of North and South Gateway Sites and the Zone Change Site from Planned Residential 4.5 dwelling units per acre to Institutional (I), and also amends the Hillcrest Master Plan to incorporate these sites into Neighborhood 5 of the Hillcrest Master Plan. The project also includes a parcel merger to merge two parcels comprising the North Gateway Site into one parcel. A parcel merger is also proposed for the Zone Change Site that would be merged with the property adjacent to the south into one parcel in accordance with Chapter 16.12 (Parcel Maps) of the La Verne Municipal Code.

Pursuant to Section 18.60.020 of the City Municipal Code, a master plan is required for all structures and improvements in Institutional zones. The Master Plan shall be approved before a precise plan can be approved for buildings and other improvements. Therefore, if the Design Review Committee approves the precise plan, such approval shall be contingent on the ultimate approval of the Master Plan. On sites less than 5 acres, such as the proposed project sites, the Master Plan Update shall be reviewed by the Planning Commission pursuant to Chapter 18.108 (Conditional Use Permits, Variances, and Minor Exceptions). If the Planning Commission approves the conditional use permit for the Master Plan Amendment, then that approval will be contingent on the City Council approving the proposed General Plan Amendment and Zone Change. Additionally, the Planning Commission acts as a recommendation body to the City Council, for the General Plan Amendment and Zone Change. Additional development standards for Institutional zones applicable to the proposed project are codified in Section 18.60.100, which requires compliance with Chapter 8.20 (Noise Control); Chapter 18.10 (General Provisions and Regulations); Chapter 18.74 (Transportation Demand Management and Trip Reduction Measures); Chapter 18.76 (Parking and Loading Space Requirements); Chapter 18.78 (Preservation, Protection and Removal of Trees); Chapter 18.108 (Conditional Use Permits, Variances, and Minor Exceptions); and CEQA.

Municipal Code Compatibility Assessment. The project includes an update to the Hillcrest Master Plan to incorporate the North and South Gateway Sites and the Zone Change Site into Neighborhood 5 of the Master Plan planning area and to redesignate the Master Plan Change Site from Neighborhood 10 to Neighborhood 5 of the Hillcrest Master Plan (refer to Figures 5 and 7). The existing Master Plan requires all units along the Master Plan perimeter streets (e.g., Park Avenue) to maintain a minimum setback distance of 25 feet from the public right-of-way (curb).[131] The proposed project includes reconstruction of portions of the curb, gutter, sidewalk, and driveway aprons within the North Gateway Site and South Gateway Site along the project frontages of Park Avenue and A Street and would maintain the minimum setback distance of 25 feet from the public right-of-way (curb) as required in the Master Plan.[132] One existing property to be transferred from Neighborhood 10 to Neighborhood 5 (2747 A Street) would maintain the existing 15-foot setback from the public right-of-way and remain as a legal, non-conforming residential use within the Hillcrest Master Plan with regard to setback distance from the public right-of-way.

[131] City of La Verne. *Brethren Hillcrest Homes Master Plan, Design Development Guidelines.* Page 102. Approved November 2, 1992.
[132] Refer to Figures 4a and 4b.

In accordance with Section 18.60.110, greater structural heights, more lot coverage, smaller setbacks, and similar adjustments to the standards of Chapter 18.60 (Institutional Zone) may be permitted in the Master Plan Update upon review and approval by the City Planning Commission pursuant to Chapter 18.108 (Conditional Use Permits, Variances, and Minor Exceptions).[133] Such adjustments are permitted provided they are necessary in response to the unique qualities of the institution and its site to support efficient and attractive development; impacts are minimized to the surrounding properties and to cultural, historic, and environmental resources; the proposed improvements otherwise meet the requirements and intent of the City Municipal Code, the City General Plan, and CEQA; and the benefits of the proposed development standard change(s) outweigh any potential adverse effects.[134]

The project includes construction of seven single-story residential dwelling units and renovation of three existing residential units that would be age-restricted to help fulfill the City's identified need to provide additional housing opportunities for senior residents.[135] The proposed structures would be constructed to heights commensurate with the surrounding buildings pursuant to Section 18.10.080 and well below the maximum building height permitted in the Master Plan for Neighborhood 5. Additionally, development on the project sites would maintain the sites' existing flat topography. As indicated in Figures 3a through 3e, views of the City's scenic resources from the project site and vicinity are mostly obscured by residential development in all directions, as well as by mature trees on site and along adjacent roadways and by overhead infrastructure (i.e., distribution utility poles). Furthermore, the project site is immediately north and west of the Lordsburg Specific Plan, which does not identify any of the roadways adjacent to the project site as major corridors for viewing the Lordsburg community.[136] The nearest scenic view corridor is an easterly viewpoint of Bonita Avenue approximately 0.25 mile southwest of the project site at the intersection of Bonita Avenue and Wheeler Avenue. The proposed residential structures would not obstruct this viewpoint or any other scenic view corridor identified in the Lordsburg Specific Plan, City General Plan, or any other land use plan in the City.

The proposed project includes development of residential uses substantially similar to the existing surrounding residential land uses. With implementation of **Regulatory Compliance Measure NOI-1** and **Mitigation Measures NOI-1** through **NOI-3**, noise and vibration impacts to sensitive receptors during construction and operation would be reduced in accordance with the requirements of Chapter 8.20 of the City Municipal Code and Chapter 12.08 of the Los Angeles County Noise Control Ordinance.

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133 The Planning Commission acts as a recommendation body to the City Council, which will review the proposed Master Plan Update in conjunction with the proposed Zone Change and General Plan Amendment.

134 City of La Verne Municipal Code. *Section 18.60.110 (Institutional Zone Development Standard Changes).* Title 18 (Zoning). https://ecode360.com/44524769#44524785. (Accessed November 14, 2024).

135 City of La Verne, 2021-2029 Housing Element. *La Verne Housing Element Background Report.* Page BR-25. Adopted November 21, 2024.

136 Archiplan Urban Design Collaborative, Martin Eli Weil Restoration Architect, and Stevens/Garland Associates. *A Specific Plan for Lordsburg, The City of La Verne.* City of La Verne. Figure 3 (Visual Analysis) and Page 20. September 1992, Chapter 5 updated March 2004.

Additional elements of the Master Plan Update to support cohesive integration of the proposed project within the existing community include preservation of seven mature trees located within the landscaped courtyard of the North Gateway site adjacent to the existing paseo. Incorporation of these trees into the proposed project's landscape plan, in addition to planting of additional trees, maintains consistency with the Landscape and Ambient Guidelines defined in the [Hillcrest] Master Plan requiring that, whenever possible, existing trees should be incorporated into the design of future developments.[137] Furthermore, none of the trees proposed for removal meet the City's definition of Heritage Trees or Significant Trees pursuant to Chapter 18.78 (Preservation, Protection and Removal of Trees) of the City Municipal Code.[138]

As detailed above for general plan consistency, the proposed project facilitates access to alternative modes of transportation and addresses several key issues and implements policies of the General Plan and AQMP that reduce vehicle miles traveled and associated air pollution emissions in accordance with Chapter 18.74 (Transportation Demand Management and Trip Reduction Measures) of the City Municipal Code.

Implementation of the proposed project would not result in any changes to the City's circulation network. The proposed project's integration with the existing circulation network would be subject to review and approval by the City Fire and Police Departments, City Traffic Engineer, and Public Works Department during the City's precise plan review process pursuant to Chapter 18.16 (Development Review) of the City of La Verne's Municipal Code. Furthermore, all on-site improvements would include additional landscaping elements both internally as well as long the perimeter of the project sites in accordance with Section 18.60.080 and Chapter 18.118 (Water Efficient Landscapes) of the City of La Verne's Municipal Code. Additionally, Section 18.76.090 requires illumination to be designed so that light is shielded and directed away from adjoining properties and the public right-of-way.

Through compliance with Section 18.60.090 of the City Municipal Code, development of the proposed project would not adversely impact the surrounding community from introduction of any new sources of light or include any features that would substantially degrade the appearance of the surrounding neighborhoods. Furthermore, compliance with Chapter 18.16 (Development Review), which would require all final development plans to be reviewed and approved by the City of La Verne's Development Review Committee pertaining to building orientation, form, massing, setbacks, height, color palette, building materials, and drought-tolerant landscaping would ensure appropriate placement and design of all facilities proposed.

Regulatory Compliance Measure NOI-1 and **Mitigation Measures NOI-1** through **NOI-3** would ensure surrounding sensitive receptors would not be exposed to significant noise or vibration levels during construction or operation. Therefore, the project would be developed in accordance with the City of La Verne's Municipal Code. Impacts would be **less than significant with mitigation incorporated.**

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[137] City of La Verne. *Brethren Hillcrest Homes Master Plan, Design Development Guidelines*. Page 15. Approved November 2, 1992.

[138] LSA. *Arborist Report for the Hillcrest Gateway Project in La Verne, Los Angeles County, California (LSA Project No. 20241974).* December 11, 2024.

Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). SCAG is the Metropolitan Planning Organization (MPO) serving the region under federal law, and serves as the Joint Powers Authority, the Regional Transportation Planning Agency, and the Council of Governments under State law. As the Regional Transportation Planning Agency, SCAG prepares long-range transportation plans for the Southern California region, including the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the 2008 Regional Comprehensive Plan (RCP).

The RCP addresses issues such as housing, traffic, air quality, and water resources as a guide for local agencies to use in preparing plans that deal with regional issues. The RCP outlines a vision of how the Southern California region can balance growth with conservation in order to achieve a higher quality of life. The fundamental goals of SCAG's RTP/SCS are to make the SCAG region a better place to live, work, and play for all residents regardless of race, ethnicity, or income class.

On April 4, 2024, SCAG adopted the 2024 RTP/SCS (Connect SoCal 2024). The 2024 RTP/SCS provides an update to the long-range planning document that provides a common foundation for regional and local planning, policymaking, and infrastructure goals in the SCAG region. The horizon year for the 2024 RTP/SCS is 2050. The core vision for the 2024 RTP/SCS is to increase mobility options and achieve a more sustainable growth pattern. The goals of the 2024 RTP/SCS are designed to achieve this vision, and fall into four core categories, including mobility, communities, environment, and economy. The 2024 RTP/SCS outlines the challenges facing the region, shared goals and policies, and the transportation investments and land use strategies and policies to meet GHG reduction targets and deliver significant benefits to the region with respect to mobility, safety, health outcomes, travel-time reliability, air quality, economic productivity, environmental justice and transportation. The 2024 RTP/SCS seeks to link the goal of sustaining mobility with the goals of fostering economic development; enhancing the environment; reducing energy consumption; promoting transportation-friendly development patterns; and encouraging fair and equitable access to residents impacted by socioeconomic, geographic, and commercial conditions.

The proposed project does not conflict with any of the goals or policies of SCAG's 2024 RTP/SCS. Many goals and policies are programmatic and designed for region-wide implementation by municipal and transportation agencies or regard land uses of commercial or industrial nature and therefore would not be applicable for implementation as part of the proposed project. Accordingly, the project's consistency with SCAG's 2024 RTP/SCS is presented in Table J, below, with regard to applicable goals and policies of SCAG's 2024 RTP/SCS.

Table J: Project Consistency with SGAG's 2024 RTP/SCS Policies

RTP/SCS Goals and Policies	Project Consistency
Mobility Goal: *Build and maintain an integrated multimodal transportation network.*	
Policy No. 3: Pursue the development of Complete Streets that comprise a safe, multimodal network with flexible use of public rights-of-way for people of all ages and abilities	**Consistent.** Complete Streets are roadways designed to support the safety, comfort and mobility for all road users. They are accessible to people of all ages and abilities, regardless of whether they are driving,

Table J: Project Consistency with SGAG's 2024 RTP/SCS Policies

RTP/SCS Goals and Policies	Project Consistency
using a variety of modes (e.g., people walking, biking, rolling, driving, taking transit). **Policy No. 4:** Ensure the implementation of Complete Streets that are sensitive to urban, suburban or rural context and improve transportation safety for all, but especially for vulnerable road users (e.g., people, especially older adults and children, walking and biking).	walking, bicycling, using micromobility devices, or riding transit/rail. A major design feature of the Master Plan Update is central courtyards interconnected by paseos between neighborhoods to promote pedestrian activities. All pedestrian walkways would be designed to improve safety, comply with the accessibility provisions of the Americans with Disabilities Act, and promote the flexible use for people of all ages and abilities. The Brethren Hillcrest community provides an on-call pick-up service that transports residents to the Brethren Hillcrest dining hall and other amenities via electric motorized cart. Additionally, a private bus service is available that transports residents to essential amenities such as banks, doctors' offices, pharmacies, grocery/retail, churches, the Metro Gold Line and Metrolink station respectively 1 mile and 1.75 miles to the southeast, regional bus stations, etc. In addition, the proposed project is located approximately 850 feet from Foothill Transit Bus Route 492 serving the Cities of Montclair, Irwindale, El Monte, and points in-between. The project would not make any changes to the public right-of-way in the project vicinity and would not conflict with existing or planned pedestrian, bicycle, or transit facilities. Therefore, the project would develop Complete Streets within the Master Plan Update area and would not conflict with policies related to the implementation of Complete Streets.
Policy No. 7: Encourage and support the implementation of projects, both physical and digital, that facilitate multimodal connectivity, prioritize transit and shared mobility, and result in improved mobility, accessibility, and safety. **Policy No. 9:** Encourage residential and employment development in areas surrounding existing and planned transit/rail stations.	**Consistent.** As discussed above, the project would provide courtyards interconnected by paseos between neighborhoods to promote pedestrian activities and provide connectivity through the North Gateway site between the east and west campuses of the Hillcrest Community. In addition, the Brethren Hillcrest community provides an on-call pick-up service that transports residents to the Brethren Hillcrest dining hall and other amenities via electric motorized cart and a private bus service is available that transports residents to essential amenities. The proposed project is also located approximately 850 feet from Foothill Transit Bus Route 492 serving the Cities of Montclair,

Table J: Project Consistency with SGAG's 2024 RTP/SCS Policies

RTP/SCS Goals and Policies	Project Consistency
	Irwindale, El Monte, and points in-between. Therefore, the project would enhance and prioritize transit and shared mobility, and result in improved mobility, accessibility, and safety. Further, the project would not conflict with policies related to transit and multimodal integration.
Communities Goal: *Develop, connect and sustain communities that are livable and thriving.*	
Policy No. 32: Promote the growth of origins and destinations, with a focus on future housing and population growth, in areas with existing and planned urban infrastructure that includes transit and utilities. **Policy No. 33:** Promote the growth of origins and destinations, in areas with a proclivity toward multimodal options like transit and active transportation, to reduce single occupant vehicle (SOV) dependency and vehicle miles traveled.	**Consistent.** Hillcrest consists of 239 residential homes and apartments, 48 assisted living units, 24 memory care beds, and 59 skilled nursing facility beds. The proposed project includes demolition of seven residential homes which are currently not within the Hillcrest Master Plan and construction of nine single-family homes on sites to be added to the Hillcrest Master Plan that are currently developed with existing utility infrastructure and is in the vicinity of existing transit routes. In addition, the Zone Change Site includes three existing residences that would be incorporated into the Hillcrest Master Plan as a result of the proposed zone change for that parcel. The Brethren Hillcrest community provides an on-call pick-up service that transports residents to the Brethren Hillcrest dining hall and other amenities via electric motorized cart and a private bus service is available that transports residents to essential amenities. Therefore, the project would promote future housing and population growth in areas with existing and planned urban infrastructure that includes transit and utilities and a proclivity toward multimodal options like transit.
Communities Policy No. 35: Encourage housing development in areas with access to important resources and amenities (economic, educational, health, social, and similar) to further fair housing access and equity across the region. **Communities Policy No. 36:** Encourage housing development in transit-supportive and	**Consistent.** As discussed above, Hillcrest consists of 239 residential homes and apartments, 48 assisted living units, 24 memory care beds, and 59 skilled nursing facility beds. The Brethren Hillcrest community includes a dining hall and other amenities for use by residents and would central courtyards interconnected by paseos between neighborhoods to promote pedestrian activities. As previously

Table J: Project Consistency with SGAG's 2024 RTP/SCS Policies

RTP/SCS Goals and Policies	Project Consistency
walkable areas to create more interconnected and resilient communities.	discussed, the Brethren Hillcrest community provides an on-call pick-up service that transports residents to the Brethren Hillcrest dining hall and other amenities via electric motorized cart and a private bus service is available that transports residents to essential amenities. The proposed project is also located approximately 850 feet from Foothill Transit Bus Route 492 serving the Cities of Montclair, Irwindale, El Monte, and points in-between. Therefore, the project would encourage housing development in areas with access to important resources and amenities and transit-supportive and walkable areas to create more interconnected and resilient communities.
Communities Policy No. 38: Prioritize communities that are vulnerable to displacement pressures by supporting community stabilization and increasing access to housing that meets the needs of the region.	**Consistent.** Approximately 15.2 percent of the City's overall population is aged 65 years or older, and the project includes construction of seven single-story residential units and renovation of three existing residential units that would be age-restricted to help fulfill the city's identified need to provide additional housing opportunities for senior residents.
Environment Goal: *Create a healthy region for the people of today and tomorrow.*	
Environment Policy No. 48: Promote sustainable development and best practices that enhance resource conservation, reduce resource consumption, and promote resilience.	**Consistent.** As discussed throughout this Initial Study, implementation of the proposed project would not result in any significant and adverse impacts on the environment. Further, best practices have been incorporated into the project design in order to conserve resources and reduce consumption, such as those detailed in Section VI, Energy. In addition, the proposed project must comply with the standards of Title 24 (California Building Code) that are in effect at the time of development.

Source: Southern California Association of Governments. *2024-2050 Regional Transportation Plan/Sustainable Communities Strategy, Section 3.3 Regional Planning Policies.* Pages 113 through 121. Adopted April 2024.

As provided in Table J, implementation of the proposed project would be consistent with the goals and the intent of the currently adopted RTP/SCS. Impacts would be **less than significant,** and additional mitigation is not required.

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

a. 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

Discussion of Effect: The project sites are within the Claremont - Upland Production-Consumption Region,[139] and are within an area designated MRZ-1, which is defined as, "areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence."[140] Therefore, the project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. **No impact** would occur, and no mitigation is required.

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

No Impact

Discussion of Effect: The City General Plan Existing Conditions Report does not identify any known mineral resources worthy of preservation on the project sites or in the immediate vicinity. The project sites are designated MRZ-1, which are areas where no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.[141] The nearest "Mineral Resources" in the City are mapped approximately 1.5 miles north of the project sites along the San Dimas Wash.[142]

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139 California Department of Conservation, Division of Mines and Geology. *Special Report 143, Mineral Land Classification of the Greater Los Angeles Area, Part VI, Classification of Sand and Gravel Resource Areas, Claremont-Upland Production-Consumption Region*. Page 11. 1984.

140 California Department of Conservation, Division of Mines and Geology. *Mineral lands Classification Map, Aggregate Resources only, Claremont-Upland P-C Region. Special Report 143, Plate 6.7, San Dimas, California USGS 7.5-Minute Quadrangle.* 1984.

141 City of La Verne. *General Plan Existing Conditions Report, Chapter 5: Conservation and Natural Resources.* Figure 5-10, Mineral Resource Zones. June 2018.

142 *Ibid*.

Therefore, the project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. **No impact** would occur, and no mitigation is required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XIII. Noise				
Would the project:				
a) 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?	☐	☒	☐	☐
b) Result in generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c) For a project located within the vicinity of a private airstrip, or an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

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

Potentially Significant Unless Mitigation Incorporated

Discussion of Effect: Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. Residences, hospitals, schools, guest lodging, libraries, and parks are most sensitive to noise intrusion and therefore have more stringent noise exposure targets than commercial or industrial uses that are not subject to impacts such as sleep disturbance. Sensitive land uses generally should not be subjected to noise levels that would be considered intrusive in character. Therefore,

the location, hours of operation, type of use, and extent of development warrant close analysis to ensure that sensitive receptors[143] are not substantially affected by noise.

Sensitive Receptors. Sensitive land uses in the project vicinity include single-family residences, which surround the project site at the North and South Gateway Sites.

Applicable Noise Standards. The City's noise regulations are set forth in the Public Safety Element of the recently adopted General Plan Update[144] and in Chapter 8.20 (Noise Control) of the City's Municipal Code Noise Ordinance. The Noise section in the Public Safety Element of the City's General Plan Update provides noise/land use compatibility criteria shown in Table K, which specifies the acceptable noise levels for each land use category as well as goals, policies, and actions to address noise issues in the City. Noise levels in the City's noise/land use compatibility criteria are described in Community Noise Equivalent Level (CNEL), which is a 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels (dB) to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 dB to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.[145]

The goals, policies, and actions in the General Plan Update Public Safety Element that are relevant to the proposed project are as follows:

Goal PS-6: A community that is protected from the impacts and potential risks of aircraft activity at Brackett Field.

PS-6 Policies

PS-6.1 Land Use Compatibility. Maintain compatibility of development with airport operations in the area surrounding the airport in accordance with the adopted Airport Land Use Compatibility Plan (ALUCP).

PS-6 Actions

1. Maintain consistency with the Los Angeles County Airport Land Use Compatibility Plan as it pertains to Brackett Field.

Goal PS-7: A community with minimized harmful effects of noise on sensitive uses, and reduced noise coming from freeways, motor vehicle traffic, trains, Brackett Field, and the Fairplex.

PS-7 Policies

PS-7.1: Planning Decisions. Consider existing and future noise levels when making land use planning decisions and require mitigation of all significant noise impacts to the extent feasible.

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[143] Noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Occupants of residences, hospitals, schools, guest lodging, libraries, churches, nursing homes, auditoriums, concert halls, amphitheaters, playgrounds and parks are considered noise-sensitive receptors.

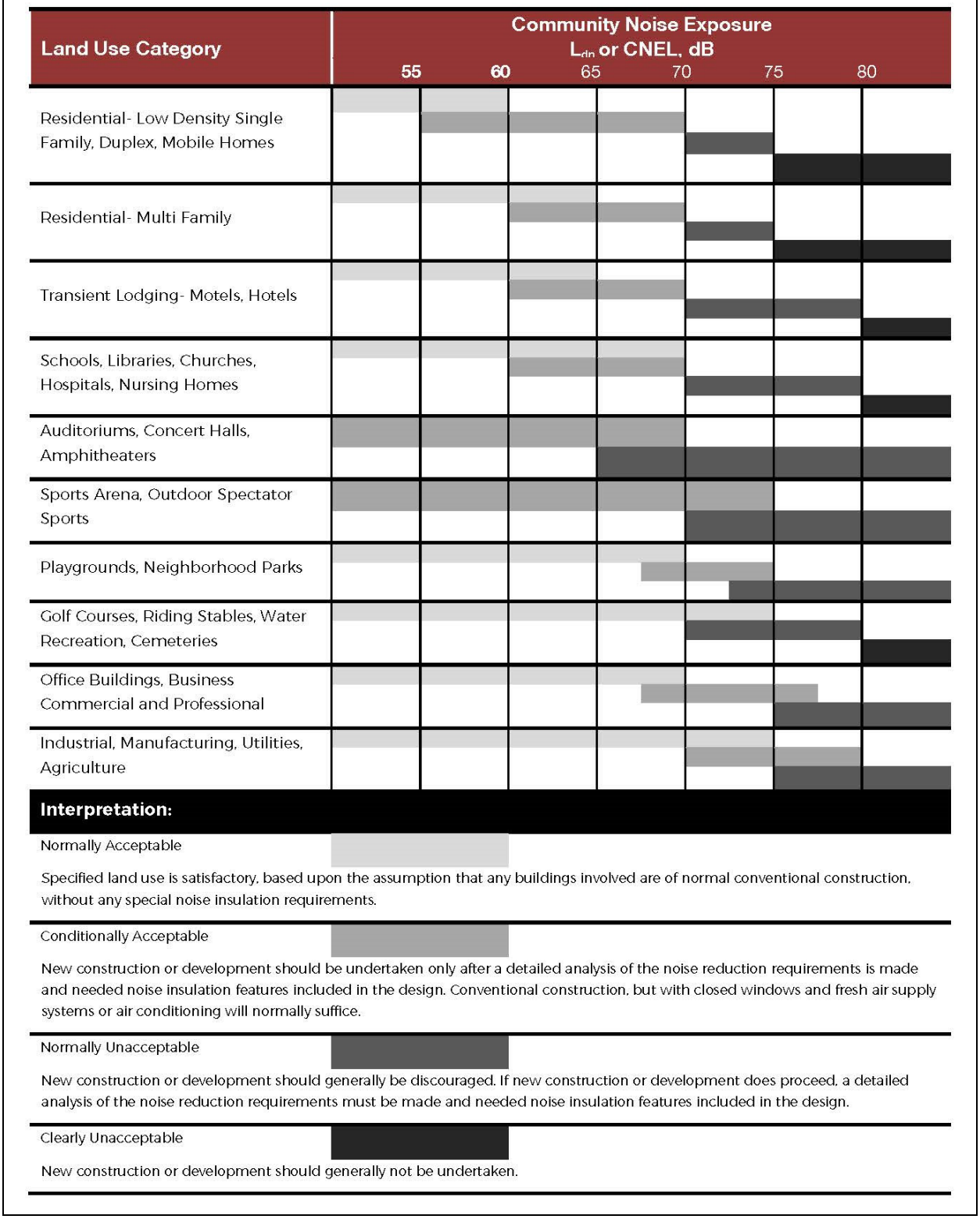
[144] City of La Verne. *General Plan Update Policy Document*. January 2025.

[145] The City's noise/land use compatibility is for operation from daily (24-hour) noise levels.

PS-7.2: Sensitive Facilities. Locate sensitive facilities such as residential uses, schools, medical facilities, libraries, churches, and convalescent homes away from areas of excessive noise unless proper mitigation measures are in place.

PS-7.6: Noise Control. Utilize innovative noise abatement, design techniques, and other mitigation strategies—including staggered operating hours, insulation, building setbacks, noise barriers, placement of parking and utility areas, and building orientation—to ensure that noise levels do not exceed the limits in the La Verne Municipal Code.

Table K: Land Use Compatibility for Community Noise Environment



Source: City of La Verne General Plan Update. *Public Safety Element*. Table PS-1. 2025.

PS-7 Actions

3. Review new development projects for compliance with the noise requirements established in this General Plan, including the standards established in Tables PS-1 (Table K) and PS-2 (Table L). Where necessary, require new development to mitigate excessive noise through best practices, including building location and orientation, building design features, placement of noise-generating equipment away from sensitive receptors, shielding of noise-generating equipment, placement of noise-tolerant features between noise sources and sensitive receptors, and use of noise-minimizing materials such as rubberized asphalt.

5. In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels have a substantial increase. Generally, a 3 dBA increase in noise levels is barely perceptible, and a 5 dBA increase in noise levels is clearly perceptible. Therefore, increases in noise levels shall be considered to be substantial when the following occurs:

    - When existing noise levels are less than 60 dBA, a 5 dB increase in noise will be considered substantial;
    - When existing noise levels are between 60 dBA and 65 dB, a 3 dB increase in noise will be considered substantial;
    - When existing noise levels exceed 65 dBA, a 1.5 dB increase in noise will be considered substantial.

Table L: Performance Standards for Stationary Noise Sources, Including Affected Projects[1,2,3,4]

Noise Level Descriptor	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly L_{eq}, dBA	55	50

Source: City of La Verne General Plan Update. *Public Safety Element.* Table PS-2. 2025.

[1] Each of the noise levels specified above should be lowered by 5 dB for simple noise tones, noises consisting primarily of speech or music, or recurring impulsive noises. Such noises are generally considered to be particularly annoying and are a primary source of noise complaints.

[2] No standards have been included for interior noise levels. Standard construction practices should, with the exterior noise levels identified, result in acceptable interior noise levels.

[3] Stationary noise sources which are typically of concern include, but are not limited to, the following: HVAC Systems Cooling, Towers/Evaporative Condensers, Pump Stations Lift Stations, Emergency Generators Boilers, Steam Valves Steam Turbines, Generators Fans, Air Compressors Heavy Equipment, Conveyor Systems Transformers, Pile Drivers Grinders, Drill Rigs Gas or Diesel Motors, Welders Cutting Equipment, Outdoor Speakers Blowers.

[4] The types of uses which may typically produce the noise sources described above include but are not limited to: industrial facilities, pump stations, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, and athletic fields.

Construction

Section 8.20.050 of the City's Municipal Code regulates construction noise in the city and provide measures to reduce construction noise, which are detailed below:

A. Construction hours shall be limited to the hours between 7:00 a.m. and 7:00 p.m. Monday through Friday and 8:00 a.m. and 6:00 p.m. on Saturdays. No construction shall occur on Sundays or legal holidays.

B. A Construction Noise Management Plan shall be submitted by the applicant for construction projects, when construction is located 200 feet or less from a sensitive receptor. The Construction Noise Management Plan shall include proper posting of construction schedules, appointment of a noise disturbance coordinator, and methods for assisting in noise reduction measures.

C. Noise reduction measures may include, but are not limited to, the following:

1. Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) wherever feasible.

2. Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. External jackets on the tools themselves shall be used, if such jackets are commercially available. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.

3. Temporary power poles shall be used instead of generators where feasible.

4. Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City of provide equivalent noise reduction.

5. The noisiest phases of construction shall be limited to no more than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.

6. Delivery of materials shall observe the hours of operation described above. Truck traffic should avoid residential areas to the extent possible.

D. Noise Restrictions at Affected Properties. The contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected properties will not exceed those listed below:

1. Maximum noise levels for intermittent operation of mobile equipment for single-family residences shall not exceed 75 dBA.

2. Maximum noise levels for intermittent operation of mobile equipment for multi-family residences and/or mixed-use residential developments shall not exceed 80 dBA.

3. For purposes of this subsection, “intermittent operation of mobile equipment” means the use of machinery or vehicles on a construction site, including, but

not limited to jackhammers, backhoes, drills, saws, sander grinders, where the equipment is operated in short bursts or at varying intervals.

Operations

Section 8.20.020 of the City's Municipal Code sets forth the maximum allowable exterior noise level shown in Table M from stationary and mobile noise sources that apply to all development and infrastructure projects.

Table M: Performance Standards for Exterior Noise Sources

Type of Land Use	Exterior Noise Standards[1,2]	
	7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
All single-family residential properties	55 dBA	50 dBA
All multifamily residential properties and mobile home parks	60 dBA	55 dBA
Sensitive non-residential uses, including but not limited to schools, daycares, and hospitals	60 dBA	55 dBA
All commercial property	70 dBA	65 dBA
The residential portion of mixed-use properties	60 dBA	55 dBA

Source: City of La Verne, Municipal Code Section 8.20.020, Noise Standards-Operations.
Note: The exterior noise standards shall be applied at the point closest to the noise source along the property line of the receiving property. In the event the ambient noise level exceeds the noise standards, the "adjusted ambient noise level" shall be applied as the noise standard. In cases where the noise standard is adjusted due to a high ambient noise level, the noise standard shall not exceed the "adjusted ambient noise level," or 70 dB(A), whichever is less. In cases where the ambient noise level is already greater than 70 dB(A), the ambient noise level shall be applied as the noise standard.

1 Hourly average (L_{eq}).

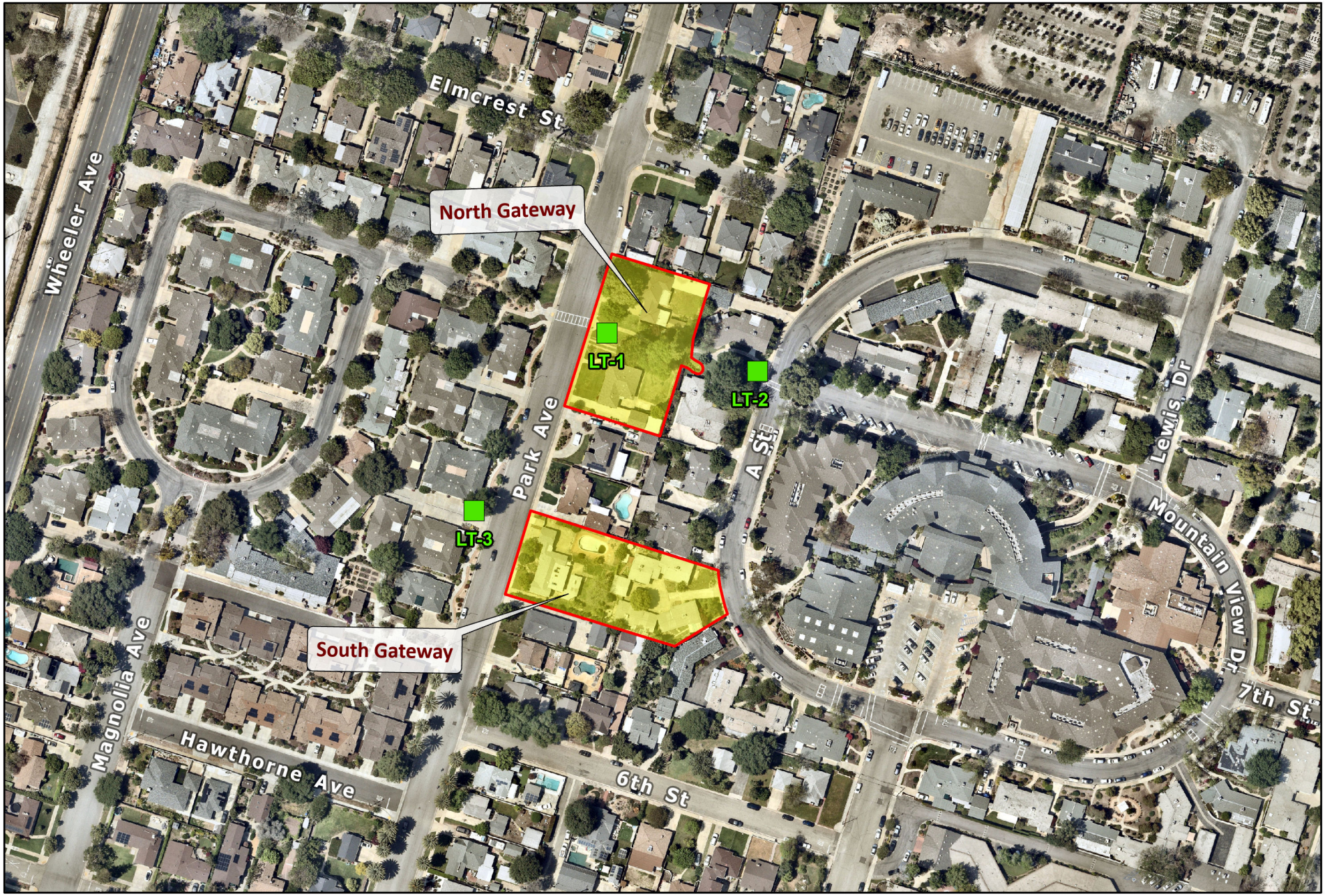
2 No standards have been included for interior noise levels. Standard construction practices should, with the exterior levels identified, result in acceptable interior noise levels.

Ambient Noise Level Measurements. Three long-term (24-hour) noise level measurements were conducted between October 1 and 2, 2024, using Larson Davis Spark 706RC dosimeters to document the existing noise environment in the project vicinity. Table N summarizes the results of the long-term noise level measurements along with a description of the measurement locations and noise sources that occurred during the measurements. As shown in Table N, daytime noise levels ranged from 47.0 to 60.1 dBA L_{eq}, and nighttime noise levels ranged from 45.1 to 53.9 dBA L_{eq}. Also, the calculated CNEL levels at LT-1, LT-2, and LT-3 were 57.3, 56.0, and 57.8 dBA, respectively. Figure 8 shows the long-term noise monitoring locations. The long-term noise level measurement survey sheets along with the hourly L_{eq} results are provided in Appendix G1.

Table N: Long-Term Ambient Noise Monitoring Results

Monitoring No.	Location	Start Time	Noise Level (dBA)		CNEL	Noise Sources
			Daytime[1] L_{eq}	Nighttime[2] L_{eq}		
LT-1	2712 Park Avenue. On a pole on the west side of The Hillcrest Mall park. Approximately 50 feet from the Park Avenue centerline.	12:00 p.m.	49.7-58.4 (49.9)[3]	45.1-52.3 (49.1)[4]	57.3	Very light traffic on Park Avenue. Occasional aircraft noise and occasional and very faint train noise.
LT-2	2747 A Street. On a pole on the east side of The Hillcrest Mall park. Approximately 30 feet from the A Street centerline.	12:00 p.m.	47.0-55.6 (48.6)[3]	46.1-51.2 (48.8)[4]	56.0	Very light traffic on A Street. Occasional aircraft noise and occasional and very faint train noise.
LT-3	2713 Park Avenue. On a tree approximately 16 feet from the curb and approximately 36 feet from the Park Avenue centerline.	12:00 p.m.	49.1-60.1 (50.3)[3]	45.7-53.9 (49.5)[4]	57.8	Very light traffic on Park Avenue, occasional aircraft noise, and occasional and very faint train noise.

Source: Compiled by LSA, 2025. Appendix G1.
[1] Daytime hours are between the hours of 7:00 a.m. and 10:00 a.m.
[2] Nighttime hours are between the hours of 10:00 p.m. and 7:00 a.m.
[3] Average daytime noise level.
[4] Average nighttime noise level.
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
L_{eq} = equivalent continuous sound level



LSA

FIGURE 8

Project Sites

Long-term Noise Monitoring Location

Note: The Zone Change Site does not include any development, so it is not shown in this figure.

0 90 180

FEET

SOURCE: Nearmap Aerial Imagery (May 1, 2024)

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Brethren Hillcrest Gateway Project

Noise Monitoring Locations

Construction Impacts. Two types of short-term noise impacts could occur during construction on the project site. First, construction crew commutes and the transport of construction equipment and materials to the site for the proposed project would incrementally increase noise levels on roads leading to the North and South Gateway Sites. The pieces of heavy equipment for construction activities will be moved on to both project sites, will remain for the duration of each construction phase, and will not add to the daily traffic volume in the project vicinity. Although there would be a relatively high single-event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 feet would generate up to a maximum of 84 dBA), the effect on longer-term (hourly or daily) ambient noise levels would be small because the hourly/daily construction-related vehicle trips are small compared to the existing hourly/daily traffic volume on Wheeler Avenue, Bonita Avenue, Park Avenue, and other roadways.

The demolition phase would generate the most trips out of all of the construction phases based on the California Emissions Estimator Model (CalEEMod) (Version 2022.1.1.29) results contained in Appendix A.[146] Assuming a worst-case scenario, with both the North and South Gateway Sites undergoing construction concurrently, this traffic would have an acoustical value equivalent to noise generated from 326 to 383 passenger cars. Roadways that would be used to access the project site include Wheeler Avenue, Bonita Avenue, and Park Avenue. Wheeler Avenue and Bonita Avenue have estimated existing average daily traffic (ADT) volumes of 9,778 and 11,063, respectively.[147] Based on this information, construction-related traffic would increase noise levels by up to 0.15 dBA.[148] Ambient noise levels along Park Avenue and other residential roadways would be similar to the calculated CNEL levels at LT-1, LT-2, and LT-3 (which range from 56.0 to 57.8 dBA CNEL). Therefore, short-term construction-related noise impacts associated with worker commute and equipment transport would be less than significant because the project would not increase ambient noise levels by 5 dBA when existing noise levels are less than 60 dBA CNEL. No mitigation is required.

The second type of short-term noise impact is related to noise generated from construction activities. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. The project anticipates demolition, site preparation, grading, building construction, paving, and architectural coating phases of construction. These various sequential phases change the character of the noise generated on a project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table O lists the maximum noise levels (L_{max}) recommended for noise impact assessments for typical

[146] As originally submitted, the application included the demolition of three additional units at 2675, 2681 and 2683 A Street and the construction of a total of nine new units. The air quality, noise, and transportation analyses evaluate 8,106 square feet of demolition and 13,778 square feet of construction and assume a net increase of 5,672 square feet of residential uses. Accordingly, the CalEEMod modeling discloses potentially greater environmental effects than would occur under the proposed project.

[147] Kittleson & Associates. 2024. *La Verne General Plan Update Transportation Impact Analysis.* January 22. Website: https://laverne.generalplan.org/s/Appendix-F_Transportation-Impact-Analysis.pdf (Accessed January 2025).

[148] Construction traffic noise calculations provided in Appendix G2.

construction equipment included in the FHWA Highway Construction Noise Handbook (Federal Highway Administration [FHWA] 2006), based on a distance of 50 feet between the equipment and a noise receptor.

Table O: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor[1]	Maximum Noise Level (L_{max}) at 50 ft[2]
Backhoe	40	80
Compactor (ground)	20	80
Compressor (air)	40	80
Concrete Mixer Truck	40	85
Concrete Saw	20	90
Crane	16	85
Dozer	40	85
Dump Truck	40	84
Excavator	40	85
Flatbed Truck	40	84
Forklift	20	85
Front-End Loader	40	80
Grader	40	85
Generator	50	82
Impact Pile Driver	20	95
Jackhammer	20	85
Paver	50	85
Pavement Scarafier	20	85
Pickup Truck	40	55
Pneumatic Tools	50	85
Pump	50	77
Rock Drill	20	85
Roller	20	85
Scraper	40	85
Tractor	40	84
Welder/Torch	40	73

Source: Federal Highway Administration. *FHWA Highway Construction Noise Handbook.* Table 9.1. August 2006.

Note: The noise levels reported in this table are rounded to the nearest whole number.

[1] Usage factor is the percentage of time during a construction noise operation that a piece of construction equipment is operating at full power.

[2] Maximum noise levels were developed based on Spec 721.560 from the CA/T program to be consistent with the City of Boston, Massachusetts, Noise Code for the "Big Dig" project.

CA/T = Central Artery/Tunnel
FHWA = Federal Highway Administration
ft = foot/feet
L_{max} = maximum instantaneous noise level

Based on the CalEEMod results contained in Appendix A, Table P lists the anticipated mobile construction equipment utilized during each phase of construction phase. As a worst-case scenario, this assumes the North and South Gateway Sites would undergo construction concurrently. Table P identifies the combined noise level at 50 feet from mobile construction equipment in each phase, as well as the L_{eq} noise level for each equipment at 50 feet.[149] As provided in Table P, mobile construction noise levels would reach up to 88.5 dBA L_{eq} at a distance of 50 feet. The mobile construction noise level of 88.5 dBA L_{eq} was divided in half (minus 3 dBA) to a noise level of 85.3 dBA L_{eq} to reflect

[149] Based on the quantity, reference L_{max} noise level at 50 feet, and the acoustical usage factor.

project construction activity at each site because the construction equipment and quantity of the equipment were based on the two sites combined.

Table P: Summary of Construction Phase, Equipment, and Noise Levels

Construction Phase	Construction Equipment	Quantity	Reference Noise Level at 50 ft (dBA L_{max})	Acoustical Usage Factor[1] (%)	Noise Level at 50 ft (dBA L_{eq})	Combined Noise Level at 50 ft (dBA L_{eq})
Demolition	Concrete Saw	1	90	20	83.0	88.0 (85.0)[2]
	Excavator	3	85	40	85.8	
	Dozer	2	85	40	84.0	
Site Preparation	Grader	3	85	40	85.8	87.3 (84.3)[2]
	Front End Loader	4	80	40	82.0	
Grading	Excavator	1	85	40	81.0	87.0 (84.0)[2]
	Grader	1	85	40	81.0	
	Dozer	1	85	40	81.0	
	Front End Loader	3	80	40	79.0	
Building Construction	Crane	1	85	16	77.0	85.6 (82.6)[2]
	Forklift	3	85	20	82.8	
	Generator	1	82	50	79.0	
	Front End Loader	3	80	40	80.8	
	Welder / Torch	1	73	40	69.0	
Paving	Concrete Mixer Truck	2	85	40	84.0	88.5 (85.5)[2]
	Paver	1	85	50	82.0	
	Pavement Scarafier	2	85	20	81.0	
	Roller	2	85	20	81.0	
	Front End Loader	1	80	40	76.0	
Architectural Coating	Compressor (air)	1	80	40	76.0	76.0

Source: Compiled by LSA (2025).

[1] The acoustical usage factor is the percentage of time during a construction noise operation that a piece of construction equipment

[2] The mobile construction noise levels were divided in half (minus 3 dBA) to reflect project construction activity at each site because the construction equipment and quantity of the equipment were based on the two sites combined.

dBA = A-weighted decibels
ft = foot/feet
L_{eq} = equivalent continuous sound level
L_{max} = maximum instantaneous noise level

Table Q shows that mobile construction equipment at the closest residences from the center of the North and South Gateway Sites would reach up to 82.1 and 82.3 dBA L_{eq}, respectively. These noise levels would exceed the City's mobile construction noise standard of 75 dBA L_{eq}. **Mitigation Measure NOI-1** includes installation of minimum 10-foot-high temporary construction barriers at the project construction boundary on all sides of the North Gateway site, and on the north, southeast, and east side of the South Gateway site. As detailed in Table Q, these temporary barriers would reduce noise generated from project construction activities by 10 dBA and 8 dBA, respectively, and noise levels would be reduced to the City's mobile construction noise standard of 75 dBA L_{eq} or below. In addition, **Regulatory Compliance Measure NOI-1** requires the project contractor to incorporate best practices during construction, such as limiting construction activities to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between the hours of 8:00 a.m. and 6:00 p.m. on Saturdays and utilizing best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) for all construction equipment and trucks wherever feasible pursuant to Section 8.20.050 of the City's Municipal Code to minimize noise. With the implementation of **Mitigation Measure NOI-1**, noise generated from project construction activities would be **less than significant with mitigation incorporated**.

Table Q: Construction Noise Levels

Land Use	Direction	Reference Noise Level at 50 ft (dBA L_{eq})	Distance[1] (ft)	Noise Attenuation (dBA)	Noise Level (dBA L_{eq})	Noise Reduction (dBA)[2]	Noise Level with Mitigation (dBA L_{eq})
North Gateway							
Single-Family Residence	North	85.5	130	8.3	77.2	10	67.2
Single-Family Residence	East	85.5	74	3.4	82.1	10	72.1
Single-Family Residence	Southeast	85.5	150	9.5	76.0	10	66.0
Single-Family Residence	South	85.5	120	7.6	77.9	10	67.9
Single-Family Residence	West	85.5	145	9.2	76.3	10	66.3
South Gateway							
Single-Family Residence	North	85.5	72	3.2	82.3	8	74.3
Single-Family Residence	Southeast	85.5	118	7.5	78.0	8	70.0
Single-Family Residence	South	85.5	78	3.9	81.6	8	73.6
Single-Family Residence	West	85.5	210	12.5	73.0	--[3]	73.0

Source: Compiled by LSA (2025).
[1] Distance to the residential structure from the center of the project site.
[2] From a 10 ft high temporary construction barrier.
[3] No temporary construction barriers are required.
dBA = A-weighted decibels
ft = foot/feet
L_{eq} = equivalent continuous sound level

Regulatory Compliance Measures. Regulatory Compliance Measures are regulatory requirements that the project must adhere to which, like mitigation measures, can reduce the level of impacts. Regulatory Compliance Measures outline compliance with various federal, State, and/or local acts, laws, rules, regulations, municipal codes, and policies.

Regulatory Compliance Measure NOI-1 Prior to and during construction, the following measures shall be implemented to reduce construction noise to within the standards established in Section 8.20.050 of the City's Municipal Code.

- **Construction Noise Management Plan.** The project Applicant in consultation with the construction contractor shall prepare and submit to the City of La Verne Community Development Department a construction noise management plan that details the proper posting of construction schedules, appointment of a noise disturbance coordinator, and methods for assisting in noise reduction measures pursuant to Section 8.20.050 of the City's Municipal Code because noise-sensitive receptors are located 200 feet or less from the project sites.

- **Construction Hours.** The construction contractor shall limit construction activities to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between the hours of 8:00 a.m. and 6:00 p.m. on Saturdays pursuant to Section 8.20.050 of the City's Municipal Code. Construction activities are prohibited outside of these hours and any time on Sundays and legal holidays.

- **Best Available Noise Control Techniques.** The construction contractor shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) for all construction equipment and trucks wherever feasible.

- **Temporary power poles.** The construction contractor shall use temporary power poles instead of generators where feasible.

- **Electrically Powered Tools.** To the extent practicable, electrical power shall be used to run air compressors and similar power tools, which shall be equipped with external jackets on the tools themselves whenever feasible.

This measure shall be implemented to the satisfaction of the City of La Verne Building Official and City Community Development Director, or designee.

Mitigation Measure

MM NOI-1 During construction, the following measures shall be implemented to reduce construction noise to within the standards established in Section 8.20.050 of the City's Municipal Code.

- **Temporary Construction Barriers for Mobile Construction Equipment.** The construction contractor shall erect a minimum 10-foot-high temporary construction barrier at the project construction boundary of the North Gateway site on all sides and South Gateway site on the north, southeast, and south side. The barriers shall be continuous with no gaps or holes and may be any material that has a minimum Sound Transmission Class (STC) rating of 28.

- **Smart back-up alarms.** The construction contractor shall ensure construction vehicles are equipped with smart back-up alarms that automatically adjust the sound level of the alarm in response to ambient noise levels or, alternatively, employ human spotters to ensure safety when mobile construction equipment is moving in reverse in lieu of back-up alarms.

This measure shall be implemented to the satisfaction of the City of La Verne Building Official and City Community Development Director, or designee.

Operational Impacts. Long-term noise impacts in the project vicinity may occur at off-site land uses from traffic noise along roadways within the project area and from heating, ventilation, and air conditioning (HVAC) noises associated with the new residential uses. The City's exterior noise standards are described using the Community Noise Equivalent Level (CNEL). The CNEL uses weighted averages of the intensity of a sound, with corrections for time of day, to represent a composite 24-hour noise level.

Traffic Noise: As with the discussions above under air quality and greenhouse gas emissions, the traffic noise analysis overestimates project impacts because it is based on a trip generation for single-family homes rather than a continuing care retirement community. Even if the project were to generate 85 daily trips through operation of nine single-family homes, instead of 25 daily trips generated by the same number of units operating as part of a continuing care retirement community, the existing ADT volumes

along Wheeler Avenue and Bonita Avenue are 9,778 and 11,063, respectively..[150] Based on the information above, project-related traffic would increase noise levels by up to 0.01 dBA. The existing ADT volume on Park Avenue and other residential roadways, including A Street, used to access the project sites is expected to be higher than 85 and much higher than 25 based on the existing uses along these roadways. Accordingly, project-related traffic would not increase noise levels by 3 dBA, which would otherwise require a doubling of traffic along these roadways to reach this result. Ambient noise levels along Park Avenue and other residential roadways would be similar to the calculated CNEL levels at LT-1, LT-2, and LT-3 (which range from 56.0 to 57.8 dBA CNEL, see Table N). The project would not increase ambient noise levels by 1.5 dBA when existing noise levels exceed 65 dBA CNEL. Further, the project would not increase ambient noise levels by 5 dBA when existing noise levels are less than 60 dBA CNEL. Therefore, traffic noise impacts from project-related traffic on off-site sensitive receptors would be **less than significant**. Mitigation measures are not required.

HVAC Equipment: The project includes construction of seven single-family residences and renovation of three existing units. Each new residence would have one ground floor HVAC unit. The HVAC equipment could operate 24 hours a day. HVAC equipment would generate a sound power level of 76 dBA, which equates to a noise level of 44.4 dBA L_{eq} at 50 feet from each HVAC unit.[151]

Item No. 3 under PS-7 Action in the City's General Plan Update Public Safety Element includes noise standards for stationary noise sources from exceeding 55 dBA during daytime hours and 50 dBA during nighttime hours. **Mitigation Measure NOI-2** would require a memorandum prepared by an acoustical engineer during final design of the proposed project confirming that the HVAC equipment to be installed on the project site would comply with the City's noise standards for stationary noise sources. With implementation of **Mitigation Measure NOI-2,** noise levels generated by the HVAC equipment would be less than significant.

Mitigation Measure

MM NOI-2 Prior to issuance of a building permit, the City Community Development Director, or designee, shall verify that the project Applicant has obtained from an acoustical engineer a memorandum confirming that the heating, ventilation, and air conditioning (HVAC) equipment would comply with Item No. 2 under PS-7 Action in the City's General Plan Update Public Safety Element and Section 8.20.20 of the City Noise Ordinance. Pursuant to Item No. 2 under PS-7 Action in the City's General Plan Update Public Safety Element and Section 8.20.20 of the City Noise Ordinance, noise generated from HVAC equipment shall not exceed 55 A-weighted decibels (dBA) during daytime hours and 50 dBA during nighttime hours at the neighboring

[150] Kittleson & Associates. *La Verne General Plan Update Transportation Impact Analysis*. January 22, 2024. Website: https://laverne.generalplan.org/s/Appendix-F_Transportation-Impact-Analysis.pdf (Accessed: January 2025).

[151] The specifications of the HVAC equipment, including the reference noise level, are provided in Appendix G3.

residential property. This measure shall be implemented to the satisfaction of the City Community Development Director, or designee.

b. Result in generation of excessive groundborne vibration or groundborne noise levels?

Potentially Significant Unless Mitigation Incorporated

Discussion of Effect: This construction vibration impact analysis discusses the level of human annoyance using vibration levels in VdB and assesses the potential for building damage using vibration levels in PPV (in/sec). Vibration levels calculated in RMS velocity are best for characterizing human response to building vibration, whereas vibration levels in PPV are best for characterizing damage potential.

Applicable Vibration Standards. The City's vibration regulations are set forth in Section 8.20.050(E) in the City's Municipal Code, which establishes a vibration limit of 0.08 in/sec PPV (peak particle velocity) and 0.30 in/sec PPV to minimize the potential for cosmetic damage to sensitive historic structures and buildings of normal conventional construction, respectively, during demolition and construction. In addition, vibration standards included in the FTA Transit Noise and Vibration Impact Assessment Manual (2018 FTA Manual)[152] were used to assess the potential for interference or annoyance from vibration levels in a building because the city does not have vibration standards for interference or annoyance. Table R provides the criteria for assessing the potential for interference or annoyance from vibration levels in a building.

[152] Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. FTA Report No. 0123. September. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed January 2025).

Table R: Interpretation of Vibration Criteria for Detailed Analysis

Land Use	Maximum L_V (VdB)[1]	Description of Use
Workshop	90	Vibration that is distinctly felt. Appropriate for workshops and similar areas not as sensitive to vibration.
Office	84	Vibration that can be felt. Appropriate for offices and similar areas not as sensitive to vibration.
Residential Day	78	Vibration that is barely felt. Adequate for computer equipment and low-power optical microscopes (up to 20×).
Residential Night and Operating Rooms	72	Vibration is not felt, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power microscopes (100×) and other equipment of low sensitivity.

Source: Federal Transit Administration (FTA). Transit Noise and Vibration Impact Assessment Manual. FTA Report No. 0123. September 2018. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed January 2025).
[1] As measured in ⅓-octave bands of frequency over the frequency range 8 to 80 Hertz.
FTA = Federal Transit Administration
L_V = velocity in decibels
VdB = vibration velocity decibels

Table S shows the reference vibration levels at a distance of 25 feet for each type of standard construction equipment from the 2018 FTA Manual.[153] Project construction is expected to require the use of large bulldozers, loaded trucks, and jackhammers, which would generate ground-borne vibration levels of up to 87 VdB (0.089 PPV [in/sec]), 86 VdB (0.076 PPV [in/sec]), and 79 VdB (0.035 PPV [in/sec]), respectively, when measured at 25 feet.

Table S: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 Ft	
	PPV (in/sec)	L_V (VdB)[1]
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: Federal Transit Administration (FTA). Transit Noise and Vibration Impact Assessment Manual. FTA Report No. 0123. September 2018. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed January 2025).
[1] RMS vibration velocity in decibels (VdB) is 1 µin/sec.
µin/sec = microinches per second L_V = velocity in decibels

[153] *Ibid.*

ft = foot/feet
FTA = Federal Transit Administration
in/sec = inches per second
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity decibels

The distance to the nearest buildings for vibration impact analysis is measured from the center of the project site to determine vibration annoyance and from the project boundary to determine building damage because vibration impacts normally occur within the offsite buildings.

The formula for vibration transmission is provided below:

$$L_vdB\ (D) = L_vdB\ (25\ ft) - 30\ Log\ (D/25)$$

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

Table T lists the projected vibration levels from the center of the North and South Gateway Sites to the nearest buildings in the project vicinity from various construction equipment expected to be used. As shown in Table T, the closest residential building is 74 feet and 72 feet from the center of the North and South Gateway Sites, respectively, and would experience a vibration level of up to 73 VdB. This vibration level does not exceed the FTA community annoyance threshold (78 VdB for daytime residences). Because other residences surrounding the project sites are farther away, they would experience correspondingly lower vibration levels. No community annoyance vibration impact would occur.

Table T: Potential Construction Vibration Annoyance

Land Use	Direction	Equipment/ Activity	Reference Vibration Level (VdB) at 25 ft	Distance[1] (ft)	Vibration Level (VdB)
North Gateway Site					
Residence	North	Large Bulldozers	87	130	66
		Loaded trucks	86	130	65
		Jackhammers	79	130	58
Residence	East	Large Bulldozers	87	74	73
		Loaded trucks	86	74	72
		Jackhammers	79	74	65
Residence	Southeast	Large Bulldozers	87	155	63
		Loaded trucks	86	155	62
		Jackhammers	79	155	55
Residence	South	Large Bulldozers	87	120	67
		Loaded trucks	86	120	66
		Jackhammers	79	120	59
Residence	West	Large Bulldozers	87	145	64
		Loaded trucks	86	145	63

Table T: Potential Construction Vibration Annoyance

Land Use	Direction	Equipment/ Activity	Reference Vibration Level (VdB) at 25 ft	Distance[1] (ft)	Vibration Level (VdB)
		Jackhammers	79	145	56
South Gateway Site					
Residence	North	Large Bulldozers	87	72	73
		Loaded trucks	86	72	72
		Jackhammers	79	72	65
Residence	Southeast	Large Bulldozers	87	118	67
		Loaded trucks	86	118	66
		Jackhammers	79	118	59
Residence	South	Large Bulldozers	87	78	72
		Loaded trucks	86	78	71
		Jackhammers	79	78	64
Residence	West	Large Bulldozers	87	210	59
		Loaded trucks	86	210	58
		Jackhammers	79	210	51

Source: Compiled by LSA (2025).
[1] Distance from the center of the project site to the residential building.
ft = foot/feet VdB = vibration velocity decibels
FTA = Federal Transit Administration

Table U lists the projected vibration levels from various construction equipment expected to be used on the project site at the project construction boundary of the North and South Gateway Sites to the nearest buildings. As shown in Table U, the nearest residential structures are approximately five and four feet from the project construction boundary of the North and South Gateway Sites, respectively. The nearest residences would therefore experience vibration levels of up to 0.995 PPV (in/sec) and 1.391 PPV (in/sec), respectively. These vibration levels exceed the City's vibration limit of 0.30 PPV (in/sec) for potential cosmetic damage; therefore, **Mitigation Measure NOI-3** is required.

Table U: Potential Construction Vibration Damage

Land Use	Direction	Equipment/ Activity	Reference Vibration Level at 25 ft	Distance[1] (ft)	Vibration Level
			PPV (in/sec)		PPV (in/sec)
North Gateway Site					
Residence	North	Large Bulldozers	0.089	18	0.146
		Loaded trucks	0.076	18	0.124
		Jackhammers	0.035	18	0.057
Residence	East	Large Bulldozers	0.089	5	0.995
		Loaded trucks	0.076	5	0.850
		Jackhammers	0.035	5	0.391
Residence	Southwest	Large Bulldozers	0.089	45	0.037
		Loaded trucks	0.076	45	0.031
		Jackhammers	0.035	45	0.014
Residence	South	Large Bulldozers	0.089	10	0.352
		Loaded trucks	0.076	10	0.300
		Jackhammers	0.035	10	0.138
Residence	West	Large Bulldozers	0.089	78	0.016
		Loaded trucks	0.076	78	0.014
		Jackhammers	0.035	78	0.006
South Gateway Site					
Residence	North	Large Bulldozers	0.089	4	1.391
		Loaded trucks	0.076	4	1.188
		Jackhammers	0.035	4	0.547
Residence	Southeast	Large Bulldozers	0.089	4	1.391
		Loaded trucks	0.076	4	1.188
		Jackhammers	0.035	4	0.547
Residence	South	Large Bulldozers	0.089	8	0.492
		Loaded trucks	0.076	8	0.420
		Jackhammers	0.035	8	0.193
Residence	West	Large Bulldozers	0.089	82	0.015
		Loaded trucks	0.076	82	0.013
		Jackhammers	0.035	82	0.006

Source: Compiled by LSA (2025).
Note: The FTA-recommended building damage threshold is 0.20 PPV [in/sec]) at the receiving non-engineered timber and masonry building.
[1] Distance from the project construction boundary to the residential building.
ft = foot/feet
FTA = Federal Transit Administration
in/sec = inches per second
PPV = peak particle velocity
VdB = vibration velocity
decibels

Mitigation Measure

MM NOI-3 The construction contractor shall prohibit large bulldozers and loaded trucks, or require the use of light construction equipment (e.g., small bulldozers and trucks), within 12 feet of any existing residential structure. Additionally, the construction contractor shall probit the use of jackhammers or require the use of hand tools within six feet of an existing residential structure. This measure shall be implemented to the satisfaction of the City of La Verne Building Official and City Community Development Director, or designee.

With the implementation of **Mitigation Measure NOI-3,** vibration levels generated by project construction activities would be reduced to below the City's vibration limit of 0.30 PPV (in/sec) for potential cosmetic damage and would be **less than significant with mitigation incorporated**.

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

Less than Significant Impact

Discussion of Effect: The closest airport to the project site is Brackett Field Airport, which is approximately 0.9 mile south of the project site. Based on the Noise and Overflight Factors Map in the Brackett Field ALUCP,[154] the project site is outside the 55 dBA CNEL noise contour of the airport. Also, there are no private airstrips within 2 miles of the project site. Therefore, the project would not expose people residing or working in the project vicinity to aviation-related excessive noise levels. Impacts are **less than significant,** and mitigation is not required.

[154] Los Angeles County Airport Land Use Commission. *Brackett Field Airport Land Use Compatibility Plan.* Exhibit 5: Noise and Overflight Factors Map. December 9, 2015. Website: https://planning.lacounty.gov/wp-content/uploads/2022/10/Brackett-Field-Airport-Land-Use-Compatibility-Plan.pdf (Accessed January 2025).

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XIV. Population and Housing				
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 amounts of people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

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

Less than Significant Impact

Discussion of Effect: The Regional Housing Needs Assessment (RHNA) is mandated by State Housing Law[155] as part of a periodic process of updating housing elements of city General Plans. The RHNA quantifies the need for housing within each jurisdiction during specified planning periods. The RHNA for Los Angeles County is developed by SCAG and allocates to cities and the unincorporated county their "fair share" of the region's projected housing needs. The 6th Cycle RHNA Allocation Plan (RHNA Allocation Plan), which covers the planning period from November 2021 to October 2029, was adopted by SCAG on March 4, 2021.[156]

The projected housing needs in the RHNA Allocation Plan are categorized by income levels (very low, low, moderate, and above moderate income) established by the U.S. Department of Housing and Urban Development (HUD). The City will need to accommodate a total of 1,346 units in various income categories by October 2029, including 414 very low-income, 239 low-income, 223 moderate-income, and 470 above moderate-income housing units.[157]

[155] Government Code §65584.

[156] Southern California Association of Governments. *Housing: Regional Housing Needs Assessment.* https://scag.ca.gov/housing, 2021. (Accessed November 19, 2024).

[157] Southern California Association of Governments. *SCAG 6th Cycle Final RHNA Allocation Plan.* March 4, 2021; Approved by HCD on March 22, 2021. https://scag.ca.gov/housing, (Accessed November 19, 2024).

The United States Census Bureau indicates the average household size in the City is 2.62 persons per dwelling unit, and according to the City of La Verne's 2021-2019 Housing Element, the total population of the City in 2020 was approximately 33,313.[158, 159] Based on these rates, the proposed project, which includes three existing residential units which will remain, could support 26 residents.[160] Even if all 26 residents were new to the City, the potential increase in new residents would represent 0.078 percent of the City's population.

Between 2010 and 2020, the total population of the City increased by 2,250 persons to 33,313 (7.2 percent).[161] Between 2000 and 2020, total number of households in the City increased by 667 units to 11,737 (6.0 percent).[162] The proposed project's contribution to the City's population and households is consistent with the City's growth trends and represents a minimal increase (between 0.024 percent and 0.078 percent of the 2020 City population and between 0.026 percent and 0.085 percent of the 2020 City households).[163] In addition, the project would support the following Goals and Policies of the City's General Plan related to development of additional housing in the City:[164]

- General Plan Housing Element Policy 2.6: Facilitate development of senior and low-income housing through the use of financial and/or regulatory incentives.
- General Plan Housing Element Policy 5.4: Encourage housing design standards that promote the accessibility of housing for persons with special needs, such as the elderly, persons with disabilities, including persons with developmental disabilities, large families, single-parent households, and persons experiencing homelessness.

The project would result in an incremental increase in land use density on the project sites by proposing three additional dwelling units compared to baseline conditions under which seven units exist. However, approximately 15.2 percent of the City's overall population is aged 65 years or older, and the proposed dwelling units would be age-restricted to help fulfill City's identified need to provide additional housing opportunities for senior residents.[165]

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158 United States Census Bureau. *QuickFacts, La Verne City, California.* https://www.census.gov/quickfacts/fact/table/lavernecitycalifornia/HSD310223. Accessed March 28, 2025.

159 City of La Verne, 2021-2029 Housing Element. *La Verne Housing Element Background Report.* Page BR-25. Adopted November 21, 2022.

160 2.62 persons per household × 10 dwelling units = 26.2 persons.

161 City of La Verne, 2021-2029 Housing Element. *La Verne Housing Element Background Report.* Page BR-25. Adopted November 21, 2022.

162 Southern California Association of Governments. *2021 Local Profiles Dataset*. Website: scag.ca.gov/data-tools-local-profiles (accessed November 2024).

163 These calculations identify the project's contribution to the City compared to the anticipated population or households under the General Plan Housing Element (e.g., 8 additional residents not anticipated ÷ 33,313 persons = 0.024 percent) (3 additional households not anticipated ÷ 11,737 households = 0.026 percent), as well as the overall project contribution to the City (e.g., 26 project residents ÷ 33,313 persons = 0.078 percent) (10 project households ÷ 11,737 households = 0.085 percent).

164 City of La Verne, 2021-2029 Housing Element. *City of La Verne, General Plan Update.* Page HP-4 and HP-7. Adopted November 21, 2022.

165 *Ibid. La Verne Housing Element Background Report.* Page BR-40.

Furthermore, the project sites are located within an urbanized area and would be connected to existing municipal roadways and utility infrastructure. The project would not include the construction of new roadways or infrastructure beyond those which would serve only the project site. Therefore, the project would not induce substantial population growth in an area, either directly or indirectly. Impacts would be **less than significant,** and mitigation is not required.

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

Less than Significant Impact

Discussion of Effect: The project includes the demolition of four existing, vacant, residential structures. Construction of seven residential units and renovation of three existing residential units would offset the demolition of four existing residential structures. Therefore, impacts from displacement of housing and people would be **less than** significant, and mitigation is not required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XV. Public Services				
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☒	☐

No Impact or Less than Significant Impact

Discussion of Effect:

XV a(i) Less than Significant Impact. The La Verne Fire Department (LVFD) would provide fire protection services to the project site. The nearest fire station in proximity to the project site is La Verne Fire Station 61 located at 2061 3rd Street, La Verne (approximately 0.6 mile southeast of the site) with an estimated three-minute travel time to the site. The next-nearest fire station is the Los Angeles County Fire Department Station 64 located at 164 S Walnut Avenue, San Dimas (approximately 1.9 miles west of the site) with an estimated 5-minute travel time to the site.

As detailed in the City's General Plan Public Safety Element, Policy PS-1.13 prohibits new development if located outside of an accepted fire service response time, as determined by the LVFD.[166] The project sites are located in a suburban setting already served by the LVFD. Since first responders already patrol the project vicinity and surrounding areas, compliance with California Vehicle Code 21806(A)(1), which requires all vehicles to yield to emergency vehicles, would ensure implementation of the proposed project would not adversely affect travel time between the nearest fire station and the project sites, which is expected to be between three and five minutes. Therefore, the project is not expected to adversely affect LVFD response times.

Average household size in the City is approximately 2.62 persons per dwelling unit.[167] The proposed project could generate 26 residents in the City,[168] of which 18 were already anticipated under the existing General Plan, and 8 of which would be additional residents.[169]

The project would not induce substantial population growth in the City or region. Furthermore, the project site is located within an urbanized area and would be connected to existing municipal roadways and utility infrastructure. The project could incrementally increase the demand for fire protection services due to additional residential dwelling units proposed on-site, but not to the degree that the existing fire stations could not meet the demand. The project sites are not located in an area identified as a Fire Hazard Severity Zone,[170] and all development within the project site would be required to comply with applicable provisions of the California Building Code (CBC), as amended, and the City's adopted fire code pursuant to Chapter 15.32 of the City Municipal Code. Compliance with the CBC, as amended, and the City's adopted fire code pursuant to Chapter 15.32 of the City Municipal Code would aid firefighting personnel and minimize the demand placed on the existing emergency services system. Additionally, through the execution of mutual aid agreements maintained with surrounding cities (i.e., San Dimas, Pomona, and Claremont) and with the Los Angeles County Fire Department, the City would have the additional firefighting support of nearby fire departments to provide assistance during major emergencies.

The project Applicant must submit final development plans to the City for approval by the Development Review Committee, including the LVFD, pursuant to Chapter 18.16 (Development Review) of the City Municipal Code. Prior to project approval,

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166 De Novo Planning Group. *Public Review Draft Environmental Impact Report for the La Verne General Plan and Zoning Ordinance Update, SCH: 2023040002).* Page 5.13-27. August 2024.

167 United States Census Bureau. *QuickFacts, La Verne City, California.* https://www.census.gov/quickfacts/fact/table/lavernecitycalifornia/HSD310223. Accessed March 28, 2025.

168 2.62 persons per household × 10 dwelling units = 26.2 persons.

169 It should be noted since the proposed residential uses would be age-restricted to seniors, the population estimates for the proposed project are conservative and are expected to be overestimating the actual population that would occupy the proposed project.

170 California Department of Forestry and Fire Protection. *Fire Hazard Severity Zone Viewer.* March 2025. https://experience.arcgis.com/experience/5065c998b4b0462f9ec3c6c226c610a9/page/Compare-old-and-new-LRA-FHSZ (Accessed March 29, 2025).

the LVFD would condition the project to be developed in accordance with General Plan Public Safety Element Policies PS-1.12 and PS-1.13 for water capacity availability and to ensure the project sites could be served with adequate response times. Compliance with all applicable regulations pertaining to fire prevention and protection standards, including, but not limited to, fire sprinklers, sufficient emergency access, emergency notification procedures, and fire hydrant locations would further reduce demand for fire protection services. In accordance with Community Services and Facilities Element Policy CSF-1.1, the City of La Verne also would collect fire service and development impact fees from the proposed project, which would be used to fund the capital costs associated with acquiring land for new fire stations, constructing new fire stations, purchasing new fire equipment for such stations, and providing additional staff as needed to serve the community. However, development of the proposed project in an existing suburban setting without a substantial increase in City population or housing units and constructed in accordance with applicable policies and regulations would not require new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts. Therefore, impacts would be **less than significant,** and mitigation is not required.

a(ii) Less than Significant Impact. Police services to the project site would be provided by the La Verne Police Department (LVPD). The police station nearest to the project site is located at 2061 3rd Street, La Verne (approximately 0.6 mile southeast of the project site) with an estimated 3-minute travel time to the site. The project would not generate a substantial increase in population within the City; therefore, the project's increase in demand of new or expanded police services would be minimal.

La Verne's Police Department website highlights the City's patrol divisions with respect to public safety, with 45 sworn officers currently assigned to the city's streets. LVPD additionally consists of 26 professional staff members, a reserve force of up to 25 officers, a retired senior volunteer program of 30 members.[171] The City monitors police staffing levels as part of the annual budgeting process to ensure that adequate police protection can continue even after new development projects are approved and constructed. Therefore, projections made by the LVPD and the City ensure that adequate police protection would be maintained during operation of the proposed project.

LVPD comprises two major divisions for the prevention and suppression of crime, as well as a consolidated communications dispatch operation to serve as the first responder to emergency calls. The project site is in a suburban area already served by the LVPD. Since first responders already patrol the project vicinity and surrounding areas, and the project does not entail a substantial increase in City population, compliance with California Vehicle Code 21806(A)(1), which requires all vehicles to yield to emergency vehicles, would ensure implementation of the

[171] City of La Verne Police Department. *Inside the LVPD.* 2025. https://lvpd.org/inside-the-lvpd. (Accessed March 29, 2025).

proposed project would not adversely affect the LVPD average response time 3.19 minutes for emergency calls.[172]

The project would be designed and operated per applicable standards required by the City for new development with regard to public safety. In addition, the City maintains mutual aid agreements with police agencies in the surrounding cities (e.g., San Dimas, Pomona, and Claremont and with the Los Angeles County Sheriff's Department, which allow for the services of nearby police departments to assist the LVPD during major emergencies. In accordance with Community Services and Facilities Element Policy CSF-1.1 and Policy CSF-5.1, the project Applicant would be required to pay development impact fees used to fund capital costs associated with constructing new public safety structures and purchasing equipment for new public safety structures. Payment of development impact fees commensurate with the increased demand for services in the city would offset any increase in demand for police services.

The project Applicant must submit final development plans to the City for approval by the Development Review Committee, including the LVPD, pursuant to Chapter 18.16 (Development Review) of the City Municipal Code. Prior to project approval, the LVPD would review the project design for consistency with Crime Prevention Through Environmental Design (CPTED) principles, such as architecture, landscaping, and lighting designed to minimize visual obstacles and eliminate places of concealment for potential assailants, in accordance with Community Services and Facilities Element Action CDF-5.4. Compliance with all applicable policies pertaining to police protection standards, including, but not limited to, sufficient emergency access and emergency notification procedures would further reduce demand for police protection services. However, development of the proposed project in an existing urban setting without a substantial increase in City population would not require new or physically altered police protection facilities, the construction of which could cause significant environmental impacts. Therefore, impacts would be **less than significant,** and mitigation is not required.

a(iii) No Impact. The City is home to six public schools under the jurisdiction of the Bonita Unified School District (BUSD) and three private schools. The City does not have jurisdiction with respect to the location, design, or construction of public school facilities; however, the City coordinates with the BUSD concerning the design of roads and other public improvements in and around school sites, and is responsible for fire, police, and public safety concerns involving all facilities within the City.

The project includes ten residential dwelling units that would be age restricted. No school-aged children are expected to occupy the project sites. Therefore, there would be no potentially significant impacts to service ratios or other performance objectives that would require the provision of new or physically altered school facilities within the City. California Government Code (Section 65995[b])

[172] De Novo Planning Group. *Public Review Draft Environmental Impact Report for the La Verne General Plan and Zoning Ordinance Update, SCH: 2023040002).* Page 5.13-7. August 2024.

establishes the base amount of allowable developer fees imposed by school districts.

Per the California Government Code, "The payment or satisfaction of a fee, charge, or other requirement levied or imposed … are hereby deemed to be full and complete mitigation of the impacts … on the provision of adequate school facilities." The project will be required to pay these development fees in accordance with Government Code 65995 and Education Code 17620. Through payment of development fees in accordance with Government Code 65995 and Education Code 17620, **no impact** related to school services would occur, and no mitigation is required.

a(iv) Less than Significant Impact. The nearest park in proximity to the project site is Kuns Park, located at 1600 Bonita Avenue approximately 600 feet south of the project sites. This 2.5-acre neighborhood park features amenities for passive recreation, including six sheltered picnic tables, seven open-air picnic tables, five barbecues, an Americans with Disabilities Act (ADA) accessible restroom facility, and an ADA-accessible tot lot. The next-nearest park is Kirk B. Johnson Memorial-Pelota Park, located at 1505 Holly Oak Street. This 4.6-acre neighborhood park includes three lit baseball/softball fields, scoreboards, a concession building, restroom facilities, three picnic tables, and on-site parking. The City of La Verne and the Bonita Unified School District have formed a joint-use agreement for the shared use of the facilities at Kirk B. Johnson Memorial-Pelota Park.[173]

The proposed project would not generate a substantial increase in population within the City; therefore, no negative impact related to the City's adopted goal of 4.0 acres of parkland for every 1,000 residents[174] would result from the proposed development. The increased demand for new or expanded park facilities would be minimal.

The project would result in an increase in land use density on the project site and the City would require the payment of park, recreation, and open space fees as part of development of the project sites pursuant to City Municipal Code Chapter 3.20 (Parks and Recreation Charges) and Community Services and Facilities Element Policy CSF-1.1. These fees must be used to fund capital costs associated with constructing new public parks and purchasing equipment for public parks. The amount of the fee would be equal to the new development's fair share of the costs of developing new parks, open space and recreation facilities, including the acquisition, design, and construction.

The proposed project includes reconstruction of public paseos traversing the North Gateway site to improve the connection between the east and west campuses of the Hillcrest Community. Reconstruction of public paseos would promote passive recreation activities between the neighborhoods and surrounding parks. The City's

[173] City of La Verne. *Facilities.* 2025. https://www.cityoflaverne.org/328/City-Parks. (Accessed March 29, 2025).

[174] De Novo Planning Group. *Public Review Draft Environmental Impact Report for the La Verne General Plan and Zoning Ordinance Update, SCH: 2023040002).* Page 5.13-41. August 2024.

joint-use agreement facilities, combined with proximity to neighboring parks, payment of park, recreation, and open space fees, and project design to facilitate passive recreation, would offset any incremental increase in parkland demand. Impacts are **less than significant,** and mitigation is not required.

a(v) Less than Significant Impact. The project would result in an increase in land use density on the project sites. The proposed project could generate 26 residents in the city, of which 18 were already anticipated under the General Plan Update and up to 8 would be additional residents. Therefore, the project would not induce substantial population growth in the City or region. Any increase in land use or development intensity would be minimal, and no potential cumulative overburdening of other public facilities requiring new or physically altered facilities is expected to occur. Impacts would be **less than significant**, and mitigation is not required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XVI. Recreation				
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?	☐	☐	☒	☐

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

Less than Significant Impact

Discussion of Effect: Please refer to the Response to Checklist Question XV(a)(iv). The proposed project includes reconstruction of public paseos traversing the North Gateway Site to improve the connection between the east and west campuses of the Hillcrest Community. Reconstruction of public paseos would promote passive recreation activities between the neighborhoods and surrounding parks. The City's joint-use agreement facilities, combined with proximity to neighboring parks, payment of park, recreation, and open space fees, and project design to facilitate passive recreation, would offset any incremental increase in parkland demand. Impacts are **less than significant,** and mitigation is not required.

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

Less than Significant Impact

Discussion of Effect: The proposed project includes reconstruction of public paseos traversing the North Gateway site to improve the connection between the east and west campuses of the Hillcrest Community. Reconstruction of public paseos would promote passive recreation activities between the neighborhoods and surrounding parks. Development of the North Gateway Site has been included in the analytical footprint of this Initial Study, and impacts are either none, less than significant, or less than significant with mitigation incorporated. No other recreational facilities are proposed or required to operate the proposed project. Therefore, the proposed project would have **a less than significant** impact related to the construction of new or expansion of existing park or recreation facilities, and additional mitigation is not required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XVII. Transportation				
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 *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?	☐	☐	☒	☐

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

Less than Significant Impact

Discussion of Effect: CEQA Guidelines Section 15064.3 "describes specific considerations for evaluating a project's transportation impacts" and provides that, except for roadway capacity projects, "a project's effect on automobile delay shall not constitute

a significant environmental impact." (CEQA Guidelines, § 15064.3(a).) CEQA Guidelines Section 15064.3 further specifies that "vehicle miles traveled is the most appropriate measure of transportation impacts." Therefore, the following discussion of consistency with plans, programs, ordinances, or policies addressing the circulation system is based on project compliance with the City of La Verne Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service (Transportation Guidelines)[175] and applicable General Plan consistency requirements pertaining to alternative modes of transportation.

The proposed project is expected to generate 2 daily vehicle trips during the a.m. peak hour (7:00 a.m. to 9:00 a.m.), 2 daily vehicle trips during the p.m. peak hour (4:00 p.m. to 6:00 p.m.), and 25 daily vehicle trips through operation of 10 residential units operating within a continuing care retirement community (Appendix H); no credit is given for the existing residences proposed for demolition.[176]

The Transportation Guidelines indicate a transportation study is generally required if a project generates over 100 vehicle trips during either the a.m. peak hour or p.m. peak hours for a proposed development or would add 51 or more trips during either the a.m. peak hour or p.m. peak hours to any single intersection.[177] For projects anticipated to generate fewer than 100 peak hour trips overall or fewer that 51 peak hour trips to any intersection, a trip generation memorandum generally is considered sufficient unless the City has specific concerns related to project access and interaction with adjacent intersections. Since the proposed project is expected to generate only 2 vehicle trips during the a.m. peak hour, 2 trips during the p.m. peak hour, and 25 peak hour trips overall, the project's contribution to the surrounding transportation network would be minimal, and a full transportation study is not required.

A major design feature of the proposed project is interconnected paseos between neighborhoods to promote pedestrian activities. As mentioned previously, the proposed project includes reconstruction of public paseos traversing the North Gateway Site to improve the connection between the east and west campuses of the Hillcrest Community. With the reconstruction of these public paseos, the proposed project would promote pedestrian connectivity and support the neighborhood interconnectedness within the community. In addition, the Hillcrest dining hall is located approximately 700 feet east of the North Gateway and South Gateway Sites, which facilitates senior living dining services to residents without having to leave the Hillcrest campus.

The Hillcrest community provides an on-call, pick-up service that transports residents to the dining hall and other amenities via electric motorized cart. Additionally, a private bus service is available that transports residents to essential services such as banks, doctors' offices, pharmacies, grocery/retail, churches, the Metro Gold Line and Metrolink station respectively 1 mile and 1.75 miles to the southeast, regional bus stations, etc. Finally, the

[175] City of La Verne. *City of La Verne Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service.* August 2020.
[176] LSA. *Hillcrest Gateway Residential Project Trip Generation and Vehicle Miles Traveled Analysis Memorandum*. October 29, 2025.
[177] *Ibid.* Page 7.

proposed project is located approximately 850 feet from Foothill Transit Bus Route 492 serving the cities of Montclair, Irwindale, El Monte, and points in-between.

The proposed project addresses several key issues and implements policies of the General Plan Update that reduce vehicle miles traveled without generating a substantial unanticipated increase in population. Therefore, no conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities is expected to occur. Impacts would be **less than significant,** and mitigation is not required.

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

Less than Significant Impact

Discussion of Effect: CEQA Guidelines Section 15064.3, subdivision (b) establishes "vehicle miles traveled" (VMT) criteria in lieu of LOS for analyzing transportation impacts and was signed into law as SB 743 in 2013.

The proposed project expected to create 25 daily vehicle trips through operation of 10 residences operating within a continuing care retirement community (Appendix H); no credit is given for the existing residences proposed for demolition.[178]

Residential units operating within a continuing care retirement community typically cater to the necessity and well-being of seniors and are expected to generate nominal traffic. The Hillcrest Homes Master Plan community includes services designed to cater to and accommodate the operation of a continuing care retirement community and to reduce VMT. For example, Hillcrest provides an on-call pick-up service that transports residents to the dining hall and other amenities via electric motorized cart. Additionally, a private bus service provides transportation to local services such as banks, doctors' offices, pharmacies, grocery/retail, churches, the Metro Gold Line and Metrolink station respectively 1 mile and 1.75 miles to the southeast, and regional bus stations. Additionally, the project sites are located approximately 850 feet from Foothill Transit Bus Route 492 serving the cities of Montclair, Irwindale, El Monte, and points in-between.[179] Accordingly, the proposed project addresses several key issues and implements policies of SCAG's 2024-2050 RTP/SCS that reduce VMT and associated GHG emissions without generating a substantial increase in daily vehicle trips. Therefore, the project is anticipated to have a **less than significant** VMT impact, and mitigation is not required.

[178] LSA. *Hillcrest Gateway Residential Project Trip Generation and Vehicle Miles Traveled Analysis Memorandum*. October 29, 2025.

[179] Foothill Transit. *El Monte Station – Arcadia – Montclair – Transit Center Via Arrow Hwy, Line 492*. https://www.foothilltransit.org/line/492 (accessed November 15, 2024).

c. 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

Discussion of Effect: The proposed project includes reconstruction of portions of the curb, gutter, sidewalk, and driveway aprons along the project frontages of Park Avenue and A Street, as well as reconstruction of public paseos traversing these properties to improve the connection between the east and west campuses of the Hillcrest Community. The project does not include reconstruction or realignment of public streets or intersections.

The proposed project would be required to design, construct, and maintain structures, roadways, and facilities in accordance with applicable standards governing vehicular access. Demolition and construction activities that may temporarily restrict vehicular traffic would be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Any development application that is part of the project would be subject to Development Review Committee review and approval prior to issuance of grading and building permits in accordance with Section 18.60.030 and Chapter 18.16 (Development Review) of the City Municipal Code to ensure a substantial increase in hazards due to a design feature or incompatible use would not occur. Adherence to these measures would result in a **less than significant impact**, and mitigation is not required.

d. Result in inadequate emergency access?

Less than Significant Impact

Discussion of Effect: As detailed in response to Checklist Questions IX (f), XV a(i), and XV a(ii), the proposed project would be conditioned by the LVFD and LVPD, in addition to the City Traffic Engineer and Public Works Department during the City's precise plan review process (Chapter 18.16, Development Review), to be designed and constructed, and to maintain structures, roadways, and facilities in accordance with applicable standards governing vehicular access, resulting in the provision of adequate vehicular access that would provide for adequate emergency access and evacuation. Demolition and construction activities that may temporarily restrict vehicular traffic would be required to include adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Access to every residential unit would be provided via internal drive aisles constructed off Park Avenue or A Street pursuant to City Municipal Code Section 18.36.150, which is imposed as policy to ensure that emergency vehicles and first responds have sufficient access throughout the project sites and that adequate infrastructure, such as fire hydrants, and emergency evacuation procedures are incorporated into the project design. Through compliance with City Municipal Code Section 18.36.150, impacts related to emergency access would remain **less than significant**, and mitigation is not required.

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

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? and

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

Potentially Significant Unless Mitigation Incorporated

Discussion of Effect: Tribal consultation for this project is required under two separate provisions of law. The first is Senate Bill 18 (SB 18) which relates to projects that involve a General Plan or Specific Plan amendment. (See Gov. Code § 65352.3.) For purposes of SB 18, the term “California Native American Tribe” means a Native American tribe

located in California that is on the contact list maintained by the Native American Heritage Commission (NAHC). .[180]

California Government Code 65352.4 (i.e., SB 18) defines "consultation" as the meaningful and timely process of seeking, discussing, and considering carefully the views of others, in a manner that is cognizant of all parties' cultural values and, where feasible, seeking agreement. Consultation between government agencies and Native American Tribes shall be conducted in a way that is mutually respectful of each party's sovereignty. Consultation shall also recognize the Tribes' potential needs for confidentiality with respect to places that have traditional tribal cultural significance.

The second consultation provision is found within CEQA and requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. Assembly Bill 52 (AB 52) requires lead agencies to evaluate a project's potential to affect "tribal cultural resources." Such resources include "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources." AB 52 also gives lead agencies the discretion to determine, supported by substantial evidence, whether a resource qualifies as a "tribal cultural resource."

CEQA defines a "historical resource" as a resource that meets one or more of the following criteria: (1) is listed in, or determined eligible for listing in, the California Register of Historical Resources (California Register); (2) is listed in a local register of historical resources as defined in PRC Section 5020.1(k); (3) is identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (4) is determined to be a historical resource by a project's lead agency (PRC Section 21084.1 and State CEQA Guidelines Section 15064.5[a]).

"Local register of historical resources" means a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution.

A resource may be listed as a historical resource in the California Register of Historical Resources if it meets any of the following National Register of Historic Places criteria as defined in PRC Section 5024.1(C):

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.

[180] California Environmental Quality Act Statute § 21073.

d. Has yielded, or may be likely to yield, information important in prehistory or history.

A "substantial adverse change" to a historical resource, according to PRC Section 5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

The CEQA Guidelines do not preclude identification of historical resources as defined in Public Resources Code Sections 5020.1(j) or 5024.1. Pursuant to State CEQA Guidelines Section 15064.5(c)(4), if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study, but they need not be considered further in the CEQA process.[181]

Per AB 52 (specifically California Public Resources Code 21080.3.1), Native American consultation is required upon request by interested California Native American Tribes that have previously requested that the City provide them with notice of such projects.

The City engaged the NAHC for a Sacred Lands File Search and contact list of Tribes pursuant to California Government Code 65352.3 (SB 18) on September 20, 2024. The NAHC responded on October 9, 2024, and indicated the results of the Sacred Lands File Search are positive and recommended the City contact the Gabrieleño Band of Mission Indians-Kizh Nation in addition to the Tribes listed in the NAHC Tribal Consultation List for the region. The City sent letters to listed Native American Tribes and the Kizh Nation for consultation under AB52 and SB 18 on October 24, 2024.

Three Native American Tribes, the Ft. Yuma Quechan Indian Tribe, Gabrielino Tongva Indians of California, and Yuhaaviatam of San Manuel Nation (formerly the San Manuel Band of Mission Indians) provided input on the project. The Gabrielino Tongva Indians of California also directed the City to contact the San Gabriel Band of Mission Indians, under the leadership of Chair Morales, for next steps, but the City did not receive a response from the San Gabriel Band of Mission Indians to the City's inquiry if consultation would be desired. A summary of the tribal consultation responses is below.[182]

Ft. Yuma Quechan Indian Tribe. The Ft. Yuma Quechan Indian Tribe responded to the City's inquiry on October 29, 2024, indicating the Tribe's Historic Preservation Office does not wish to comment on this project, and the Tribe defers to the local Tribes and support their determinations on this matter.

Gabrielino Tongva Indians of California. The Gabrielino Tongva Indians of California responded to the City's inquiry on October 25, 2024, indicating the area is sensitive for tribal cultural resources and would require Tribal monitoring. The Gabrielino Tongva

[181] Pursuant to Section 21082.3(c) of the Public Resources Code, details on the nature, extent, and location of tribal cultural resources identified by Native American Tribes shall remain confidential for the purposes of this analysis.

[182] Specific information regarding sensitivity for tribal cultural resources is not available to the public but is included in a confidential appendix to the project record for use by City staff as needed.

Indians of California then directed the City to contact the San Gabriel Band of Mission Indians, under the leadership of Chair Morales, for next steps.

San Gabriel Band of Mission Indians. The San Gabriel Band of Mission Indians was engaged on October 25, 2024, in conjunction with the Gabrielino Tongva Indians of California response to the City's inquiry for consultation, but the City did not receive a response. City staff followed up with the San Gabriel Band of Mission Indians on February 5, 2025, but again did not receive a response.

Yuhaaviatam of San Manuel Nation. The Yuhaaviatam of San Manuel Nation (formerly the San Manuel Indians, which are of Serrano origin) responded to the City's inquiry on November 6, 2024, indicating the project is located within Serrano ancestral territory and is therefore of interest to the Tribe. However, the Yuhaaviatam of San Manuel Nation advised it sees no conflicts with the proposed general plan amendment and zoning changes and does not have any concerns with the project's implementation, as planned, as of the date of their response. Nevertheless, the Yuhaaviatam of San Manuel Nation requested the following mitigation measures be made a part of the project/permit/plan conditions to reduce impacts to tribal cultural resources:

Mitigation Measures

MM TCR-1 The Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN) shall be contacted, as detailed in **MM CUL-1**, of any pre-contact cultural resources discovered during project implementation and be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a Cultural Resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with YSMN, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents YSMN for the remainder of the project, should YSMN elect to place a monitor on-site. This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director, or designee.

MM TCR-2 Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency (i.e., City of La Verne) for dissemination to YSMN. The Lead Agency and/or applicant shall, in good faith, consult with YSMN throughout the life of the project. This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director, or designee.

Adherence to **Mitigation Measures TCR-1**, **TCR-2, and CUL-5** would ensure the project would be conditioned to cease excavation or construction activities if cultural, tribal cultural, archaeological resources, or human remains are identified and would include provisions for Native American monitoring of ground-disturbing activities in such an instance. These measures also would ensure further consultation with interested Native American Tribes for the appropriate treatment of tribal cultural resources. Therefore,

impacts to tribal cultural resources would be reduced to **less than significant with mitigation incorporated.**

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

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or

telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact.

Discussion of Effect: The approval of drainage features and other utility improvements occurs through the building plan check process and during the applicable interconnection process required by utility service providers. As part of this process, all project-related drainage features and utility infrastructure would be required to comply with Section 15.40.160 (Standards for subdivisions or other proposed new development) and Section 15.40.170 (Standards for utilities) of the City Municipal Code, as well as Los Angeles RWQCB standards. On-site project-related drainage features would be designed, installed, and maintained per the Los Angeles County MS4 Permit, the City Municipal Code, and the requirements identified in the Final WQMP (per **Regulatory Compliance Measures HYD-1** and **HYD-2**).

All proposed improvements and interconnection to drainage, electric power, water, and wastewater facilities would be installed simultaneously with finish grading activities and required project frontage improvements (sidewalk, landscaping, and trees) along Park Avenue and A Street. The areas of potential impact from drainage and utility infrastructure improvements occur in an urbanized environment and are included in the analytical footprint of this Initial Study and associated technical studies, and impacts are mitigated where necessary to less than significant levels. As a result, interconnection to the existing utilities in the project vicinity would not result in substantial disturbance to native habitat or soils, or to the operation of existing roadways and utilities. There would be no significant environmental effects specifically related to the installation of utility interconnections that are not encompassed within the project's construction and operational footprints, and therefore already identified, disclosed, and subject to all applicable mitigation measures, as well as local, State, and federal regulations, as part of this Initial Study. Therefore, impacts related to relocation or construction of utilities would be **less than significant**. Mitigation is not required.

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

Less Than Significant Impact

Discussion of Effect: Domestic water for the city and project sites is provided by the City of La Verne through a combination of imported water and local groundwater. Imported water is purchased from the Three Valley Metropolitan Water District (TVMWD) and the Metropolitan Water District (MWD).[183] Groundwater is extracted from the Six Basins[184] in accordance with the Six Basins Judgment, which defines adjudication for these basins to ensure safe operating yield and avoid over-extraction of groundwater.[185] According to the Six Basins Judgment, the City has a right to 7.601 percent of the safe operating yield from

[183] The Metropolitan Water District of Southern California. *Final 2020 Urban Water Management Plan.* Table 1-3: Member Agencies and Table A.3-6: Metropolitan's In-Region Groundwater Storage Programs. Page 1-9 and A.3-56. June 2021.

[184] The Six Basins are comprised of the Ganesha, Live Oak, Pomona, Lower Claremont Heights, Upper Claremont Heights and Canyon Basin.

[185] City of La Verne. *City of La Verne 2020 Urban Water Management Plan.* Page 5-7. June 2021.

the Canyon Basin, Upper Claremont Heights Basin, Lower Claremont Heights Basin, and Pomona Basin and "the right to produce as much groundwater as it may reasonably withdraw from the Two Basins Area on an annual basis so long as it does not substantially injure the rights of any other" parties identified in the Six Basins Judgment.[186]

Water demand for the City's single-family residential land uses totaled approximately 3,533 acre-feet per year (AFY) in 2020 and is projected to reach 3,812 AFY in the year 2035 and 3,914 AFY in the year 2040.[187] Overall water supply in the city is based on projections of the TVMWD and the adjudicated yield (as described above) from the Six Basins. The City's supply and demand of water is detailed in Table V.

Table V: City of La Verne Water Supply and Demand

		2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)
Normal Year (2012) Supply and Demand Comparison					
Total Supply[1]		13,784	13,784	13,784	13,784
Total Demand		6,825	7,049	7,281	7,476
Surplus Water		6,959	6,735	6,503	6,308
Single Dry Year (2015) Supply and Demand Comparison					
Total Supply[1]		7,401	7,401	7,401	7,401
Total Demand		6,143	6,345	6,553	6,728
Surplus Water		1,258	1,056	848	673
Multiple Dry Year (2015-2017) Supply and Demand Comparison					
First Year (2015)	**Total Supply**[1]	7,401	7,401	7,401	7,401
	Total Demand	6,143	6,345	6,553	6,728
	Surplus Water	1,258	1,056	848	673
Second Year (2016)	**Total Supply**[1]	6,220	6,220	6,220	6,220
	Total Demand	5,460	5,640	5,825	5,981
	Surplus Water	760	580	395	239
Third Year (2017)	**Total Supply**[1]	7,031	7,031	7,031	7,031
	Total Demand	5,460	5,640	5,825	5,981
	Surplus Water	1,571	1,391	1,206	1,050
Fourth Year (2018)	**Total Supply**[1]	7,532	7,532	7,532	7,532
	Total Demand	5,460	5,640	5,825	5,981
	Surplus Water	2,072	1,892	1,707	1,551
Fifth Year (2019)	**Total Supply**[1]	6,981	6,981	6,981	6,981
	Total Demand	5,460	5,640	5,825	5,981
	Surplus Water	1,521	1,341	1,156	1,000

[186] *Ibid.*

[187] *Ibid.* Table 3-3: Current (FY 2020) Gross Water Use by Sector in acre-feet. Table 3-4: Projected Water Deliveries. Page 3-4 and 3-6.

Table V: City of La Verne Water Supply and Demand

	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)

Source: *City of La Verne 2020 Urban Water Management Plan.* City of La Verne. Tables 6-2, 6-3, and 6-4. Pages 6-17 and 6-18. June 2021.
[1] City water supply is based on projections of the Three Valleys Municipal Water District and the adjudicated yield from the Six Basins.
AFY = Acre-Feet per Year

As indicated in Table V, water supplies are expected to be adequate to meet normal year, single dry year, and multiple dry year demand conditions through the UWMP's 2040 planning horizon. However, projected water supplies by the year 2040 under multiple dry years are marginally adequate to support demand, so the purchase of imported water from the MWD is designed to ensure the projected demand would continue to be adequately met.

Development of the proposed project could increase population by up to eight persons beyond that already considered for the project sites; therefore, no substantial increase in land use or development intensity, and no potential cumulative overburdening of community infrastructure and service capacity, is expected to occur. Based on a historic per capita water demand of 264 gpd,[188] the proposed project would generate an annual water demand of approximately 7.69 AFY.[189]

As detailed in Table V, the City would have sufficient water supply to support the proposed project under a worst-case scenario via the TVMWD and the adjudicated yield from the Six Basins. Furthermore, in the event that additional water supplies would be needed, TVMWD can purchase water from MWD, whose surplus substantially exceeds the demand anticipated for the proposed project, as indicated in Table W.

Table W: Metropolitan Water District Water Supply and Demand

	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)	2045 (AFY)
Normal Year Supply and Demand Comparison					
Total Supply	3,899,000	3,893,000	3,890,000	3,888,000	3,885,000
Total Demand	1,427,000	1,388,000	1,362,000	1,378,000	1,403,000
Surplus Water	2,472,000	2,505,000	2,528,000	2,510,000	2,482,000
Single Dry Year Supply and Demand Comparison					
Total Supply	2,772,000	2,761,000	2,760,000	2,760,000	2,757,000
Total Demand	1,544,000	1,500,000	1,473,000	1,496,000	1,525,000
Surplus Water	1,228,000	1,261,000	1,287,000	1,264,000	1,232,000
Multiple Dry Year Supply and Demand Comparison					
Total Supply	2,178,800	2,219,000	2,241,000	2,263,000	2,239,000

[188] *City of La Verne 2020 Urban Water Management Plan.* City of La Verne. Page 4-1. June 2021.
[189] 264 gpd x 26 residents = 6,864 gallons x 365 days/year = 2,505,360 gallons/yr ÷ 325,851 gallons/AF = 7.69 AFY.

Table W: Metropolitan Water District Water Supply and Demand

	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)	2045 (AFY)
Total Demand	1,592,000	1,570,000	1,537,000	1,539,000	1,564,000
Surplus Water	586,800	649,000	704,000	724,000	675,000

Source: *2020 Urban Water Management Plan.* Tables 2-4, 2-5, and 2-6. Pages 2-18, 2-19, and 2-20. The Metropolitan Water District of Southern California. June 2021.
AFY = Acre-Feet per Year

Through a combination of imported water from the TVMWD and MWD and local groundwater extracted from Six Basins in accordance with the Six Basins Judgment, the City would have sufficient water supplies to serve the proposed project. Therefore, the proposed project would not require construction of new water facilities or expansion of existing water facilities, as capacity would be available to support development proposed under the Master Plan Update. Impacts would be **less than significant,** and mitigation is not required.

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?

Less Than Significant Impact

Discussion of Effect: The City of La Verne Public Works Department (Sewer Division) is responsible for the operation and maintenance of the local sewer system. In addition, the city is located in the County Sanitation Districts of Los Angeles County (LACSD), and within the District No. 21 service boundary. Wastewater generated by the proposed project would be collected in City sewers and discharged to a regional trunk sewer pipeline owned by the LACSD where then it will ultimately flow to the Pomona Water Reclamation Plant.

The LACSD Loadings for Each Class of Land Use indicate a single-family residence would generate approximately 260 gallons of wastewater per day per parcel;[190] therefore, the project is anticipated to generate approximately 2,600 total gallons of wastewater per day (gpd) or 0.0026 million gallons per day (mgd), which is an increase of 780 gpd or 0.00078 mgd in comparison to baseline conditions.[191] The wastewater flow originating from the project sites discharges to a local sewer line for conveyance to the County Sanitation Districts of Los Angeles (Districts) La Verne Trunk Sewer, Section 2, located in Wheeler Avenue at Arrow Highway. The District's 12-inch diameter trunk sewer has a capacity of 1.3 mgd and conveyed a peak flow of 0.3 mgd when last measured in 2014. Ultimately, the wastewater generated on the project site is treated at the Pomona Water

[190] Sanitation Districts of Los Angeles County. *NOI Response for Brandywine Residential Development Project*. Page 1. Public Comment Letter to the City of La Verne, dated August 11, 2021.

[191] 10 single family residences × 260 gallons per day = 2,600 gallons of wastewater per day. 7 single family residences (baseline conditions) x 260 gallons per day = 1,820 gallons of wastewater per day. 2,600 gpd (proposed conditions) minus 1,820 (baseline conditions) gpd = 780 gpd.

Reclamation Plant, which has a capacity of 15 mgd and currently processes an average flow of 8.6 mgd.[192]

All biosolids and wastewater flows that exceed the capacity of the Pomona Water Reclamation Plant are diverted to and treated at the Joint Water Pollution Control Plant in the City of Carson. The Pomona Water Reclamation Plant maintains approximately 6.4 mgd of surplus wastewater treatment capacity. The anticipated 2,600 gpd of wastewater generated from the project represents approximately 0.041 percent of the current surplus capacity at this facility; therefore, sufficient surplus wastewater treatment capacity exists to accommodate the proposed project. The construction of new wastewater treatment facilities or expansion of existing facilities is not required. Impacts would be **less than significant,** and mitigation is not required.

d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less Than Significant Impact

Discussion of Effect: The City's contractor for trash and recycling pickup is Waste Management, Inc., and there are a variety of landfills available, including Azusa Land Reclamation County Landfill, Mesquite Landfill, Bakersfield Metropolitan, California Street Landfill, Chiquita Canyon Sanitary Landfill, Colton Sanitary Landfill, El Sobrante Landfill, Lancaster Landfill and Recycling Center, Mid-Valley Sanitary Landfill, Olinda Alpha Sanitary Landfill, Puente Hills Landfill, San Timoteo Sanitary Landfill, and Victorville Sanitary Landfill, to service the City's solid waste generation. Each of these landfills has varying maximum permitted daily throughput and projected closure dates.

The nearest landfill to the project site is the Azusa Land Reclamation County Landfill located at 1211 West Gladstone Street in the City of Azusa. This facility includes 266 disposal acres, with a maximum permitted throughput of 8,000 tons per day, a maximum permitted capacity of approximately 80.57 million cubic yards, and an estimated closure date of January 2045.[193]

Landfill capacity is expected to decrease over time with future growth and development throughout Los Angeles County and surrounding areas. However, waste reduction and recycling programs and regulations are expected to reduce the demand and extend the life of existing landfills, and the City has maintained an average of 64 percent diversion of solid waste for recycling since 2007.[194]

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[192] Los Angeles County Sanitation Districts. *Pomona Water Reclamation Plant.* 2025. https://www.lacsd.org/services/wastewater-sewage/facilities/pomona-water-reclamation-plant. (Accessed March 31, 2025).

[193] CalRecycle. *Facility/Site Summary Details: Azusa Land Reclamation Co. Landfill*. https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/3532?siteID=1001 (Accessed November 27, 2024).

[194] Rincon Consultants, Inc. *University of La Verne Facilities and Technology Master Plan Update.* Environmental Impact Report, SCH #2016071053. Table 76: City of La Verne Per Capita Solid Waste Diversion Rates and Table 79: Estimated Solid Waste Generation. December 2016.

The project includes demolition of four residential units, construction of seven residential units, and renovation of three existing residential units. Based on a solid waste generation factor of 0.66 tons per year per residential dwelling unit[195] the proposed project would generate approximately 6.6 tons of solid waste per year (an increase of approximately 1.98 tons of solid waste from baseline conditions).[196] With a maximum permitted throughput of 8,000 tons per day, the Azusa Land Reclamation County Landfill has ample surplus capacity to serve the proposed project through build-out of the proposed project. Therefore, potential impacts associated with landfill capacity would be **less than significant**, and mitigation is not required.

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

Less Than Significant Impact

Discussion of Effect: Construction would be subject to Part 11 of the Title 24 Building Energy Efficiency Standards (also referred to as the California Green Building Standards Code, or CALGreen), which requires a minimum of 65 percent of construction waste be diverted from landfills for reuse and/or recycling. Project compliance with the CALGreen Program is required as a matter of regulatory policy.

Solid waste generated during project operation would be managed pursuant to the California Integrated Waste Management Act of 1989 (AB 939), which requires each city or county's source reduction and recycling element to include an implementation schedule demonstrating at least 50 percent diversion of solid waste from landfill disposal or transformation on and after January 1, 2000. Chapter 13, Article 28 of the City Municipal Code regulates waste collection, transfer, and disposal in the City and requires the project Applicant to ensure the project is served by the City contractor for trash and recycling pickup, Waste Management, Inc.

SB 1016, passed in 2008, now requires the 50 percent diversion requirement to be calculated in a per capita disposal rate equivalent. The City has maintained an average of 64 percent diversion of solid waste for recycling since 2007.[197] Implementation of the proposed Master Plan Update must occur in accordance with waste and recycling laws and regulations, including the guidelines set forth in AB 939, Chapter 13, Article 28 of the City Municipal Code, and SB 1016. Therefore, impacts would be **less than significant**, and mitigation is not required.

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195 *Ibid*. Page 391 and Table 79: Estimated Solid Waste Generation. December 2016.

196 10 dwelling units × 0.66 tons per unit per year = 6.6 tons of solid waste per year. 10 residential dwelling units – 7 existing residential dwelling units = 3 new residential dwelling units. 3 new residential dwelling units x 0.66 tons per unit per year = 1.98 tons of solid waste.

197 Rincon Consultants, Inc. *University of La Verne Facilities and Technology Master Plan Update.* Environmental Impact Report, SCH #2016071053. Table 76: City of La Verne Per Capita Solid Waste Diversion Rates and Table 79: Estimated Solid Waste Generation. December 2016.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XX.Wildfire 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 result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

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

No Impact

Discussion of Effect: The project sites are surrounded entirely by urban uses, and the California Department of Forestry and Fire Protection (CAL FIRE) does not identify the project sites to be in a Very High Fire Hazard Severity Zone.[198] The nearest area designated as a Very High Fire Hazard Severity Zone is approximately 1.25 miles northeast of the project sites. For additional information on emergency evacuation plans, refer to response to Checklist Question IX(f). Since the project sites are not located in a Very High Fire Hazard Severity Zone, **no impact** would occur, and mitigation is not required.

[198] California Department of Forestry & Fire Protection. *Fire Hazard Severity Zones in State Responsibility Area.* March 24, 2025. Website: https://experience.arcgis.com/experience/6a9cb66bb1824cd98756812af41292a0 (Accessed March 31, 2025).

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?

No Impact

Discussion of Effect: The project sites are surrounded entirely by urban uses, and CAL FIRE does not identify the project sites to be in a Very High Fire Hazard Severity Zone.[199] Since the project sites are not located in a Very High Fire Hazard Severity Zone, **no impact** would occur, and mitigation is not required.

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may result in temporary or ongoing impacts to the environment?

No Impact

Discussion of Effect: The project sites are surrounded entirely by urban uses, and CAL FIRE does not identify the project sites to be in a Very High Fire Hazard Severity Zone.[200] Since the project sites are not located in a Very High Fire Hazard Severity Zone, **no impact** would occur, and mitigation is not required.

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?

No Impact

Discussion of Effect: The project sites are surrounded entirely by urban uses, and CAL FIRE does not identify the project sites to be in a Very High Fire Hazard Severity Zone.[201] Since the project sites are not located in a Very High Fire Hazard Severity Zone, **no impact** would occur, and mitigation is not required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XXI. Mandatory Findings of Significance				
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	☐	☒	☐	☐

199 *Ibid.*
200 *Ibid.*
201 *Ibid.*

	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 that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

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?

Potentially Significant Unless Mitigation Incorporated

Discussion of Effect: Construction activities would occur within previously-developed properties, which includes limited biological resources. However, **Mitigation Measure BIO-1** has been identified to reduce potential impacts to nesting birds and wildlife nursery sites to less than significant with mitigation incorporated.

Implementation of **Mitigation Measures CUL-1** and **CUL-2** address potential impacts related to demolition of the property located at 2712 Park Avenue. Implementation of **Mitigation Measures CUL-3** and **CUL-4** address potential impacts related to any cultural material discovered during ground disturbing activities. Implementation of **Mitigation Measures CUL-5** addresses potential impacts related to unanticipated encounters with human remains during ground disturbing activities. Additionally, **Mitigation Measures GEO-1** and **GEO-2** are required in the event that unanticipated paleontological resources are unearthed during construction to ensure paleontological resources would be subject to scientific recovery and evaluation. Finally, adherence to **Mitigation Measures TCR-1** and **TCR-2** would ensure the project would be conditioned to cease excavation or construction activities if cultural, tribal cultural, archaeological resources, or human remains are identified and would include provisions for Native American monitoring of

ground-disturbing activities in such an instance. These measures also would ensure further consultation with interested Native American Tribes for the appropriate treatment of tribal cultural resources. Implementation of these mitigation measures would reduce impacts to these resources to **less than significant with mitigation incorporated**.

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.)

Less than Significant Impact

Discussion of Effect: As presented in the discussion of environmental checklist Sections I through XX, the project would have no impact, a less than significant impact, or a less than significant impact after mitigation with respect to all environmental issues (Refer to Appendix I for the Mitigation Monitoring and Reporting Program). The proposed project could generate eight additional residents and three additional households in the city. As detailed in response to Checklist Question XIV(a), the project would not induce substantial population growth in the city or region. Furthermore, both the North Gateway and South Gateway Sites are located within an urbanized area and would be connected to existing municipal roadways and utility infrastructure. As detailed in response to Checklist Question XVII(a), development of the proposed project is anticipated to add a minimal amount of vehicle trips to the City's circulation system. The proposed project is generally consistent with growth projections of the General Plan and goals and policies of SCAG's Connect SoCal 2024 (refer to response to Checklist Questions III(a), VIII(b), and XI(b)). Accordingly, the project is designed to integrate within the City's and region's existing and proposed infrastructure framework, and cumulative overburdening of community infrastructure and service capacity is not expected to occur. Impacts specified throughout this Initial Study are considered project-specific in nature due to the limited scope of direct physical impacts to the environment. Consequently, the proposed project's contribution to cumulative effects when viewed in connection with effects of past, current, or reasonably foreseeable projects would not be cumulatively considerable. Cumulative impacts would be **less than significant** with respect to all environmental issues. Additional mitigation is not required.

c. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Unless Mitigation Incorporated

Discussion of Effect: In general, impacts to human beings are associated with air quality, geology and soils, hazards and hazardous materials, hydrology and water quality, and noise. The South Coast Air Basin is currently designated as a non-attainment area for ozone, PM_{10}, and $PM_{2.5}$. Implementation of the proposed project would not contribute significant amounts of air pollutant emissions on either a short-term or long-term basis. Adherence to SCAQMD dust control measures would further reduce short-term construction air quality impacts, and no project-specific mitigation is required.

Construction plans would be subject to review by the City for compliance with the most current edition of the CBC at the time of construction, pursuant to Chapter 18.16

(Development Review) of the City Municipal Code and as modified by the City, as well as the recommendations in the project-specific Geotechnical Investigation in accordance with **Regulatory Compliance Measure GEO-1** to ensure that project development would be safeguarded against the effects of seismic related activity that may occur on-site.

The single-family homes (2692 Park Avenue,2675 A Street, 2677 A Street, 2681 A Street, and 2683 A Street) within the South Gateway Site have not been surveyed for LBP or ACM. Since these structures were constructed prior to 1978, they require survey for these materials prior to demolition in accordance with **Regulatory Compliance Measure HAZ-1**. If LBP is identified at levels above the action level for abatement activities, then **Regulatory Compliance Measure HAZ-2** would be implemented. If ACM is identified at levels above the action level for abatement activities, then **Regulatory Compliance Measure HAZ-3** would be implemented. The two single family homes (2730 Park Avenue and 2712 Park Avenue) within the North Gateway have been previously surveyed for LBP and ACM and determined to contain LBP and ACM at levels above the action level for abatement activities.[202,203,204,205] Therefore, **Regulatory Compliance Measures HAZ-2** and **HAZ-3** are required to be implemented for those properties prior to demolition. With implementation of **Regulatory Compliance Measures HAZ-1** through **HAZ-3**, hazards to the public and the environment from demolition of structures containing asbestos and/or lead would remain less than significant.

Adherence to Chapter 13.60 (Low Impact Development) of the City Municipal Code, the intent of the NPDES Permit for Los Angeles County and the incorporated cities of Los Angeles County (MS4 permit), and NPDES, SWPPP, SUSMP, and Urban Runoff Management Program requirements prepared as part of the proposed project (i.e., **Regulatory Compliance Measures HYD-1** and **HYD-2**) would ensure impacts related to water quality, hydrologic conditions of concern, and/or waste discharge remain less than significant.

Construction related noise and vibration levels were found to exceed applicable thresholds. **Regulatory Compliance Measure NOI-1** and **Mitigation Measures NOI-1** through **NOI-3** would ensure surrounding sensitive receptors would not be exposed to significant noise or vibration levels during construction or operation.

With implementation of these mitigation measures and Regulatory Compliance Measures, potential impacts on human beings would be reduced to **less than significant with mitigation incorporated**.

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203 Vector Environmental Consulting, Inc. *Asbestos Inspection Report, 2730 Park Avenue, La Verne, CA 91750.* Page 3. October 27, 2023. (Appendix E2)

204 Vector Environmental Consulting, Inc. *Lead Inspection Report, 2712 Park Avenue, La Verne, CA 91750.* Page 5. October 27, 2023. (Appendix E3)

205 Vector Environmental Consulting, Inc. *Asbestos Inspection Report, 2730 Park Avenue, La Verne, CA 91750.* Page 3. October 27, 2023. (Appendix E4)

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Appendix A

California Emissions Estimator Model (CalEEMod)

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Appendix B1

Bat Preconstruction Survey Report

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Appendix B2

Arborist Report

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Appendix C

Historical Significance Evaluations

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Appendix D

Geotechnical Investigation

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Appendix E1

2730 Park Avenue Lead Survey

(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56) Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)

Appendix E2

2730 Park Avenue Asbestos Survey

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Appendix E3

2712 Park Avenue Lead Survey

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Appendix E4

2712 Park Avenue Asbestos Survey

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Appendix F1

Low Impact Development (LID) Study, 2692 Park Avenue, 2675 and 2681 A Street, La Verne, CA

(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)

Appendix F2

Low Impact Development (LID) Study, 2712 Park Avenue, La Verne, CA

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Appendix G1

Noise Survey Sheets

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Appendix G2

Construction Vehicle Noise Calculations

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Appendix G3

Heating, Ventilation, and Air Conditioning (HVAC) Specifications

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Appendix H

Trip Generation and Vehicle Miles Traveled Memorandum

(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)

Appendix I

Mitigation Monitoring and Reporting Program

**(Available at https://www.cityoflaverne.org/DocumentCenter/Index/56)
Also available at La Verne City Hall at 3660 D Street, La Verne, CA 91750 and La Verne Public Library at 3640 D Street, La Verne, CA 91750)**

Hillcrest Homes (20241974) Custom Report

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4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Hillcrest Homes (20241974)
Construction Start Date	7/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	13.2
Location	2704 Park Ave, La Verne, CA 91750, USA
County	Los Angeles-South Coast
City	La Verne
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5063
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	9.00	Dwelling Unit	2.92	17,550	105,416	0.00	27.0	—

City Park	1.19	Acre	1.19	0.00	51,836	51,836	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-12-A	Install Alternative Type of Water Heater in Place of Gas Storage Tank Heater in Residences
Energy	E-12-B	Install Electric Space Heater in Place of Natural Gas Heaters in Residences
Energy	E-13	Install Electric Ranges in Place of Gas Ranges
Water	W-5	Design Water-Efficient Landscapes

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.25	10.8	14.4	0.03	0.40	0.06	0.46	0.37	0.01	0.38	—	2,613	2,613	0.11	0.03	0.26	2,624
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.38	31.7	31.2	0.05	1.37	5.34	6.71	1.26	2.68	3.94	—	5,525	5,525	0.23	0.11	0.05	5,546
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.05	7.27	9.68	0.02	0.28	0.16	0.31	0.25	0.07	0.26	—	1,796	1,796	0.07	0.02	0.07	1,803
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.19	1.33	1.77	< 0.005	0.05	0.03	0.06	0.05	0.01	0.05	—	297	297	0.01	< 0.005	0.01	299
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.25	10.8	14.4	0.03	0.40	0.06	0.46	0.37	0.01	0.38	—	2,613	2,613	0.11	0.03	0.26	2,624
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.38	31.7	31.2	0.05	1.37	5.34	6.71	1.26	2.68	3.94	—	5,525	5,525	0.23	0.11	0.05	5,546
2026	2.25	10.8	14.3	0.03	0.40	0.27	0.55	0.37	0.06	0.38	—	2,611	2,611	0.11	0.03	0.02	2,621
2027	1.89	7.01	11.0	0.01	0.26	0.27	0.53	0.24	0.06	0.30	—	1,744	1,744	0.06	0.02	0.02	1,752
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.25	2.34	2.36	< 0.005	0.10	0.16	0.26	0.09	0.07	0.15	—	443	443	0.02	0.01	0.06	446
2026	1.05	7.27	9.68	0.02	0.28	0.04	0.31	0.25	0.01	0.26	—	1,796	1,796	0.07	0.02	0.07	1,803
2027	0.09	0.34	0.54	< 0.005	0.01	0.01	0.03	0.01	< 0.005	0.01	—	85.5	85.5	< 0.005	< 0.005	0.02	85.9

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.05	0.43	0.43	< 0.005	0.02	0.03	0.05	0.02	0.01	0.03	—	73.3	73.3	< 0.005	< 0.005	0.01	73.8
2026	0.19	1.33	1.77	< 0.005	0.05	0.01	0.06	0.05	< 0.005	0.05	—	297	297	0.01	< 0.005	0.01	299
2027	0.02	0.06	0.10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.2	14.2	< 0.005	< 0.005	< 0.005	14.2

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.25	10.8	14.4	0.03	0.40	0.06	0.46	0.37	0.01	0.38	—	2,613	2,613	0.11	0.03	0.26	2,624
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.38	31.7	31.2	0.05	1.37	5.34	6.71	1.26	2.68	3.94	—	5,525	5,525	0.23	0.11	0.05	5,546
2026	2.25	10.8	14.3	0.03	0.40	0.27	0.55	0.37	0.06	0.38	—	2,611	2,611	0.11	0.03	0.02	2,621
2027	1.89	7.01	11.0	0.01	0.26	0.27	0.53	0.24	0.06	0.30	—	1,744	1,744	0.06	0.02	0.02	1,752
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.25	2.34	2.36	< 0.005	0.10	0.16	0.26	0.09	0.07	0.15	—	443	443	0.02	0.01	0.06	446
2026	1.05	7.27	9.68	0.02	0.28	0.04	0.31	0.25	0.01	0.26	—	1,796	1,796	0.07	0.02	0.07	1,803
2027	0.09	0.34	0.54	< 0.005	0.01	0.01	0.03	0.01	< 0.005	0.01	—	85.5	85.5	< 0.005	< 0.005	0.02	85.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.05	0.43	0.43	< 0.005	0.02	0.03	0.05	0.02	0.01	0.03	—	73.3	73.3	< 0.005	< 0.005	0.01	73.8
2026	0.19	1.33	1.77	< 0.005	0.05	0.01	0.06	0.05	< 0.005	0.05	—	297	297	0.01	< 0.005	0.01	299
2027	0.02	0.06	0.10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.2	14.2	< 0.005	< 0.005	< 0.005	14.2

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.77	0.32	3.25	0.01	0.01	0.60	0.62	0.01	0.15	0.16	4.56	901	906	0.50	0.03	2.39	929
Mit.	0.77	0.31	3.24	0.01	0.01	0.60	0.62	0.01	0.15	0.16	4.56	825	829	0.50	0.03	2.39	853
% Reduced	—	3%	< 0.5%	—	—	—	—	—	—	—	—	8%	8%	1%	—	—	8%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.72	0.34	2.50	0.01	0.01	0.60	0.62	0.01	0.15	0.16	4.56	872	876	0.51	0.03	0.18	898
Mit.	0.72	0.33	2.50	0.01	0.01	0.60	0.62	0.01	0.15	0.16	4.56	795	800	0.50	0.03	0.18	821
% Reduced	—	3%	< 0.5%	—	—	—	—	—	—	—	—	9%	9%	1%	—	—	9%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.75	0.35	2.92	0.01	0.01	0.60	0.61	0.01	0.15	0.16	4.56	880	885	0.51	0.03	1.10	907
Mit.	0.75	0.34	2.92	0.01	0.01	0.60	0.61	0.01	0.15	0.16	4.56	804	809	0.50	0.03	1.10	831
% Reduced	—	3%	< 0.5%	—	—	—	—	—	—	—	—	9%	9%	1%	—	—	8%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.14	0.06	0.53	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	0.75	146	147	0.08	< 0.005	0.18	150
Mit.	0.14	0.06	0.53	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	0.75	133	134	0.08	< 0.005	0.18	138
% Reduced	< 0.5%	3%	< 0.5%	1%	6%	—	< 0.5%	7%	—	< 0.5%	—	9%	9%	1%	2%	—	8%
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—

Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,000
Unmit.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	No
Mit.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	No

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.29	0.23	2.70	0.01	< 0.005	0.60	0.61	< 0.005	0.15	0.16	—	669	669	0.03	0.03	2.26	680
Area	0.48	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.37	1.37	< 0.005	< 0.005	—	1.37
Energy	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	201	201	0.02	< 0.005	—	202
Water	—	—	—	—	—	—	—	—	—	—	0.64	29.8	30.4	0.07	< 0.005	—	32.7
Waste	—	—	—	—	—	—	—	—	—	—	3.92	0.00	3.92	0.39	0.00	—	13.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	0.77	0.32	3.25	0.01	0.01	0.60	0.62	0.01	0.15	0.16	4.56	901	906	0.50	0.03	2.39	929

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.28	0.25	2.47	0.01	< 0.005	0.60	0.61	< 0.005	0.15	0.16	—	641	641	0.03	0.03	0.06	650
Area	0.44	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	201	201	0.02	< 0.005	—	202
Water	—	—	—	—	—	—	—	—	—	—	0.64	29.8	30.4	0.07	< 0.005	—	32.7
Waste	—	—	—	—	—	—	—	—	—	—	3.92	0.00	3.92	0.39	0.00	—	13.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	0.72	0.34	2.50	0.01	0.01	0.60	0.62	0.01	0.15	0.16	4.56	872	876	0.51	0.03	0.18	898
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.28	0.26	2.54	0.01	< 0.005	0.60	0.60	< 0.005	0.15	0.16	—	649	649	0.03	0.03	0.98	658
Area	0.47	< 0.005	0.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.94	0.94	< 0.005	< 0.005	—	0.94
Energy	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	201	201	0.02	< 0.005	—	202
Water	—	—	—	—	—	—	—	—	—	—	0.64	29.8	30.4	0.07	< 0.005	—	32.7
Waste	—	—	—	—	—	—	—	—	—	—	3.92	0.00	3.92	0.39	0.00	—	13.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	0.75	0.35	2.92	0.01	0.01	0.60	0.61	0.01	0.15	0.16	4.56	880	885	0.51	0.03	1.10	907
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.05	0.05	0.46	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	107	107	0.01	< 0.005	0.16	109
Area	0.09	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.15	0.15	< 0.005	< 0.005	—	0.16
Energy	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33.3	33.3	< 0.005	< 0.005	—	33.4
Water	—	—	—	—	—	—	—	—	—	—	0.11	4.93	5.04	0.01	< 0.005	—	5.41
Waste	—	—	—	—	—	—	—	—	—	—	0.65	0.00	0.65	0.06	0.00	—	2.27
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	0.14	0.06	0.53	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	0.75	146	147	0.08	< 0.005	0.18	150

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.29	0.23	2.70	0.01	< 0.005	0.60	0.61	< 0.005	0.15	0.16	—	669	669	0.03	0.03	2.26	680
Area	0.48	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.37	1.37	< 0.005	< 0.005	—	1.37
Energy	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	147	147	0.01	< 0.005	—	148
Water	—	—	—	—	—	—	—	—	—	—	0.64	7.16	7.80	0.07	< 0.005	—	9.95
Waste	—	—	—	—	—	—	—	—	—	—	3.92	0.00	3.92	0.39	0.00	—	13.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	0.77	0.31	3.24	0.01	0.01	0.60	0.62	0.01	0.15	0.16	4.56	825	829	0.50	0.03	2.39	853
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.28	0.25	2.47	0.01	< 0.005	0.60	0.61	< 0.005	0.15	0.16	—	641	641	0.03	0.03	0.06	650
Area	0.44	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	147	147	0.01	< 0.005	—	148
Water	—	—	—	—	—	—	—	—	—	—	0.64	7.16	7.80	0.07	< 0.005	—	9.95
Waste	—	—	—	—	—	—	—	—	—	—	3.92	0.00	3.92	0.39	0.00	—	13.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	0.72	0.33	2.50	0.01	0.01	0.60	0.62	0.01	0.15	0.16	4.56	795	800	0.50	0.03	0.18	821
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.28	0.26	2.54	0.01	< 0.005	0.60	0.60	< 0.005	0.15	0.16	—	649	649	0.03	0.03	0.98	658
Area	0.47	< 0.005	0.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.94	0.94	< 0.005	< 0.005	—	0.94
Energy	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	147	147	0.01	< 0.005	—	148
Water	—	—	—	—	—	—	—	—	—	—	0.64	7.16	7.80	0.07	< 0.005	—	9.95
Waste	—	—	—	—	—	—	—	—	—	—	3.92	0.00	3.92	0.39	0.00	—	13.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13

Total	0.75	0.34	2.92	0.01	0.01	0.60	0.61	0.01	0.15	0.16	4.56	804	809	0.50	0.03	1.10	831
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.05	0.05	0.46	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	107	107	0.01	< 0.005	0.16	109
Area	0.09	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.15	0.15	< 0.005	< 0.005	—	0.16
Energy	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.4	24.4	< 0.005	< 0.005	—	24.5
Water	—	—	—	—	—	—	—	—	—	—	0.11	1.19	1.29	0.01	< 0.005	—	1.65
Waste	—	—	—	—	—	—	—	—	—	—	0.65	0.00	0.65	0.06	0.00	—	2.27
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	0.14	0.06	0.53	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	0.75	133	134	0.08	< 0.005	0.18	138

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	0.39	0.39	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	1.22	1.09	< 0.005	0.05	—	0.05	0.05	—	0.05	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.88	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	197	197	0.01	0.01	0.02	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.61	0.23	< 0.005	0.01	0.13	0.13	0.01	0.04	0.04	—	478	478	0.03	0.07	0.03	501
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.9	10.9	< 0.005	< 0.005	0.02	11.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.2	26.2	< 0.005	< 0.005	0.03	27.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.81	1.81	< 0.005	< 0.005	< 0.005	1.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.34	4.34	< 0.005	< 0.005	< 0.005	4.55

3.2. Demolition (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	0.39	0.39	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.22	1.09	< 0.005	0.05	—	0.05	0.05	—	0.05	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.88	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	197	197	0.01	0.01	0.02	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.61	0.23	< 0.005	0.01	0.13	0.13	0.01	0.04	0.04	—	478	478	0.03	0.07	0.03	501
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.9	10.9	< 0.005	< 0.005	0.02	11.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.2	26.2	< 0.005	< 0.005	0.03	27.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.81	1.81	< 0.005	< 0.005	< 0.005	1.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.34	4.34	< 0.005	< 0.005	< 0.005	4.55

3.3. Site Preparation (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	5.11	5.11	—	2.63	2.63	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.43	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	72.5	72.5	< 0.005	< 0.005	—	72.8
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.1
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	229	229	0.01	0.01	0.02	232
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.19	3.19	< 0.005	< 0.005	0.01	3.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.53	0.53	< 0.005	< 0.005	< 0.005	0.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	5.11	5.11	—	2.63	2.63	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.43	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	72.5	72.5	< 0.005	< 0.005	—	72.8

Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.1
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	229	229	0.01	0.01	0.02	232
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.19	3.19	< 0.005	< 0.005	0.01	3.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.53	0.53	< 0.005	< 0.005	< 0.005	0.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	1.84	1.84	—	0.89	0.89	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.36	0.39	< 0.005	0.02	—	0.02	0.01	—	0.01	—	64.9	64.9	< 0.005	< 0.005	—	65.1
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.88	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	197	197	0.01	0.01	0.02	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.31	0.12	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	243	243	0.01	0.04	0.01	254
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.37	4.37	< 0.005	< 0.005	0.01	4.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.32	5.32	< 0.005	< 0.005	0.01	5.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.72	0.72	< 0.005	< 0.005	< 0.005	0.73
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.88	0.88	< 0.005	< 0.005	< 0.005	0.92

3.6. Grading (2025) - Mitigated

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

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

Off-Road Equipment	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	1.84	1.84	—	0.89	0.89	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.36	0.39	< 0.005	0.02	—	0.02	0.01	—	0.01	—	64.9	64.9	< 0.005	< 0.005	—	65.1
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.88	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	197	197	0.01	0.01	0.02	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	0.31	0.12	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	243	243	0.01	0.04	0.01	254
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.37	4.37	< 0.005	< 0.005	0.01	4.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.32	5.32	< 0.005	< 0.005	0.01	5.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.72	0.72	< 0.005	< 0.005	< 0.005	0.73
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.88	0.88	< 0.005	< 0.005	< 0.005	0.92

3.7. Building Construction (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.29	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	65.7	65.7	< 0.005	< 0.005	—	65.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.9	10.9	< 0.005	< 0.005	—	10.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	42.5	42.5	< 0.005	< 0.005	< 0.005	43.0
Vendor	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.5	30.5	< 0.005	< 0.005	< 0.005	31.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.84	0.84	< 0.005	< 0.005	< 0.005	0.87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.14
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.29	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	65.7	65.7	< 0.005	< 0.005	—	65.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.9	10.9	< 0.005	< 0.005	—	10.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	42.5	42.5	< 0.005	< 0.005	< 0.005	43.0
Vendor	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.5	30.5	< 0.005	< 0.005	< 0.005	31.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.84	0.84	< 0.005	< 0.005	< 0.005	0.87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.14
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.02	9.24	0.02	0.27	—	0.27	0.25	—	0.25	—	1,708	1,708	0.07	0.01	—	1,713
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.21	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	43.9	43.9	< 0.005	< 0.005	0.15	44.5
Vendor	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.0	30.0	< 0.005	< 0.005	0.08	31.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	41.6	41.6	< 0.005	< 0.005	< 0.005	42.1
Vendor	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.0	30.0	< 0.005	< 0.005	< 0.005	31.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.1	30.1	< 0.005	< 0.005	0.05	30.5
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.4	21.4	< 0.005	< 0.005	0.02	22.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.98	4.98	< 0.005	< 0.005	0.01	5.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.54	3.54	< 0.005	< 0.005	< 0.005	3.70
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2026) - Mitigated

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

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

Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.02	9.24	0.02	0.27	—	0.27	0.25	—	0.25	—	1,708	1,708	0.07	0.01	—	1,713
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.21	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	43.9	43.9	< 0.005	< 0.005	0.15	44.5
Vendor	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.0	30.0	< 0.005	< 0.005	0.08	31.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	41.6	41.6	< 0.005	< 0.005	< 0.005	42.1
Vendor	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.0	30.0	< 0.005	< 0.005	< 0.005	31.3

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.1	30.1	< 0.005	< 0.005	0.05	30.5
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.4	21.4	< 0.005	< 0.005	0.02	22.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.98	4.98	< 0.005	< 0.005	0.01	5.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.54	3.54	< 0.005	< 0.005	< 0.005	3.70
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	6.23	8.81	0.01	0.26	—	0.26	0.24	—	0.24	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.64	2.64	< 0.005	< 0.005	—	2.65
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.44
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.10	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	257	257	0.01	0.01	0.02	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.51	0.51	< 0.005	< 0.005	< 0.005	0.52
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2026) - Mitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	6.23	8.81	0.01	0.26	—	0.26	0.24	—	0.24	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.64	2.64	< 0.005	< 0.005	—	2.65
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.44
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.10	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	257	257	0.01	0.01	0.02	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.51	0.51	< 0.005	< 0.005	< 0.005	0.52
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	6.09	8.83	0.01	0.24	—	0.24	0.22	—	0.22	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.30	0.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	66.1	66.1	< 0.005	< 0.005	—	66.3
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.9	10.9	< 0.005	< 0.005	—	11.0
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.02	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	252	252	< 0.005	0.01	0.02	255
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.5	12.5	< 0.005	< 0.005	0.02	12.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.07	2.07	< 0.005	< 0.005	< 0.005	2.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Paving (2027) - Mitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	6.09	8.83	0.01	0.24	—	0.24	0.22	—	0.22	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.30	0.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	66.1	66.1	< 0.005	< 0.005	—	66.3
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.9	10.9	< 0.005	< 0.005	—	11.0
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.02	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	252	252	< 0.005	0.01	0.02	255
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.5	12.5	< 0.005	< 0.005	0.02	12.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.07	2.07	< 0.005	< 0.005	< 0.005	2.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural Coatings	1.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.20	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.9	31.9	< 0.005	< 0.005	—	32.0
Architectural Coatings	0.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.28	5.28	< 0.005	< 0.005	—	5.30
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.78	8.78	< 0.005	< 0.005	0.03	8.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.32	8.32	< 0.005	< 0.005	< 0.005	8.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.02	2.02	< 0.005	< 0.005	< 0.005	2.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Architectural Coating (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural Coatings	1.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.20	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.9	31.9	< 0.005	< 0.005	—	32.0
Architectural Coatings	0.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.28	5.28	< 0.005	< 0.005	—	5.30
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.78	8.78	< 0.005	< 0.005	0.03	8.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.32	8.32	< 0.005	< 0.005	< 0.005	8.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.02	2.02	< 0.005	< 0.005	< 0.005	2.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Architectural Coating (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.53	6.53	< 0.005	< 0.005	—	6.55

Architect Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.08	1.08	< 0.005	< 0.005	—	1.09
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.16	8.16	< 0.005	< 0.005	< 0.005	8.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.41
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.18. Architectural Coating (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.53	6.53	< 0.005	< 0.005	—	6.55
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.08	1.08	< 0.005	< 0.005	—	1.09
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.16	8.16	< 0.005	< 0.005	< 0.005	8.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.41
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

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

Single Family Housing	0.29	0.23	2.70	0.01	< 0.005	0.60	0.61	< 0.005	0.15	0.16	—	669	669	0.03	0.03	2.26	680
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.29	0.23	2.70	0.01	< 0.005	0.60	0.61	< 0.005	0.15	0.16	—	669	669	0.03	0.03	2.26	680
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.28	0.25	2.47	0.01	< 0.005	0.60	0.61	< 0.005	0.15	0.16	—	641	641	0.03	0.03	0.06	650
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.28	0.25	2.47	0.01	< 0.005	0.60	0.61	< 0.005	0.15	0.16	—	641	641	0.03	0.03	0.06	650
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.05	0.05	0.46	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	107	107	0.01	< 0.005	0.16	109
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.05	0.05	0.46	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	107	107	0.01	< 0.005	0.16	109

4.1.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.29	0.23	2.70	0.01	< 0.005	0.60	0.61	< 0.005	0.15	0.16	—	669	669	0.03	0.03	2.26	680
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.29	0.23	2.70	0.01	< 0.005	0.60	0.61	< 0.005	0.15	0.16	—	669	669	0.03	0.03	2.26	680

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.28	0.25	2.47	0.01	< 0.005	0.60	0.61	< 0.005	0.15	0.16	—	641	641	0.03	0.03	0.06	650
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.28	0.25	2.47	0.01	< 0.005	0.60	0.61	< 0.005	0.15	0.16	—	641	641	0.03	0.03	0.06	650
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.05	0.05	0.46	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	107	107	0.01	< 0.005	0.16	109
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.05	0.05	0.46	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	107	107	0.01	< 0.005	0.16	109

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	90.4	90.4	0.01	< 0.005	—	90.8
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	90.4	90.4	0.01	< 0.005	—	90.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	90.4	90.4	0.01	< 0.005	—	90.8
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	90.4	90.4	0.01	< 0.005	—	90.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0	< 0.005	< 0.005	—	15.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0	< 0.005	< 0.005	—	15.0

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.1	48.1	< 0.005	< 0.005	—	48.3
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	48.1	48.1	< 0.005	< 0.005	—	48.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.1	48.1	< 0.005	< 0.005	—	48.3
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	48.1	48.1	< 0.005	< 0.005	—	48.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.97	7.97	< 0.005	< 0.005	—	8.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	7.97	7.97	< 0.005	< 0.005	—	8.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	111	111	0.01	< 0.005	—	111
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	111	111	0.01	< 0.005	—	111
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	111	111	0.01	< 0.005	—	111
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	111	111	0.01	< 0.005	—	111
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.3	18.3	< 0.005	< 0.005	—	18.4
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.3	18.3	< 0.005	< 0.005	—	18.4

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	99.2	99.2	0.01	< 0.005	—	99.4
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	99.2	99.2	0.01	< 0.005	—	99.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	99.2	99.2	0.01	< 0.005	—	99.4
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	99.2	99.2	0.01	< 0.005	—	99.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.4	16.4	< 0.005	< 0.005	—	16.5
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.4	16.4	< 0.005	< 0.005	—	16.5

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.37	1.37	< 0.005	< 0.005	—	1.37
Total	0.48	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.37	1.37	< 0.005	< 0.005	—	1.37
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.44	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipme	0.01	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.15	0.15	< 0.005	< 0.005	—	0.16
Total	0.09	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.15	0.15	< 0.005	< 0.005	—	0.16

4.3.2. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.37	1.37	< 0.005	< 0.005	—	1.37
Total	0.48	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.37	1.37	< 0.005	< 0.005	—	1.37
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.44	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.15	0.15	< 0.005	< 0.005	—	0.16
Total	0.09	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.15	0.15	< 0.005	< 0.005	—	0.16

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.64	17.3	17.9	0.07	< 0.005	—	20.1
City Park	—	—	—	—	—	—	—	—	—	—	0.00	12.5	12.5	< 0.005	< 0.005	—	12.5
Total	—	—	—	—	—	—	—	—	—	—	0.64	29.8	30.4	0.07	< 0.005	—	32.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.64	17.3	17.9	0.07	< 0.005	—	20.1

City Park	—	—	—	—	—	—	—	—	—	—	0.00	12.5	12.5	< 0.005	< 0.005	—	12.5
Total	—	—	—	—	—	—	—	—	—	—	0.64	29.8	30.4	0.07	< 0.005	—	32.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.11	2.86	2.97	0.01	< 0.005	—	3.33
City Park	—	—	—	—	—	—	—	—	—	—	0.00	2.07	2.07	< 0.005	< 0.005	—	2.08
Total	—	—	—	—	—	—	—	—	—	—	0.11	4.93	5.04	0.01	< 0.005	—	5.41

4.4.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.64	10.5	11.2	0.07	< 0.005	—	13.3
City Park	—	—	—	—	—	—	—	—	—	—	0.00	-3.36	-3.36	> -0.005	> -0.005	—	-3.37
Total	—	—	—	—	—	—	—	—	—	—	0.64	7.16	7.80	0.07	< 0.005	—	9.95
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.64	10.5	11.2	0.07	< 0.005	—	13.3
City Park	—	—	—	—	—	—	—	—	—	—	0.00	-3.36	-3.36	> -0.005	> -0.005	—	-3.37
Total	—	—	—	—	—	—	—	—	—	—	0.64	7.16	7.80	0.07	< 0.005	—	9.95
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.11	1.74	1.85	0.01	< 0.005	—	2.20

City Park	—	—	—	—	—	—	—	—	—	—	0.00	-0.56	-0.56	> -0.005	> -0.005	—	-0.56
Total	—	—	—	—	—	—	—	—	—	—	0.11	1.19	1.29	0.01	< 0.005	—	1.65

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	3.86	0.00	3.86	0.39	0.00	—	13.5
City Park	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.19
Total	—	—	—	—	—	—	—	—	—	—	3.92	0.00	3.92	0.39	0.00	—	13.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	3.86	0.00	3.86	0.39	0.00	—	13.5
City Park	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.19
Total	—	—	—	—	—	—	—	—	—	—	3.92	0.00	3.92	0.39	0.00	—	13.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.64	0.00	0.64	0.06	0.00	—	2.24
City Park	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.03
Total	—	—	—	—	—	—	—	—	—	—	0.65	0.00	0.65	0.06	0.00	—	2.27

4.5.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	3.86	0.00	3.86	0.39	0.00	—	13.5
City Park	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.19
Total	—	—	—	—	—	—	—	—	—	—	3.92	0.00	3.92	0.39	0.00	—	13.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	3.86	0.00	3.86	0.39	0.00	—	13.5
City Park	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.19
Total	—	—	—	—	—	—	—	—	—	—	3.92	0.00	3.92	0.39	0.00	—	13.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.64	0.00	0.64	0.06	0.00	—	2.24
City Park	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.03
Total	—	—	—	—	—	—	—	—	—	—	0.65	0.00	0.65	0.06	0.00	—	2.27

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

4.6.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	11/3/2025	11/28/2025	5.00	20.0	—
Site Preparation	Site Preparation	12/1/2025	12/5/2025	5.00	5.00	—
Grading	Grading	12/6/2025	12/17/2025	5.00	8.00	—
Building Construction	Building Construction	12/18/2025	12/30/2026	5.00	270	—
Paving	Paving	12/31/2026	1/25/2027	5.00	18.0	—
Architectural Coating	Architectural Coating	9/1/2026	1/25/2027	5.00	105	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73

Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38

Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2

Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	6.90	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	3.50	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	3.24	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.96	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.65	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	6.90	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	3.50	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	3.24	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.96	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—

Architectural Coating	Worker	0.65	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	35,539	11,846	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	12,000	—
Site Preparation	0.00	0.00	7.50	0.00	—
Grading	220	0.00	8.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.10

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.10	0%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	84.9	84.9	84.9	30,978	853	853	853	311,200
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year

Single Family Housing	84.9	84.9	84.9	30,978	853	853	853	311,200
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	9
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	9

Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
35538.75	11,846	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	62,056	532	0.0330	0.0040	345,018
City Park	0.00	532	0.0330	0.0040	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	33,015	532	0.0330	0.0040	309,430
City Park	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	335,464	1,806,952
City Park	0.00	1,615,520

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	335,464	929,477
City Park	0.00	-434,021

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	7.16	—
City Park	0.10	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)

Single Family Housing	7.16	—
City Park	0.10	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

5.14.2. Mitigated

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

8. User Changes to Default Data

Screen	Justification
Operations: Vehicle Data	City Park represents common area landscaping. Set all trip rates to match peak daily rate (9.43) from traffic study.
Operations: Hearths	There would not be any fireplaces or wood stoves in and residences.
Operations: Energy Use	—
Construction: Construction Phases	Construction scheduled to start November 2025 and end January 2027. Assume architectural coatings applied during the Building Construction and Paving phases.

Operations: Refrigerants	City Park represents open area, there will not be any A/C or refrigerators.

PRECONSTRUCTION BAT SURVEY REPORT

Brethren Hillcrest Gateway Project

Prepared For:

Brethren Hillcrest Homes
2705 Mountain View Drive
La Verne, California 91750
Contact: Mike Townsend

Prepared By:

Novaterra Biological Consulting, Inc.
1819 Anita Crest Dr.
Arcadia, CA 91006
Contact: Mikaila Buchanan

Date: July 06, 2025

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1 INTRODUCTION

On behalf of Brethren Hillcrest Homes, Novaterra Biological Consulting, Inc. (Novaterra) conducted a series of preconstruction bat surveys for the Brethren Hillcrest Gateway Project (Project) located in the City of La Verne, Los Angeles County, California. The surveys were conducted within the entire Project's areas.

The purpose of the preconstruction bat surveys was to identify and assess potential roosting habitat in the trees and structures located within the Project areas. The areas investigated during the survey included those that would be directly and indirectly affected by the construction of the access roads into and out of the reservoir and those that would be removed or potentially impacted during the initial sediment removal process (hereafter "study area"). In addition, the assessment was also conducted to determine the roosting purpose served by the trees and/or structures. This report documents the results of the preconstruction bat surveys.

2 SITE DESCRIPTION

The Project is located within the City of La Verne in Los Angeles County, California (Figure 1. Project Location and Vicinity). La Verne is approximately 35 miles east of Los Angeles within Pomona Valley at the foothills of the San Gabriel Mountains which are located north of the Project.

The proposed project is an update to the Brethren Hillcrest Homes (Hillcrest) Master Plan (Master Plan). Hillcrest consists of 239 residential homes and apartments, 48 assisted living units, 24 dementia beds, and 59 skilled nursing facility beds. The proposed project includes demolition of seven residential homes and construction of nine single-family homes with common area landscaping on 1.19 acres encompassing AINs 8381-010-006, -028, and -033 (Figure 2. Existing Setting).

The seven residential units to be demolished include: one single family home (2692 Park Avenue) and two duplexes (2675 A Street, 2677 A Street, 2681a A Street, and 2681b A Street) within the South Gateway (AIN 8381-010-006), and two single family homes (2730 Park Avenue and 2712 Park Avenue) within the North Gateway (AIN 8381-010-028 and AIN 8381-010-033). Trees and vegetation may also be removed as part of the demolition.

The nine residential units to be constructed include five single-family homes within the South Gateway and four single-family homes within the North Gateway. Each of the nine proposed single-family residential units would be one-story with two bedrooms, two baths, and a two-car garage. The project also includes reconstruction of portions of the curb, gutter, sidewalk, and driveway aprons along the project frontages of Park Avenue and A Street, as well as reconstruction of public paseos traversing these properties to improve the connection between the east and west campuses of the Hillcrest Community.

The 1.19-acre project is located in the southern portion of the city and is surrounded by residential uses on all sides. The residences at 2692 Park Avenue and 2712 Park Avenue were developed prior to 1948, and the remaining residences were developed by 1964.

Figure 1- Project Location and Vicinity

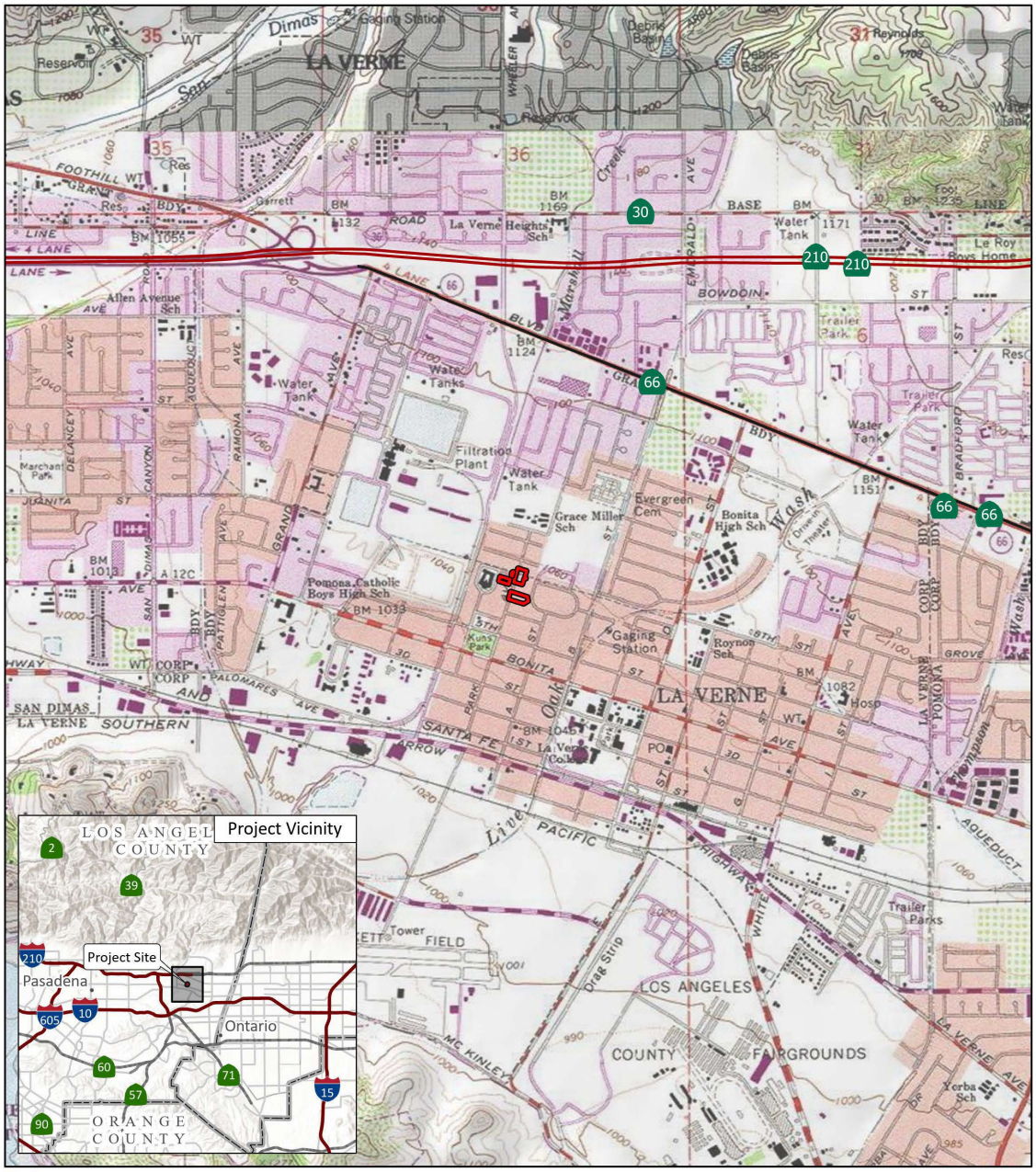


Figure 2- Existing Setting



LSA

Project Site

Photo Location

Site photographs are provided in Figures 3a through 3e.

FIGURE 2

0 63 125
FEET

Brethren Hillcrest Gateway Project
Existing Setting

SOURCE: Nearmap Aerial Imagery (May 1, 2024)

I:\2024\20241974\GIS\Pro\Brethren Hillcrest Master Plan Update\Brethren Hillcrest Gateway Project.aprx (3/7/2025)

3 ROOSTING BATS NATURAL HISTORY

Bat roosts can be separated into two categories: cavity/structure-roosting bats and foliage-roosting bats. Cavity-roosting bats include species which roost in crevices within manmade structures, caves, rock crevices in rocky cliffs, under exfoliating bark, and cavities of snags and trees. (Vonhof and Barclay 1996, Brigham et al. 1997, Ormsbee and McComb 1998, Rabe et al. 1998). Foliage-roosting bats utilize the open foliage of deciduous and coniferous trees, shrubs, and vines as roosts (Barbour and Davis 1969; Constantine 1959). Urban environments provide a low diversity of available potential roost types (Russo and Ancillotto 2015).

3.1 Cavity/Structure-Roosting Bats

Habitats for urban hollow or crevice-roosting bats are in limited supply in cities and towns, where natural features have been replaced by artificial structures such as old buildings, roofs, bridges and culverts (Li and Wilkins 2015). Species such as the Mexican free-tailed bat (Tadarida brasiliensis) prefer abandoned buildings that have high entrances and are surrounded by scarce vegetation while species such as the western mastiff bat (Eumops perotis) usually occupy attics with low entrances of under 2 meters. Less common in urban environments are the presence of large diameter, tall trees or snags as roosting sites, which have demonstrated to be important for roosting especially in more open areas of upland habitat near water sources (e.g., Kurta et al. 1993, Vonhof and Barclay 1996, Brigham et al. 1997, Ormsbee and McComb 1998, Rabe et al. 1998). Tree species and state of decay determine the type of roost features available (e.g., number of natural cavities, amount of peeling bark, presence of woodpecker holes). In urban settings, snags or live trees identified as a hazard because of decay are commonly removed. Tree cavities and artificial structures can be occupied by a single bat (typically males and non- reproductive females) or many bats (maternity colonies). Bats are vulnerable to predation while roosting during the day and presumably must choose roosts that minimize predator access. Therefore, bats may require roosts high in tall trees or in artificial structures that do not allow access to ground predators such as rats.

3.2 Foliage-Roosting Bats

Foliage-roosting bats in southern California include western yellow bat (Lasiurus xanthinus), western red bat (Lasiurus blossevillii) and hoary bat (Lasiurus cinereus). They use leaf petioles as roosting sites (Dalquest and Walton 1970). Foliage- roosting bats are known to select sites primarily in medium to large deciduous trees (Barbour and Davis 1969, Shump and Shump 1982a, Shump and Shump 1982b) at the edge of hardwood forest canopies (Barbour and Davis 1969, Constantine 1966, McClure 1942). In urban areas, they may also use dead fronds that encircle palm trees as roosting sites (Hoffmeister 1986). Foliage roost sites are typically considered to consist of a void space within the tree canopy, which is sheltered from above and has an open flyway from underneath.

Tree-roosting (both foliage- and cavity-roosting) bats frequently switch roosts for a variety of reasons, including decreasing commuting costs to foraging areas, seeking out alternate microclimates, avoiding predation, and reducing parasite exposure (Lewis 1995). However, roost- switching in tree bats usually occurs between relatively proximate trees suggesting a degree of faithfulness to a particular forest area (Vonhof and Barclay 1996).

4 METHODS

The preconstruction bat survey entailed a daytime field survey consisting of a habitat assessment to assess potential roost trees and structures, followed by a nighttime acoustic and emergence survey of the study area for bat species. These steps are described below.

4.1 Habitat Assessment

A habitat assessment was performed on June 17, 2025, during the daytime portion of the survey. CDFW approved bat biologists visually examined the external physical features of trees and structures located within the study area for evidence of bat use. This included any potential crevices or entrances to the structure's roof, attics, chimneys and garage; presence of guano, culled insect parts, urine staining, odors associated with bats. Biologists used binoculars to assist with the visual assessment. Biologists also listened for chatter indicative of roosting bats at each tree and structure. During the habitat assessment, trees and structures within the study area were examined for the presence of roosts and classified for their potential as roosting habitat. These roosting types are described below:

- Maternity roosts – Most sensitive. Larger tree cavities, caves, and other types of shelter used by bats during the maternity season to give birth to, nurse, and rear young. They are the most uncommon and sensitive type of bat roost and are only present during the bat maternity season (generally March 1 through September 30).
- Day roosts – Any location that provides routine protection and shelter for bats during their inactive daylight hours. These roosts include hibernacula used during colder periods.
- Night roosts – Temporary resting locations for food digestion between nocturnal foraging bouts, often located adjacent to high-quality foraging habitat.

The survey was conducted within the maternity roosting period (June-August) to identify maternity roosts, if present. There were trees within the study area that may be suitable for night roosting because this type of roosting is temporary. Day roosting requires broader protection from harsh weather, temperature and daylight than is typically provided by trees, because bats generally spend more time in these roosting locations. Tree features considered suitable as colonial day-roosting habitat only include very large cavities or crevices, trees with suspected heart rot (hollow inside), and heavily fissured bark with deep internal spaces. Structures such as roofs and attics would also provide adequate day roosts.

All trees and structures in the study area were inspected for roosting potential. The roosting suitability of each tree was classified based on the following characteristics:

- Structure/Tree Type 1 – Most Suitable. Trees: the presence of loose bark and abundant cavities within the trunk and limbs. Tree is most likely a hollow snag but can also be alive but with significant amount of decay. Tree is typically large in diameter with good sun exposure (i.e., exposed on the southeastern aspect, or taller than the surrounding canopy). Colonial roosting would be possible in a tree with such features. Structures: Several potential crevices that provide entrances to the attic, chimney or home. Lack of potential entrances to potential predators such as rats. Colonial roosting would be possible.

- Structure/Tree Type 2 – Moderately Suitable. Trees: tree with loose bark and large cavities within the trunk and limbs. Tree is typically still alive. Trunk is typically not hollow. Tree is typically large in diameter. Available features may be present but are less likely to support colonial roosting. Solitary roosting in a tree with such features could be possible. Tree has potential for use by foliage-roosting bats. Structure: There are potential crevices and entrances to the attic. Lack of entrances for potential predators such as rats. Less likely to support colonial roosting due to lower number or crevices.
- Structure/Tree Type 3 – Least Suitable. Trees: Minor amounts of loose bark and small trunk and limb cavities are present. Tree is typically smaller in diameter. Available features are unlikely to support cavity or colonial roosting. Solitary roosting (particularly by foliage-roosting species) in a tree with such features would still be possible. Structure: No crevices or entrances to the structure's attic, chimney or home or predators such as rats are present within the home.

4.2 4.2 Visual Observations and Acoustic Monitoring

Approximately 30 minutes before sunset two handheld acoustic bat monitoring systems (Anabat™ Express passive bat detectors) were set up with a tripod within the study area (Figure 3. Anabat™ Unit 1 and Unit 2 Placement). One was set up in North Gateway and the second one was set up in South Gateway (Figure 3. Study Area). Three biologists conducted emergence surveys. Two were located in South Gateway, one moitored the main house and maple tree while the other biologist monitored the 4 duplexes. The third biologist monitored the two homes in North Gateway. The visual surveys were conducted from 30 minutes before sunset to approximately 120 minutes after sunset. Visual surveys were assisted by the use of night-vision goggles and thermal imaging. During the surveys, each observer was positioned so that they could observe and count bats as the bats exited the potential structures and roost tree assigned. Any bats observed emerging from the vicinity of the survey area would be tallied immediately.

Acoustic surveys were the primary source of data for determining if foliage-roosting species were present within the study area, as visual inspection of trees is not a viable survey technique for these types of bats. The acoustic monitoring was timed to capture the window of bat emergence from roosting areas. The monitoring time from 30 minutes before sunset to 120 minutes after sunset was considered sufficient to conduct out-flight counts, since most roosting bats typically exit their roosts shortly after sunset. The survey was conducted when the moon was in Waning Gibbous when it had an illumination of 62% to avoid the full moon phase as some bats are known to be "lunar phobic" and will avoid emergence or reduce activity levels on evenings when the moon is bright (Lang et al. 2006).

Active collection of echolocation calls during surveys allows for the best quality of diagnostic calls and, in combination with passive monitoring (i.e., Anabat™ units), provides context for the investigator (O'Farrell et al. 1999). For analyses, only the best representative calls per unit per night were used for identification to species level. Qualitative call characteristics (inflection, shape), known call frequency parameters, and a reference library were used to identify calls to the species level or "phonic group" (a species pair or group of species with similar characteristic call frequency that could not be distinguished to species level due to call similarity or quality of the call sequence, respectively) (O'Farrell et al. 1999, USGS 2005). There are generally three groups of bat species that are grouped into phonic groups for the purposes of acoustic analysis

due to the high degree of similarity of their echolocation calls. These groups are the 50kHz Myotis group (50kMyo) which includes California myotis (Myotis californicus) and Yuma myotis (Myotis yumanensis), the 40kHz Myotis group which includes little brown myotis (Myotis lucifugus), long-legged myotis (Myotis volans), and small-footed myotis (Myotis ciliolabrum), and the Q25 phonic group which includes the silver-haired bat (Lasionycteris noctivagans), big brown bat (Eptesicus fuscus), and Mexican free-tailed bat (Tadarida brasiliensis

Figure 3 – Acoustic Monitoring Locations



5 RESULTS

5.1 Habitat Assessment

All structures and trees throughout the entire study area were evaluated for bat roosting potential. All seven of the structures to be demolished were ranked as Type 3 – Least Suitable (Appendix A). All of the buildings in this area had been previously treated by a pest management company due to a rat infestation. All gaps around doors, windows, and seams were sealed with foam (Figures 4 and 6). Vents and chimneys all had exclusionary metal netting (Figure 5). One maple tree in the study area received a ranking of Type 2 – Moderately suitable within the study area, the rest identified were not suitable (Appendix A). The maple measured 42 inches dbh and had a large cavity on top of a dead branch on the SE facing side of the tree.

Evidence of bat presence such as guano, culled insect parts, urine staining or odors were not detected on or in the vicinity of any of the structures or trees inspected for roost suitability.

5.2 Visual Observations and Acoustic Monitoring

The acoustic and visual emergence survey was conducted the evening following the daytime habitat assessment. Environmental conditions encountered during the survey were optimal with clear skies, mild winds, and appropriate temperatures to observe bat activity (Appendix A).

Visual out-flight observations with the use of thermal imaging were performed on all potential roosting structures and trees. No bats were observed emerging from any of the seven structures or the maple tree identified as a potential roost sites during emergence surveys.

Analysis of the echolocation recordings found no species were confirmed to be present during the nighttime surveys

Figure 4 – Door exclusion with spray foam



Figure 5 – Gable vent exclusion with netting



Figure 6 – Exclusion of seams with spray foam



6 CONCLUSIONS AND RECOMMENDATIONS

The study area was not occupied by bats during the survey period and bats were not observed making out-flights from the vicinity of the structures and trees within the study area. This was likely due to the urban setting. The project area is in a residential neighborhood with bright lights, moderate insect presence in between two major highways and far from less developed areas such as city parks or golf courses. The structures, while older, did not have any potential crevices or access to the inside of the house due to the exclusionary foam and netting previously placed. Additionally, a great horned owl (Bubo virginianus) was heard and striped skunks (Mephitis mephitis) were seen during the survey which may pose a perceived predation risk to foraging bats.

No bat species were identified during the surveys and should be considered absent from the study area at this time.

7 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this assessment was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or the applicant's representative and that I have no financial interest in the project.

DATE: 7/06/24 SIGNED: 

Mikaila Buchanan
Senior Biologist

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9 APPENDIX A

Brethren Hillcrest Gateway Project **Date:** 6/17/25

Surveyor Names: ANGELICA MENDOZA, MIKAILA BUCHANAN, AUBRY MCSWEENY

Targeted Species: ROOSTING BATS

Emergence Survey Conditions					
	Time	**Temp (F)**	**Wind (mph)**	**% Cloud Cover**	**Moon Phase**
Start	19:30	88	1-3	0	WANING GIBBOUS 62%
Stop	22:00	76	1-3	0	WANING GIBBOUS 62%

Sunset Time: 20:07 **Type of Equipment Used:** ATN NVM14-4 NVG, TELOS XP50 THERMAL MONO ANABAT CHORUS, ECHO METER TOUCH 2 PRO

Suitable Habitat / Species Observations	
Observer Location	**Notes (time of first bat observation, level of bat activity, approximate number of bats observed and where, etc.)**
HOUSE 1	34.106163, -117.776492 * ANABAT 34.106019, -117.776264 MALE/W snag branch. ENTIRE HOUSED SEALED, EXCLUSION REDUCES BAT ROOSTING POTENTIAL
HOUSE 2	34.106792, -117.776196 NO SUITABLE HABITAT FOR BAT ROOSTING DUE TO EXCLUSION.
HOUSE 3	34.106799, -117.76216 * ANABAT 34.107035, -117.775798

Additional Notes:
MODERATE BAT HABITAT, EXCLUSION PERFORMED FOR RODENTS ALSO EFFECTIVE FOR BATS. MODERATE INSECT ACTIVITY, BRIGHT STREET AND PORCH LIGHTS THROUGHOUT THE STUDY AREA, NO BATS WERE OBSERVED OR AUDIO DETECTED DURING THE SURVEY, BIOLOGIST ARRIVED AT 1800 TO PERFORM A BAT HABITAT ASSESSMENT AND INSPECT ALL POSSIBLE ROOSTING LOCATIONS, ANABAT LOCATIONS AT HOUSE 1 & 3 AND ECHOMETERS CARRIED THROUGHOUT.

Incidental Species Observed: (include sign; tracks, carcass, feathers, scat, etc.)
CORA, NOMO, WESTERN FENCE LIZARD, CDHA, HOFI, MODO, CALT, BLPH, AMCR, CSJA, HOSP, SKUNKS (2) HOUSES INSPECTED FOR GUANO (perimeter) and URINE STAINS WITH BLACK LIGHT.

Roost Assessment Datasheet

Project: BRETHREN **Date:** 6/17/25 **Personnel:** Angelica Mendoza, Mikaila Buchanan, Aubry McSweeny

ID/Coordinates	Notes	Ranking
34.105962 -117.776155 maple	Mature maple. Exfoliating bark with snag on SE facing branch 18'-20' up. Approximate DBH 42" Large cavity in snag branch.	2
House 1 34.106163 -117.776492	Main house + Far subunits and 2 garage, 2681, 2683, 2675, 2677. All houses inspected / boarded 2 street lights and large flood light / porch lights visible. Two skunks foraging on property	1
House 2 34.106792 -117.776196	Minor areas required sealing. Recently vacated. Garage and back shed sealed. Bright street lights visible from house. Street fully illuminated. Ornamental plants in yard. 2-Two Ash trees north of fence, next to property. No exfoliating bark or cavity	3
House 3 34.106799 -117.776266	House completely sealed. Covered patio w/ corrugated roofing. Chimney sealed. House boarded. All vents have screens + or sealant. Bird whitewash on back step. Recently vacated. Rat sign noted, points of entry sealed. Mature Mulberry - No cavity or exfoliating bark	3
House 3 cont:	Ginkgo biloba + Large london plane (no cavity or exfoliating bark. Mexican Weeping Pine + Monterey Cypres adjacent to property on South side. No exfoliating bark or cavity.	

CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

December 11, 2024

Candice Bowcock, Principal Planner
City of La Verne
3660 D Street
La Verne, California 91750

Subject: Arborist Report for the Hillcrest Gateway Project in La Verne, Los Angeles County, California (LSA Project No. 20241974)

Dear Ms. Bowcock:

LSA conducted a tree inventory for the Hillcrest Gateway Development Project (project). The 1.4-acre project area consists of two sites encompassing Assessor's Parcel Numbers 8381-010-006, -028, -033, and -043, between Park Avenue and A Street in La Verne, Los Angeles County, California (Figure 1, attached).

The tree inventory was conducted in accordance with the City of La Verne's tree protection ordinance (La Verne Municipal Code, Chapter 18.78).[1] The ordinance provides for the protection of Significant Trees and Heritage Trees, which Section 18.78.020 of the ordinance defines as:

> G. *"Heritage tree " means any tree or group of trees identified as such by city council resolution upon the city council finding that the tree or group of trees:*
>
> *1. Is of historical value because of its association with a place, building, natural feature, or event of local, regional, or national historic significance; or 2. Is identified on any historic or cultural resources survey as a significant feature of a landmark, historic site or historic district; or*
>
> *3. Is representative of a significant period of the city's growth or development; or*
>
> *4. Is designated for protection or conservation in a specific plan, conditional use permit, precise plan of design or similar development approval; or*
>
> *5. Is of signific*ant size, age or rareness to warrant protection.
>
> M. *"Significant tree" means any tree that is identified or protected in a specific plan or is protected as a condition of approval of a precise plan, subdivision map, conditional use permit or variance and; any tree located on a parcel of private or*

[1] City of La Verne. 2007. La Verne Municipal Code. Chapter 18.78 (Preservation, Protection and Removal of Trees). Website: https://ecode360.com/44525384 (accessed December 6, 2024).

public property that has a caliper of eight inches or more and is of the following species:

Cedrus deodara—Deodar Cedar
Cinnamomum camphor—Camphor Tree
All Quercus species of Oak—Oak Trees
Platanus racemosa—California Sycamore
Juglans californica—Southern California Black Walnut

Provided, however, that "significant tree" shall not include any tree under thirty-six inches in caliper located on a private parcel of property of less than one acre zoned for residential use. In determining the size of the parcel, contiguous lots in common ownership shall be treated as a single parcel.

METHODS

The City of La Verne's Community Development Department was consulted regarding the potential for occurrence of Heritage Trees or Significant Trees as identified by City Council resolution or in a specific plan or prior project condition of approval.[2] LSA arborist Stan Spencer (International Society of Arboriculture [ISA] Certified Arborist WE-9358A) inventoried and evaluated all trees on the project site on December 2, 2024. All ornamental, fruit, nut, and native trees with a single-stem trunk caliper of at least 4 inches at 4 feet above ground level were inventoried and assigned a number. Any inventoried tree meeting the definition of Significant Tree or Heritage Tree in the City's tree ordinance was further evaluated by measuring its height, canopy, and total trunk caliper; estimating its age; and assessing its general condition. Total trunk caliper was calculated as the trunk diameter or sum of trunk diameters (for multi-trunk trees) at 4 feet above ground level. If a tree branched at 4 feet, the trunk diameter was measured immediately below the branch point.

RESULTS

The tree inventory and evaluation resulted in mapping of 31 trees (Figure 1) comprising 19 species:

- Silver maple (*Acer saccharinum*)—Tree 8
- Bougainvillea (*Bougainvillea* sp.)—Tree 4
- Orange (*Citrus sinensis*)—Tree 21
- Carrotwood (*Cupaniopsis anacardioides*)—Tree 5
- Weeping fig (*Ficus benjamina*)—Trees 6 and 17
- Ash (*Fraxinus* sp.)—Trees 1, 9, 27, and 28
- Maidenhair tree (*Ginkgo biloba*)—Tree 23
- Cypress (*Hesperocyparis* sp.)—Tree 30
- English holly (*Ilex aquifolium*)—Tree 22
- Crape myrtle (*Lagerstroemia indica*)—Trees 20 and 25
- Glossy privet (*Ligustrum lucidum*)—Trees 10–16

[2] Dionisios Glentis email to Gabriel Rivera and Candice Bowcock, City of La Verne Community Development Department, 6 December 2024.

- Sweetgum (*Liquidambar styraciflua*)—Trees 2 and 19
- Saucer magnolia (*Magnolia soulangiana*)—Tree 31
- White mulberry (*Morus alba*)—Tree 26
- Olive (*Olea europaea*)—Tree 7
- Canary Island pine (*Pinus canariensis*)—Tree 29
- Aleppo pine (*Pinus halepensis*)—Tree 18
- London planetree (*Platanus* × *hispanica*)—Tree 24
- Queen palm (*Syagrus romanzoffiana*)—Tree 3

None of the inventoried trees are native to the area. None of the trees qualify as Significant Trees or Heritage Trees under the City's tree ordinance.

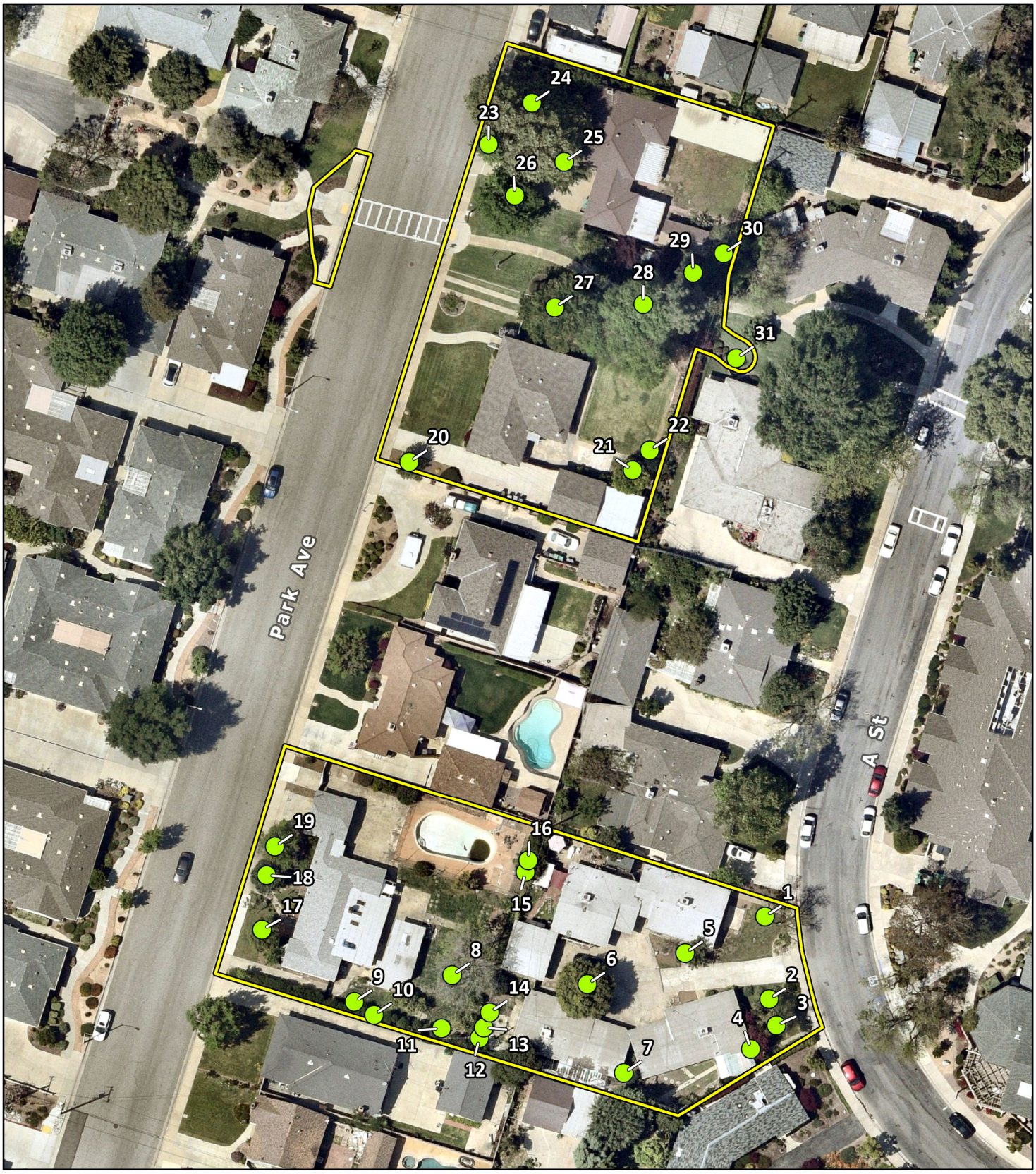
Sincerely,

LSA Associates, Inc.



Stan Spencer, PhD
Associate/Senior Biologist and Arborist

Attachment: Figure 1



LSA

Project Location

Tree

FIGURE 1

N

0 33 67

FEET

SOURCE: Nearmap Aerial Imagery (May 1, 2024)

I:\2024\20241974\GIS\Pro\Brethren Hillcrest Master Plan Update\Hillcrest Gateway Project.aprx (12/5/2024)

Hillcrest Gateway Project

Tree Locations

CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: December 11, 2024

TO: Candice Bowcock, Principal Planner, City of La Verne

FROM: Casey Tibbet, M.A., Associate/Architectural Historian

SUBJECT: Historical Significance Evaluations for the Hillcrest Gateway Project, La Verne, Los Angeles County, California (LSA Project No. 20241974)

LSA completed historical significance evaluations of the properties at 2692 Park Avenue and 2675, 2677, 2681, and 2683 A Street (Assessor Identification Number [AIN] 8381-010-006); 2712 Park Avenue (AIN 8381-010-033); and 2730 Park Avenue (AIN 8381-010-028) in La Verne. There are a total of seven residences on the three properties, and all are 50 years of age or older. Due to the age of the buildings, in compliance with the California Environmental Quality Act (CEQA), the City of La Verne (City) required the evaluations as part of the environmental review process for the proposed Hillcrest Gateway Project (project). More specifically, the proposed project includes an update to the Brethren Hillcrest Homes Master Plan and demolition of the residences on these three properties to facilitate construction of nine single-family homes.

To evaluate these properties LSA conducted research to determine the dates of construction and later alterations and to identify historically important events and people that may be associated with each property. LSA also conducted an intensive-level field survey of each property. In compliance with CEQA, each property was evaluated for historical significance using the California Register of Historical Resources (California Register) criteria. There is no local criteria. The evaluations were documented on Department of Parks and Recreation (DPR) 523A (Primary Record) and 523B (Building, Structure, and Object Record) forms and each property was identified on a DPR Location Map (refer to the attached DPR forms for details).

RECOMMENDATIONS

As a result of the research and field surveys, LSA makes the following recommendations to the City.

2692 Park Avenue

LSA recommends to the City that the one-story Ranch style residence (2692 Park Avenue) and four related one-story Minimal Traditional style residences (2675, 2677, 2681, and 2683 A Street) do not meet the criteria for listing in the California Register and are not “historical resources” for purposes of CEQA.

2712 Park Avenue

LSA recommends to the City that the one-story Minimal Ranch style single-family property at 2712 Park Avenue is eligible for listing in the California Register under Criteria 1 and 2 as the location where Oliver (Ollie) V. Riley invented the original Chrondek electronic timers used in the sport of drag racing. The first timer was reportedly developed at his kitchen table after work hours and on weekends and the first timers for sale were manufactured in his garage at 2712 Park Avenue. The Chrondek timer provided a reliable, accurate, consistent, and exact way to time the racers; it legitimized the sport and was a major factor in its early success. The period of significance is 1953 to 1954. This encompasses the timeframe when Ollie invented and manufactured the Chrondek timers in his home. LSA recommends that the property is a "historical resource" for purposes of CEQA.

2730 Park Avenue

LSA recommends to the City that the one-story, Minimal Ranch style single-family residence at 2730 Park Avenue does not meet the criteria for listing in the California Register and is not a "historical resource" for purposes of CEQA.

Attachment: DPR Forms

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Resource Name or #: 2692 Park Avenue

P1. Other Identifier: 2675, 2677, 2681, and 2683 A Street

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** Los Angeles **and** (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** *San Dimas, CA* **Date:** 1981 **T**__; **R**__; S.B.**B.M.**

c. Address: 2692 Park Avenue **City:** La Verne **Zip:** 91750

d. UTM: Zone: 11; _____mE/ _____mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate): AIN 8381-010-006

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This multi-family residential property is situated on the east side of Park Avenue and extends to the west side of A Street. It includes five residences, one oriented toward Park Avenue and four oriented toward A Street, and a garage oriented toward A Street. The A Street residences and freestanding garage are generally arranged in a semi-circle around a central driveway. The garage is at the west end.

2692 Park Avenue. This one-story, Ranch style residence is irregular in plan and rests on a raised foundation. It is surmounted by a moderately-pitched, side-gable, hip, and gable-on-hip roof sheathed with composition shingles and has narrow eaves and a brick chimney. The exterior walls are clad with a combination of stucco, T1-11 panels, and brick. The west-facing, asymmetrical façade has a projecting, attached garage with the original door; a south-facing, wood-framed, double-hung window on the side of the garage; two vinyl-framed, sliding windows; a south-facing, modern door; two vinyl-framed, sliding windows; a wood and glass door; and a projecting wing with a bay window with vinyl-framed, single-hung windows flanking a fixed window. The eave over the recessed, partial-width front porch is supported by three wood posts. The rear of the residence has at least two T-1-11-sided additions and modern windows. The back yard includes an empty swimming pool and a freestanding, covered patio. The residence is in poor condition and the integrity has been compromised by alterations. *See Continuation Sheets*

***P3b. Resource Attributes:** (Original uses) HP3-Multi-family property

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)





See Continuation Sheet

P5b. Description of Photo: (View, date, accession #) Top: 2692 Park Avenue, façade, view east (10/8/24). Bottom: 2675–2683 A Street overview, view west (10/8/24).

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1946 – 2692 Park Avenue
1963 and 1964 – A Street residences
(Source for all: Los Angeles County Office of the Assessor n.d.)

***P7. Owner and Address:**
Hillcrest
2705 Mountain View Drive
La Verne, CA 91750-4313

***P8. Recorded by:** (Name, affiliation, and address)
Casey Tibbet, M.A.
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, CA 92507

***P9. Date Recorded:**
October 8, 2024

***P10. Survey Type:** (Describe) Intensive-level CEQA compliance

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")

***Attachments:** ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) 2692 Park Avenue

B1. Historic Name:
B2. Common Name:
B3. Original Use: Single-family residence **B4. Present Use:** Multi-family property (all vacant)
***B5. Architectural Style:** Ranch (2692 Park Avenue) and Minimal Traditional (A Street residences)
***B6. Construction History:** (Construction date, alterations, and date of alterations)

2692 Park Avenue
1946 – Residence was built (Los Angeles County Office of the Assessor n.d.). No original permit was found.
1948 – Permit issued to owner J.F. Vicat for a new 12 x 20-foot roof over a cement patio slab.
1949 – Permit issued to owner Robert J. Carl to enclose the porch.
1966 – Permits issued to owner Ruben H. Gonzalez to add a swimming pool and 420 square feet to the existing residence. The addition includes two bedrooms and a porch.
1996 – Permit issued to owner Ruben H. Gonzalez for heating, ventilation, and air conditioning (HVAC).
2018 – Permit issued to owner Ruben H. Gonzalez to reroof with composition shingles.
See Continuation Sheet

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** _____ **Original Location:** _____
***B8. Related Features:** A Street residences

B9a. Architect: None found **b. Builder:** None found
***B10. Significance: Theme:** _____ **Area:** _____
Period of Significance: _____ **Property Type:** _____ **Applicable Criteria:** NA
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

This property does not meet the criteria for listing in the California Register of Historical Resources (California Register), and there are no local criteria for significance. It is not a "historical resource" for purposes of the California Environmental Quality Act (CEQA).

Historic Overview. In 1774, an expedition of nonnative people on their way to San Francisco used the mission trail (now Arrow Highway) to cross the Pomona Valley and the area that is now La Verne (La Verne Historical Society n.d.). Six decades later, after Mexico gained control of California, the area was part of the 1837 Rancho San Jose land grant that was given to Ygnacio Palomares and Ricardo Vejar (Anonymous 2018). In 1852, after the United States gained control of California, Palomares and Vejar filed a claim for the rancho, which was patented in 1875 (Ibid.). Palomares and Vejar used the lands primarily for sheep and cattle operations, as well as growing crops, until the severe drought in the mid-1860s, which decimated the sheep and cattle industries (Ibid.; Brackett 1920). In 1864, Palomares died and Vejar lost his share of the rancho to foreclosure (Ibid.). In the following years, with the valley economy in near ruin, the ranchos began to disintegrate, and the livestock and grain industries began being replaced by grape crops and, later, olive groves (Brackett 1920; Dumke 1991). *See Continuation Sheet*

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**

Ancestry.com
Var. Various records including city directories, voter registration, Census data, and military information accessed online in October 2024 at: https://www.ancestry.com/search/.

Anonymous
2018 Rancho San Jose. Accessed online in June 2018 at: https://en.wikipedia.org/wiki/Rancho_San_Jose.

See Continuation Sheet

B13. Remarks:

***B14. Evaluator:** Casey Tibbet, M.A., LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, CA 92507
***Date of Evaluation:** November 2024

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

Refer to Location Map

P3a. Description: (continued from page 1)
2675 A Street. This one-story, Minimal Traditional style residence is irregular in plan and rests on a concrete slab foundation. It has a low-pitched, side-gable roof sheathed with composition sheets and has moderate eaves. The exterior walls are covered with stucco. The northwest-facing, asymmetrical façade has a metal-framed sliding window, a modern door, a metal-framed sliding window, a recessed, one-car garage with a metal door, and an attached carport. The east elevation, facing A Street, has a vinyl-framed sliding window and a wooden geometric accent. The residence is in fair condition and has minor alterations (modern doors and windows).

2677 A Street. This one-story, Minimal Traditional style residence is roughly rectangular in plan and rests on a concrete slab foundation. The side-gable roof is low-pitched, sheathed with composition sheets, and has moderate eaves. The exterior walls are covered with stucco and brick skirting. The northeast-facing, asymmetrical façade has a recessed carport and one-car garage with a metal door, a vinyl-framed ribbon window with sliding end vents, a modern door, and a metal-framed sliding window. The residence is in fair condition and has sustained alterations (windows and doors).

2681 A Street. This one-story, Minimal Traditional style residence is roughly L-shaped in plan and rests on a concrete slab foundation. It has a low-pitched, side-gable and flat roof with moderate eaves and is sheathed with composition sheets. The exterior walls are covered with stucco. The south-facing façade has a recessed, attached carport, and a modern front door flanked by metal-framed sliding windows. The east elevation features a wooden geometric accent and a vinyl-framed ribbon window with end vent sliders. The west elevation has a wood and glass door and a water heater closet. The carport is also attached to the carport for the 2683 A Street residence. The residence is in fair condition and has sustained alterations (door and window).

2683 A Street. This one-story, Minimal Traditional style residence is irregular in plan and rests on a concrete slab foundation. It has a low-pitched, side-gable roof with moderate eaves and is sheathed with composition sheets. The exterior walls are covered with stucco and one small section of brick skirting (east elevation). The asymmetrical, south-facing façade had two metal-framed, sliding windows, a wood and glass door, and a carport. The carport is also connected to the adjacent carport for 2681 A Street. A very narrow shade structure attached to the façade has four wood posts and a lattice screen. The east elevation has a vinyl-framed, ribbon window with end vent sliders. The residence is in fair condition and has sustained alterations (window and narrow shade structure).

The detached, two-car garage is located southwest of the 2683 A Street residence. It has a low-pitched, front-gable roof, stucco walls, and what appears to be the original, wooden door. It is in poor condition but retains integrity.

P5a. Photo (continued from page 1)



2675 A Street, façade, view south (10/8/24).

See Continuation Sheet

P5a. Photo (continued from page 3)



2677 A Street, façade, view south (10/8/24).



2681 A Street, façade, view north (10/8/24).

See Continuation Sheet

P5a. Photo (continued from page 4)



2683 A Street, façade and garage, view northwest (10/8/24).

***B6. Construction History:** (continued from page 2)

2675 and 2677 A Street

1963 – Permit issued to owner Ruben Gonzalez for a 1,520-square-foot, one-story duplex (2675–2677 A Street) with two garages and two carports. Architect is listed as D & A Drafting.

1965 – Permit issued to owner Ruben Gonzalez for sewer connection (2675 A Street).

2681-2683 A Street

1964 – Permits issued to owner Ruben Gonzalez for a new 1,500-square-foot, one-story duplex with two carports and a 400-square-foot, detached garage.

***B10. Significance:** (continued from page 2)

In the late 1860s and 1870s, large sheep and cattle ranches began transitioning to small farms and more intensive agricultural development. In 1876, the Southern Pacific Railroad completed a line from San Francisco to Los Angeles and soon railroads were branching out across southern California (Landis 2010). This was followed by "extensive advertising and publicity campaign[s]," which helped create an unprecedented land boom in the 1880s (Dumke 1991:28). In 1887, "Lordsburg was one of 25 settlements established" along Atchison, Topeka and Santa Fe Railway's (Santa Fe) San Bernardino to Los Angeles line (City of La Verne 1992:3).

Named for its founder Isaac Wilson Lord, Lordsburg (now La Verne) boasted a large hotel (1888) and parcels of land for sale, but the community experienced one of the few failures of attempted land development in southern California when the boom went bust shortly after the town was founded (Heckman 2000; City of La Verne 1992). No paying guests ever stayed in the 130-room, Queen Anne-style hotel, which was located approximately 1 mile southeast of the subject property (La Verne Historical Society n.d.). In 1889, the Santa Fe brought in one of its most successful tour conductors, George McDonaugh, in an effort to generate interest in some of the struggling southern California towns along its routes (La Verne Historical Society n.d.; City of La Verne 1992). McDonaugh, who had worked in the Midwest and had helped settle German Baptist Brethren in Kansas and Texas, began advertising free tours in the *Gospel Messenger,* which was commonly read in Brethren homes (City of La Verne 1992). In 1889, M.M. Eshelman toured Lordsburg and McDonaugh convinced him that the town would be suitable for a colony and a college (City of La Verne 1992:4). In 1890, Eshelman and other Brethren settled in Lordsburg, and after 1 year, approximately 100 members had relocated to the community (Ibid.). That same year (1890), the first navel oranges were planted in Lordsburg, and over the next several decades, the citrus industry would become the dominant economic force in the area (City of La Verne 1992).

While the citrus industry was growing, so was the college. In 1891, the Brethren opened Lordsburg College in Lord's hotel and were successful in attracting a sufficient number of settlers from their sect to establish a congregation and sustain the community (Heckman 2000). After 10 years, the college closed for a year (1900–1901) but reopened in 1902 under a new president who made expansion his primary goal (Wilson Library 1991). The area had grown enough that, in 1905, Bonita Union High School (now Damien High School) was opened (approximately 1 mile southwest of the subject property), serving the communities of San Dimas and Lordsburg (Tearnen and Bricker 1998). By 1908, the college had full ownership of the hotel and land adjacent to it and, in 1918, the first new building, a women's dormitory, was constructed (Wilson Library 1991). In 1917, after the death of Isaac Lord, (*see Continuation Sheet*)

***B10. Significance:** (continued from page 5)
the college and Lordsburg were renamed La Verne (Heckman 2000). The last service was held in the old hotel in 1926, ending the use of that building by the college (Wilson Library 1991). Later, the hotel was torn down, and the materials were reused in other buildings on campus and throughout the community (Wilson Library 1991).

Citriculture was the economic base of the community until the 1940s, when the local citrus industry began to decline due to an unknown blight. After World War II (WWII), the groves began to give way to residential development, and the community truly became a college town (City of La Verne 2018). By 1953, the subject residence and a few other homes had been built on both sides of Park Avenue between Elmcrest Street and 6th Street, and a small housing tract had been developed north of Elmcrest Street (NETR var.). However, into the 1990s, many reminders of the citrus heritage remained, most notably in the form of old packinghouses along Arrow Highway (City of La Verne 1992). The original commercial center around D and First Streets still has numerous historic-period buildings, and the city is filled with early 20th century homes.

People Associated with These Residences.

2692 Park Avenue

This residence was built in 1946 (Los Angeles County Office of the Assessor n.d.). The earliest owner found for the residence was J.F. Vicat (City of La Verne var.). John F. and Dorothy (or Dorothea) S. Vicat were listed at this address in 1948 but by 1950 had relocated to New York (Ancestry.com var.). From 1949 to at least 1952, Robert V. Carl, a construction superintendent, his wife Mildred A., and their children, Lois, Mildred, Robert, and Donna, lived at this address (Ibid.). From 1953 to at least 1956, Colonel J.G. De La Vergne and his wife were listed at 2692 Park Avenue (*Progress-Bulletin* 1953 and 1956). In 1953, Colonel De La Vergne, who was an Army chaplain attached to General Eisenhower's staff during WWII, was working as head of the social science department at the California Baptist Theological Seminary in Covina (*Progress-Bulletin* 1953).

From as early as 1958 to as late as 2020, Ruben H. Gonzalez and/or members of his family lived at 2692 Park Avenue (*Progress-Bulletin* 1958a; Ancestry.com var.). Mr. Gonzalez graduated from Chino High School in 1949 and received his bachelor's degree from La Verne College before earning a Master of Arts in elementary school administration from Los Angeles State College in 1958 (*Progress-Bulletin* 1958b). He planned to teach 8th grade at Las Palmas School in Covina (Ibid.). He, his wife Dolores, and their two children, Kathy and Philip, were listed at this address (Ibid.). In 1962, at age 31, Mr. Gonzalez ran for the La Verne City Council; at that time, he was teaching 7th grade at Eva D. Edwards School in Covina and serving a second term as a member of the executive council of the Covina Unified Education Association (*Progress-Bulletin* 1962). No additional relevant information was found for the Gonzalez family.

2675, 2677, 2681, and 2683 A Street

These residences were built and owned by Ruben H. Gonzalez in the mid-1960s (City of La Verne var.). It is assumed that Mr. Gonzalez owned them for as long as he owned the adjacent residence at 2692 Park Avenue. Almost no information was found for residents during the historic period (pre-1976). In 1964, Mrs. Lillian Mills lived at 2681 A Street (*Progress-Bulletin* 1964) and in 1969, Mrs. Helen Coe Butler lived at 2677 A Street (*Progress-Bulletin* 1969).

Architectural Styles. The residence at 2692 Park Avenue was built in the Ranch style. Common characteristics of this style include a one-story configuration; a sprawling layout, often laid out in an L or U shape that creates backyard privacy; low-pitched hip, gable, or gable-on-hip roof with wide eaves; a variety of wood, brick, and stucco siding, often in combination; wood-frame double-hung windows, often with multiple lights or diamond-panes; a large picture window in the façade, often flanked by narrower windows; and an attached two-car garage. Decorative features include scalloped vergeboards, false cupolas and dovecotes, extended gable eaves, and turned porch supports. Later examples of the style incorporate aluminum-framed vertical-slider windows instead of wood-framed double-hung windows.

The residences on A Street were built in the Minimal Traditional style. Common characteristics of this style include a rectangular or L-shaped massing topped by a low-pitched hipped or cross-gable roof with narrow eaves featuring a variety of simple decorative treatments (exposed rafter tails, boxed eaves, plain fascia); stucco wall cladding; and less commonly, wood clapboard, wood-framed double-hung windows, and a front stoop entry (as opposed to a full- or partial-width porch).

Significance Evaluation. These residences are being evaluated for historical significance in compliance with CEQA using the California Register criteria. Although the City has no historic preservation ordinance or criteria for significance, it identifies and protects historic resources by designating landmark nominations via City Council resolution and creating Specific Plan areas subject to design review.

See Continuation Sheet

***B10. Significance:** (continued from page 6)

Criterion 1: It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States. This property is associated with the post-WWII residential boom, which made a significant contribution to the broad patterns of local, regional, and even national history. As a single-family property (1946–1963), it was one of the approximately 30 million single-family homes built in the United States during a 30-year period following the end of WWII (California Department of Transportation [Caltrans] 2011:2). These homes were typically modest in size and style and constructed in a short time as part of large tracts marketed to the working class. "The fundamental unit for postwar housing is not the individual house, but the tract, or a single construction phase within a larger tract or new community," and typically a single home would not be individually significant in this context (Caltrans 2011:121). As with most homes associated with this historic context, individually this residence is unimportant and insignificant. Furthermore, alterations to the residence (siding, windows, door, and additions) and the property (addition of four units) have compromised the integrity of the property.

As a multi-family property (1963–present), it is associated with the demographic and social changes of the postwar period that led to a greater demand for single-person housing. "The proportion of multi-family housing (apartments and condominiums) grew steadily in the 1960s, surpassing 40 percent of all new housing units constructed each year from 1968 through 1973…In California, the proportion of multi-family housing began to increase in the late 1950s and grew to become a majority of the new housing units built from 1962-64 and again from 1969-73" (Caltrans 2011:53). Most of the multi-family construction "took the form of low-rise garden apartment complexes in suburban areas. These typically consisted of multiple two-story buildings with separate, common parking shelters. Some of the larger apartment and condominium complexes had layouts based on cluster planning principles, with considerable areas of open space. Many included facilities for recreation such as swimming pools and tennis courts. Such shared amenities became increasingly popular, probably more than amenities within the individual living spaces, as builders competed for a portion of the youthful apartment market" (Caltrans 2011:53). These residences are an example of a small, infill, multi-family development and, aside from multiple buildings, do not exhibit the typical characteristics of the postwar multi-family housing developments. The property is not a particularly good example of the postwar multi-family development trend. It is not significant under this criterion.

Criterion 2: It is associated with the lives of persons important to local, California, or national history. Research did not identify any historically important people associated with these residences. The residences are not significant under this criterion.

Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values. The residence at 2692 Park Avenue embodies characteristics of the Ranch style, but the alterations (siding, windows, door, and additions) have compromised its integrity of design, materials, and workmanship. It does not possess high artistic values and does not rise to a level beyond the ordinary. It is not the work of a master architect or builder. It is not significant under this criterion.

The A Street residences exhibit characteristics of the Minimal Traditional style but have sustained alterations (windows and doors) that have compromised their integrity of design, materials, and workmanship. They do not possess high artistic values and do not rise to a level beyond the ordinary. They are not the work of a master architect or builder. They are not significant under this criterion.

Criterion 4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation. These residences were built in 1946, 1963, and 1964 using common methods and materials. They do not have the potential to yield information important to the prehistory or history of the local area, State, or nation. They are not significant under this criterion.

***B12. References:** (continued from page 2)

Architectural Resources Group
2016 City of Arcadia, Citywide Historic Resources Survey Report. On file at the City of Arcadia Development Services Department.

Brackett, F.P.
1920 *History of the Pomona Valley*. Historic Record Company, Los Angeles, California.

California Department of Transportation (Caltrans)
2011 *Tract Housing in California, 1945-1973. A Context for National Register Evaluation.* Caltrans Division of Environmental Analysis, Sacramento.

See Continuation Sheet

***B12. References:** (continued from page 7)

City of La Verne
1992 Lordsburg Specific Plan. Accessed online in July 2018 at: https://www.ci.la-verne.ca.us/index.php/documents/community-development/general-and-specific-plans/225-lordsburg-specific-plan/file.
2018 History of La Verne. Accessed online in August 2018 at: http://www.ci.la-verne.ca.us/index.php/about-la-verne/history-of-la-verne.
Var. Building permits for 2692 Park Avenue, 2675-77 A Street, and 2681-83 A Street. Provided by City staff in November 2024.

City of Los Angeles
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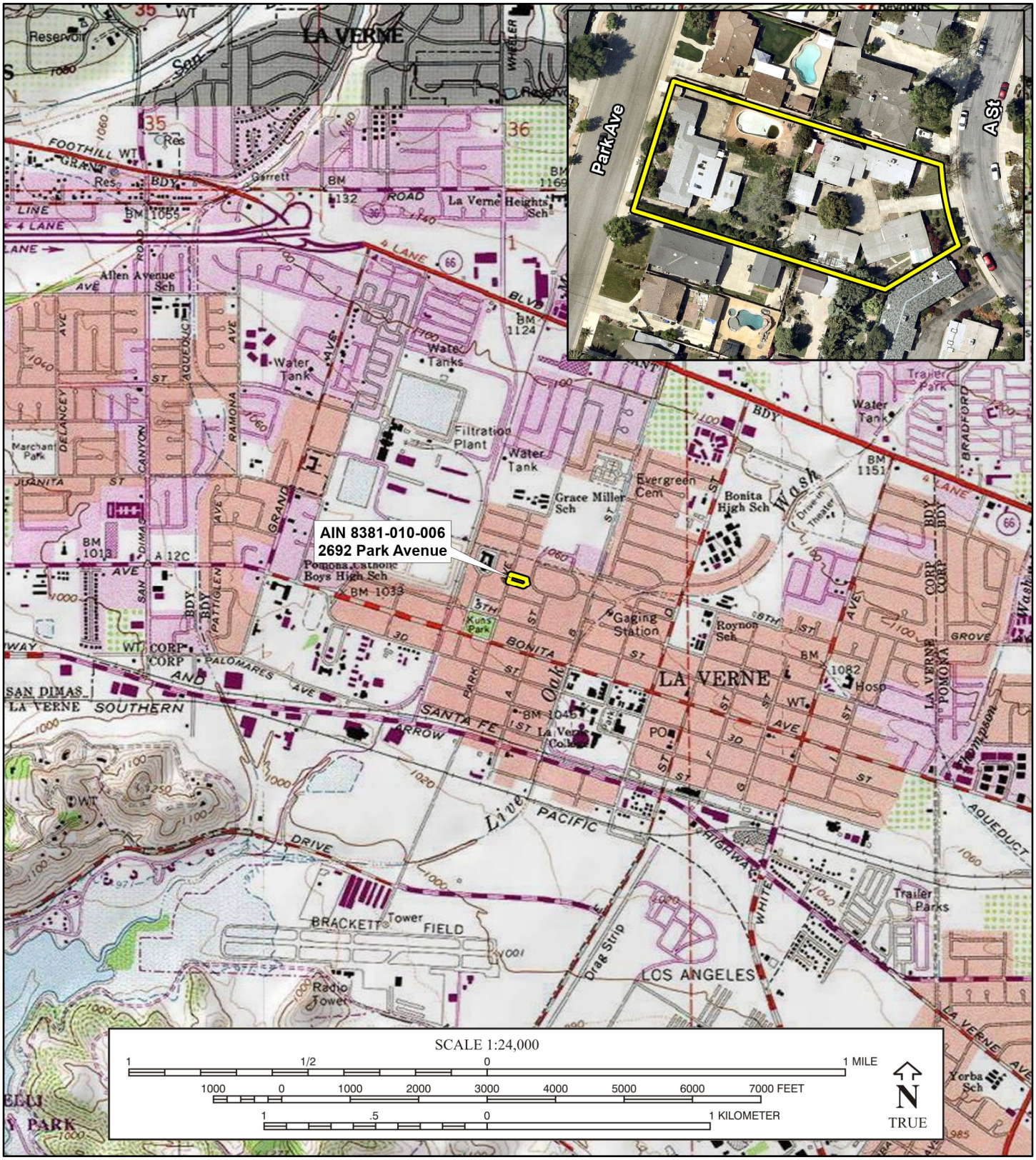
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State of California - Resource Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # _____
HRI # _____
Trinomial _____

*Resource Name or 2692 Park Avenue

*Map Name: USGS 7.5' Quad, San Dimas; Nearmap *Scale: 1:24000 *Date of Map: 1981; 2024



I:\2024\20241974\GIS\Pro\Brethren Hillcrest Master Plan Update\Hillcrest Gateway Project.aprx (12/3/2024)

DPR 523J (1/95)

*Required Information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 3CS
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Resource Name or #: 2712 Park Avenue

P1. Other Identifier: _____

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County: Los Angeles and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: *San Dimas, CA* Date: 1981 T__; R__; S.B.B.M.

c. Address: 2712 Park Avenue City: La Verne Zip: 91750

d. UTM: Zone: 11; _____mE/ _____mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate): AIN 8381-010-033

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This one-story, Minimal Ranch residence is situated on the east side of Park Avenue in a residential neighborhood with a mix of modern and historic-period (50 years of age or older) homes. The residence is L-shaped in plan and rests on a raised foundation. It has a moderately pitched, hipped roof sheathed with composition shingles that has narrow eaves. The exterior walls are covered with stucco and all fenestration is modern. The west-facing, asymmetrical façade has a raised, partial-width porch sheltered beneath the eave that is supported by wood posts spanned by a wood balustrade. Along the porch are a pair of vinyl-framed windows flanked by shutters and a north-facing modern door. The remainder of the façade has a pair of vinyl-framed windows flanked by shutters, a bay window, and a single vinyl-framed window. The balustrades flanking the concrete steps to the front porch appear to be a later addition. The south (side) elevation has three vinyl-framed windows. There is a detached garage with a modern door located southeast of the house. The property appears to be in good condition, but the architectural integrity has been compromised by the modern windows, front door, and balustrade.

*P3b. Resource Attributes: (Original uses) HP2-Single-family property

*P4. Resources Present: ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) Façade, view east (10/8/24)

*P6. Date Constructed/Age and Sources: ☒Historic ☐Prehistoric ☐Both
1950 (Los Angeles County Office of the Assessor n.d.)

*P7. Owner and Address:
Brethren Hillcrest Homes
2705 Mountain View Drive
La Verne, CA 91705-4313

*P8. Recorded by: (Name, affiliation, and address)
Casey Tibbet, M.A.
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, CA 92507

*P9. Date Recorded:
October 8, 2024

*P10. Survey Type: (Describe) Intensive-level CEQA compliance

*P11. Report Citation: (Cite survey report and other sources, or enter "none.")

*Attachments: ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 3CS

***Resource Name or #** (Assigned by recorder) 2712 Park Avenue

B1. Historic Name:
B2. Common Name:
B3. Original Use: Single-family residence **B4. Present Use:** Single-family residence
***B5. Architectural Style:** Minimal Ranch
***B6. Construction History:** (Construction date, alterations, and date of alterations)

1950 – Permit issued to owner/builder, Otto Raley, for a new one-story, six-room, stucco house with a wood shingle roof.
1961 – Permits issued to owner O.V. Riley to convert a closet into a bathroom.
197(?) – Permit issued to owner Richard L. Hart to reroof residence.
1986 – Permits issued to owners Richard and Linda Hart to extend the family room (90 square feet) and to install a wood-burning stove in the family room.
1991 – Permit issued to owners Dick and Linda Hart for copper re-piping.
1994 – Permit issued to owner Richard L. Hart to construct a roof over a slab in back of the existing garage.
1999 – Permit issued to owner Dick Hart to reroof house.
2007 – Plumbing permit issued to owner Richard Hart.

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** _____ **Original Location:** _____
***B8. Related Features:** Detached garage
B9a. Architect: None found **b. Builder:** Otto Raley (owner/builder)
***B10. Significance: Theme:** Post-World War II Recreation, Sub-Theme: Drag Racing **Area:** City of La Verne
Period of Significance: 1953-1954 **Property Type:** Single-family residence **Applicable Criteria:** CR 1 and 2
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

This property is eligible for listing in the California Register of Historical Resources (California Register) under Criteria 1 and 2 as the location where Oliver (Ollie) V. Riley invented the original Chrondek electronic timers used in the sport of drag racing. The first timer was reportedly developed at his kitchen table after work hours and on weekends, and the first timers for sale were manufactured in his garage at 2712 Park Avenue. The Chrondek timer provided a reliable, accurate, consistent, and exact way to time the racers; it legitimized the sport and was a major factor in its early success. The period of significance is 1953 to 1954. This encompasses the timeframe when Ollie invented and manufactured the Chrondek timers in his home. The property is a "historical resource" for purposes of the California Environmental Quality Act (CEQA).

Historic Overview. In 1774, an expedition of nonnative people on their way to San Francisco used the mission trail (now Arrow Highway) to cross the Pomona Valley and the area that is now La Verne (La Verne Historical Society n.d.). Six decades later, after Mexico gained control of California, the area was part of the 1837 Rancho San Jose land grant that was given to Ygnacio Palomares and Ricardo Vejar (Anonymous 2018). In 1852, after the United States gained control of California, Palomares and Vejar filed a claim for the rancho, which was patented in 1875 (Ibid.). Palomares and Vejar used the lands primarily for sheep and cattle operations, as well as growing crops, until the severe drought in the mid-1860s, which decimated the sheep and cattle industries (Ibid.; Brackett 1920). In 1864, Palomares died and Vejar lost his share of the rancho to foreclosure (Ibid.). In the following years, with the valley economy in near ruin, the ranchos began to disintegrate, and the livestock and grain industries began being replaced by grape crops and, later, olive groves (Brackett 1920; Dumke 1991). *See Continuation Sheet*

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**
See Continuation Sheet

B13. Remarks:

***B14. Evaluator:** Casey Tibbet, M.A., LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, CA 92507

***Date of Evaluation:** November 2024

(Sketch Map with north arrow required.)

Refer to Location Map

(This space reserved for official comments.)

***B10. Significance:** (continued from page 2)

In the late 1860s and 1870s, large sheep and cattle ranches began transitioning to small farms and more intensive agricultural development. In 1876, the Southern Pacific Railroad completed a line from San Francisco to Los Angeles and soon railroads were branching out across southern California (Landis 2010). This was followed by "extensive advertising and publicity campaign[s]," which helped create an unprecedented land boom in the 1880s (Dumke 1991:28). In 1887, "Lordsburg was one of 25 settlements established" along Atchison, Topeka and Santa Fe Railway's (Santa Fe) San Bernardino to Los Angeles line (City of La Verne 1992:3).

Named for its founder, Isaac Wilson Lord, Lordsburg (now La Verne) boasted a large hotel (1888) and parcels of land for sale, but the community experienced one of the few failures of attempted land development in southern California when the boom went bust shortly after the town was founded (Heckman 2000; City of La Verne 1992). No paying guests ever stayed in the 130-room, Queen Anne-style hotel, which was located approximately 1 mile southeast of the subject property (La Verne Historical Society n.d.). In 1889, the Santa Fe brought in one of its most successful tour conductors, George McDonaugh, in an effort to generate interest in some of the struggling southern California towns along its routes (La Verne Historical Society n.d.; City of La Verne 1992). McDonaugh, who had worked in the Midwest and had helped settle German Baptist Brethren in Kansas and Texas, began advertising free tours in the *Gospel Messenger,* which was commonly read in Brethren homes (City of La Verne 1992). In 1889, M.M. Eshelman toured Lordsburg and McDonaugh convinced him that the town would be suitable for a colony and a college (City of La Verne 1992:4). In 1890, Eshelman and other Brethren settled in Lordsburg, and after 1 year, approximately 100 members had relocated to the community (Ibid.). That same year (1890), the first navel oranges were planted in Lordsburg and over the next several decades the citrus industry would become the dominant economic force in the area (City of La Verne 1992).

While the citrus industry was growing, so was the college. In 1891, the Brethren opened Lordsburg College in Lord's hotel and were successful in attracting a sufficient number of settlers from their sect to establish a congregation and sustain the community (Heckman 2000). After 10 years, the college closed for a year (1900–1901) but reopened in 1902 under a new president who made expansion his primary goal (Wilson Library 1991). The area had grown enough that, in 1905, Bonita Union High School (now Damien High School) was opened (approximately 1 mile southwest of the subject property), serving the communities of San Dimas and Lordsburg (Tearnen and Bricker 1998). By 1908, the college had full ownership of the hotel and land adjacent to it and, in 1918, the first new building, a women's dormitory, was constructed (Wilson Library 1991). In 1917, after the death of Isaac Lord, the college and Lordsburg were renamed La Verne (Heckman 2000). The last service was held in the old hotel in 1926, ending the use of that building by the college (Wilson Library 1991). Later, the hotel was torn down, and the materials were reused in other buildings on campus and throughout the community (Wilson Library 1991).

Citriculture was the economic base of the community until the 1940s, when the local citrus industry began to decline due to an unknown blight. After World War II (WWII), the groves began to give way to residential development, and the community truly became a college town (City of La Verne 2018). By 1953, the subject residence and a few other homes had been built on both sides of Park Avenue between Elmcrest Street and 6th Street, and a small housing tract had been developed north of Elmcrest Street (NETR var.). However, into the 1990s, many reminders of the citrus heritage remained, most notably in the form of old packinghouses along Arrow Highway (City of La Verne 1992). The original commercial center around D Street and First Street still has numerous historic-period buildings and the city is filled with early 20th century homes.

Postwar Recreation, Sub-theme: Drag Racing. From about 1950 through the mid-1970s, the average income of the American worker rose by 50 percent, and the middle class grew and prospered (Randl 2004:32). With more disposable income and more leisure time (thanks in part to the nearly universal 40-hour work week), the demand for recreational activities grew. A new leisure industry consisting of magazine editors, builders, realtors, and sporting goods and vehicle manufacturers emerged (Randl 2004). Between 1940 and 1970, the number of paid holidays and vacation days had more than doubled for most workers and Saturdays were no longer part of the work week. Recreation was America's new hobby, and the car culture led the way.

The postwar period saw resurgence in the popularity of hot rodding and drag racing. "By 1950, hot rodders who had been racing in dry lake beds were taking to the streets," sometimes injuring or killing themselves or others (Allen 2008). In those days, if you were a hot rodder, it was the same as being in a gang today (Ibid.). Nearby Pomona had its share of illegal street racers, but it also had a "car-loving" police chief (Ralph Parker) and a young motorcycle sergeant named Bud Coons who was a car enthusiast (Ibid.). Parker and Coons were also interested in safety, and, with this in mind, Coons began organizing rally runs and shows and barbeques for racers (Ibid.). In 1951, Chief Parker, Coons, and the Lions Club approached the Pomona fairgrounds with the idea of setting aside an area for drag racing (Ibid.). Soon street racers had a legal straightaway and complaints about speeding, as well as deaths from speeding, dropped dramatically (Ibid.). This success prompted the Federal Bureau of Investigation (FBI) to send a bulletin to other jurisdictions regarding the Pomona approach (Ibid.). The same year (1951), Wally Parks founded the National Hot Rod Association (NHRA) with the goal of promoting safety (Parks 2008). In 1937, Parks was a founding member of the 1937 Southern California Timing Association (SCTA), which was focused on conducting land speed events. Parks also was involved in the first Hot Rod Show in America presented by SCTA in 1948, the introduction of *Hot Rod Magazine* in 1948, the opening of Bonneville Salt Flats in Utah (*see Continuation Sheet*)

***B10. Significance:** (continued from page 3)
for hot rod speed trials in 1949, and was editorial director for all of Bob Petersen's magazines (*Hot Rod Magazine* 2009). As early as 1972, Parks began receiving awards for his participation in automotive sports, including Man of the Decade (1962–1972 by *Popular Hot Rodding* magazine) and Man of the Year (1973 by Specialty Equipment Marketing Association [SEMA]) (Ibid.). Among his myriad awards, in 1992, he was "drag racing's first inductee into the International Motorsports Hall of Fame" in Talladega, Alabama, and in 1993 he was "inducted into the Motorsports Hall of Fame in Novi, Michigan" (Ibid.:2).

"On April 11–12, 1953, the NHRA held its first sanctioned event, the Southern California Championship Drag Races, at Pomona Raceway, located at a far corner of the grounds [less than two miles south of the subject residence]. Over the weekend, 375 cars ran 850 timed races" (Fairplex 2010:77). With a first-class drag racing facility and supervised races, drag racing became a true sport (Parks 2008). In 1961, the "NHRA held its inaugural Winternationals at Pomona Raceway in February before the largest single-day audience in the brief history of drag racing" (Fairplex 2010:77).

Drag racing might never have achieved the stature it has without O. "Ollie" V. Riley (Rickman 1969). Ollie "is the man who built the [Chrondek] timers that made the sport of drag racing the exciting, exacting, and competitive science it is today [1969]" (Ibid.). In 1953, Bud Coons attended a meeting at which Ollie gave a talk on the low-airspeed timer he had developed for General Electric; after the meeting, Bud asked Ollie if he could build a timer for hot rods (Ibid.). Because Ollie knew nothing about hot rods, Bud introduced him to Wally Parks for a crash course. The first electronic timer was born out of hours spent at Ollie's kitchen table putting together circuits with Bud after working all day at Convair (Ibid). This first timing unit was launched into drag racing during a 3-month-long national tour designed to promote the sport. The tour was a huge success, and after only 6 weeks, orders for the new timing unit came pouring in (Ibid.). "By the early fall of '54, Ollie had orders for $8,000 worth of timers, and no production…He quit his job at Convair and began producing Chrondek timers in the family garage [at 2712 Park Avenue]. This lasted all of six weeks" before he moved the operation to a larger space in La Verne, the former First National Bank building at the corner of D Street and Second Street, less than 1 mile southeast of his house (Ibid.; Huerta 2011). The building was later replaced by a Circle K (Huerta 2011). He also leased a building for the Chrondek Company near the southwest corner of D and Second streets, where there is now University of La Verne housing (Huerta 2011; *Progress-Bulletin* 1957). Four years later, he expanded again, this time in Costa Mesa (Rickman 1969). This first timer evolved into the completely automated robot known as the Chrondek timer, which by 1969 was the top time authority in drag racing (Rickman 1969). By 1969, Ollie had developed a print-out time for NHRA and several other products including an accelerometer, a fuel test kit, "fast draw" timers, timed targets for firing range target systems, and specialized timers for Ford, Chevrolet, Firestone, Goodyear, Ski-doo Snowmobile Company, and Edwards Air Force Base (Ibid.).

"The impact of Ollie's drag racing inventions spread nationally. 'This is a national competition because of this inventor,' Gary Colby says. 'I don't think there would be drag racing today without Oliver's inventions. His innovation was ahead of his time,' says Darren Davis 'California Kid' drag racer. The time devices validated old records in the modern era and allowed for future NHRA success. Ollie's inventions can be seen at the NHRA museum in Pomona, Calif. 'The museum keeps the memory of these cars and inventions,' says Monique Valadez, NHRA museum [Wally Parks NHRA Motorsport Museum] manager" (Huerta 2011).

People Associated with this Residence. This residence was built in 1950 by owner Otto Raley (City of La Verne var.). Otto, a driver with the public school system, and his wife Opal are listed at this address in 1951, but by 1952, they are listed nearby at 1736 Elmcrest Street (Ancestry.com var.). From about 1952 to at least 1963, Oliver V. and Garnet Riley lived at this address (*Progress-Bulletin* 1957 and 1963). Oliver Virgil Riley was born in 1918 in Kansas (Ancestry.com var.). In 1940, he was a senior in engineering at Kansas State College when he married Garnett North Wilson, who was a nurse (*Manhattan Republic* 1940). In 1950, the couple and their three sons (Tommy, Gary, and Patrick) were living in Kansas, where Oliver was employed as a professor of electrical engineering at Kansas State College (Ibid.). Around 1952, the family moved to 2712 Park Avenue in La Verne (*Progress-Bulletin* 1957). As discussed above, in 1953, Ollie met Bud Coons and was introduced to the sport of drag racing, which led to his invention of the sport's first electronic timer. In 1954, Ollie left his job at Convair to start producing Chrondek timers in his garage and then in a building at 2nd Street and D Street in La Verne. The Rileys remained at 2712 Park Avenue at least into 1963 (*Progress-Bulletin* 1963). Around 1974, Richard L. and Linda C. Hart moved into the residence (Ancestry.com var.). The Harts lived in the residence for approximately 50 years (Townsend 2024). No information was found for the period between 1963 and 1974.

Architectural Style. The Minimal Ranch style is a subset of the Traditional Ranch style, which was immensely popular and is often considered the "quintessential Ranch house" (City of Los Angeles 2015:17). Buildings designed in the Traditional Ranch style generally have a rusticated appearance, are typically one-story, and include elements of working ranches such as wide eaves, a combination of exterior claddings, and large picture windows (Architectural Resources Group 2016). The Minimal Ranch is a pared-down version of the Traditional Ranch, with a smaller footprint and fewer architectural details, such as wall materials and ornamentation. They were typically built in accordance with the Federal Housing Administration (FHA) guidelines to be eligible for federal home (*see Continuation Sheet*)

***B10. Significance:** (continued from page 4)
loans. Because of their modest character and lack of architectural details, minor alterations to these residences often have a larger impact than they would on a more articulated design.

Significance Evaluation. This property is being evaluated for significance in compliance with CEQA using the California Register criteria. Although the City has no historic preservation ordinance or criteria for significance, it identifies and protects historic resources by designating landmark nominations via City Council resolution and creating Specific Plan areas subject to design review.

Criterion 1: It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States. This residence is associated with the post-WWII residential boom that made a significant contribution to the broad patterns of local, regional, and even national history. "More than 40 million housing units were built in the United States during the 30 year period following the end of WWII, and at least 30 million of these were single-family houses" (California Department of Transportation [Caltrans] 2011:2). These homes were typically modest in size and style and constructed in a short time as part of large tracts marketed to the working class. "The fundamental unit for postwar housing is not the individual house, but the tract, or a single construction phase within a larger tract or new community," and typically a single home would not be individually significant in this context (Caltrans 2011:121). As with most homes associated with this historic context, individually this residence is unimportant and insignificant.

The residence and garage are also associated with the theme of postwar recreation and the sub-theme of drag racing. They are the location where the Chrondek electronic timer was invented and first manufactured by engineer, Ollie V. Riley. The first timer was developed at his kitchen table after work hours and on weekends and the first timers for sale were manufactured in his garage. The Chrondek timer provided a reliable, accurate, consistent, and exact way to time drag racers; it legitimized the sport and was a major factor in its early success. The residence and garage are significant under this criterion.

Criterion 2: It is associated with the lives of persons important to local, California, or national history. This residence is associated with Ollie V. Riley, an engineer who invented the timing mechanisms for drag racing in 1953. Known as the Chrondek, the electronic timers provided a reliable and accurate way to time races and gave legitimacy to the fledgling sport. The first timer was developed at his kitchen table, and the first orders for it were manufactured in his garage at 2712 Park Avenue. Without these timers, the sport may never have achieved the stature it has now. After 6 weeks, the manufacturing process was moved out of his garage to a location at 2nd Street and D Street in La Verne. The building that housed the Chrondek Company does not appear to be extant. The residence is significant under this criterion.

Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values. This residence embodies characteristics of the Minimal Ranch style, but the alterations (windows and door) have compromised its integrity of design, materials, and workmanship. It does not possess high artistic values and does not rise to a level beyond the ordinary. It is not the work of a master architect or builder. It is not significant under this criterion.

Criterion 4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation. This residence was built in 1950 using common methods and materials. It does not have the potential to yield information important to the prehistory or history of the local area, State, or nation. It is not significant under this criterion.

Character-defining Features. Character-defining features (CDFs) are those features that are necessary for the property to retain integrity and through that integrity convey its significance. In this case, the most important features are those that identify the property as dating to its period of significance (1953–1954). They are the features that, in combination, would cause a historical contemporary to recognize it as it exists today. Because the house has sustained alterations, many of the features that would have been CDFs, such as the original windows and doors, are no longer extant. The CDFs include the scale, massing, and spatial relationships of the buildings and the design of the façade (i.e., window, door, and porch placements and stucco siding).

Integrity. There are seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. The property does not need to retain all seven aspects of integrity, but it must retain enough to convey its significance. For properties that are significant for their associations with events or people, a basic integrity test is whether a historical contemporary would recognize the property as it exists today. Under these criteria, integrity of design and workmanship are often not as important as other aspects of integrity. *See Continuation Sheet.*

***B10. Significance:** (continued from page 5)

Location. The residence and garage are in their original locations and retain their original spatial relationships. Integrity of location is high.

Design. The scale and massing of the residence has not been changed; however, a covered patio has been added to the rear of the garage. The covered patio is a minor and inconsequential change to the scale and massing of the garage because it is only visible from the backyard of the residence. The placement of the façade windows, door, and front porch have not changed and the replacement windows, door, and added balustrade are relatively minor changes in terms of design. The modern garage door is also a minor design alteration. Although these alterations have compromised integrity of design to some degree, the residence would likely still be recognizable to a historical contemporary. Integrity of design is moderate.

Setting. Based on historic aerial photographs, in 1953 this area was in the process of transitioning from agricultural uses to residential neighborhoods. Today, it is fully developed with residences, a park, a school, and a few commercial businesses. Although development has intensified considerably since 1953, the immediate area retains its residential character and still has many historic-period homes. Integrity of setting is moderate.

Materials. As previously noted, the windows, front door, balustrade flanking the front steps, and garage door are not original. In addition, the wood shingle roof has been replaced with composition shingles. Integrity of materials is moderate.

Workmanship. The workmanship associated with this property does not rise to a level beyond the ordinary, but it appears to retain a high degree of integrity.

Feeling. The combination of the non-original windows, front door, balustrade, garage door, and roofing material have weakened the historic character of the property. Although the property does not convey a strong sense of stepping back in time, it retains enough CDFs to convey its association with the 1950s. Integrity of feeling is moderate.

Association. The residence and garage are the places where the Chrondek electronic timer was invented and originally manufactured. The property retains a high degree of integrity of association.

In summary, the property retains a moderate degree of integrity and would very likely be recognizable to a historical contemporary.

***B12. References:** (continued from page 2)

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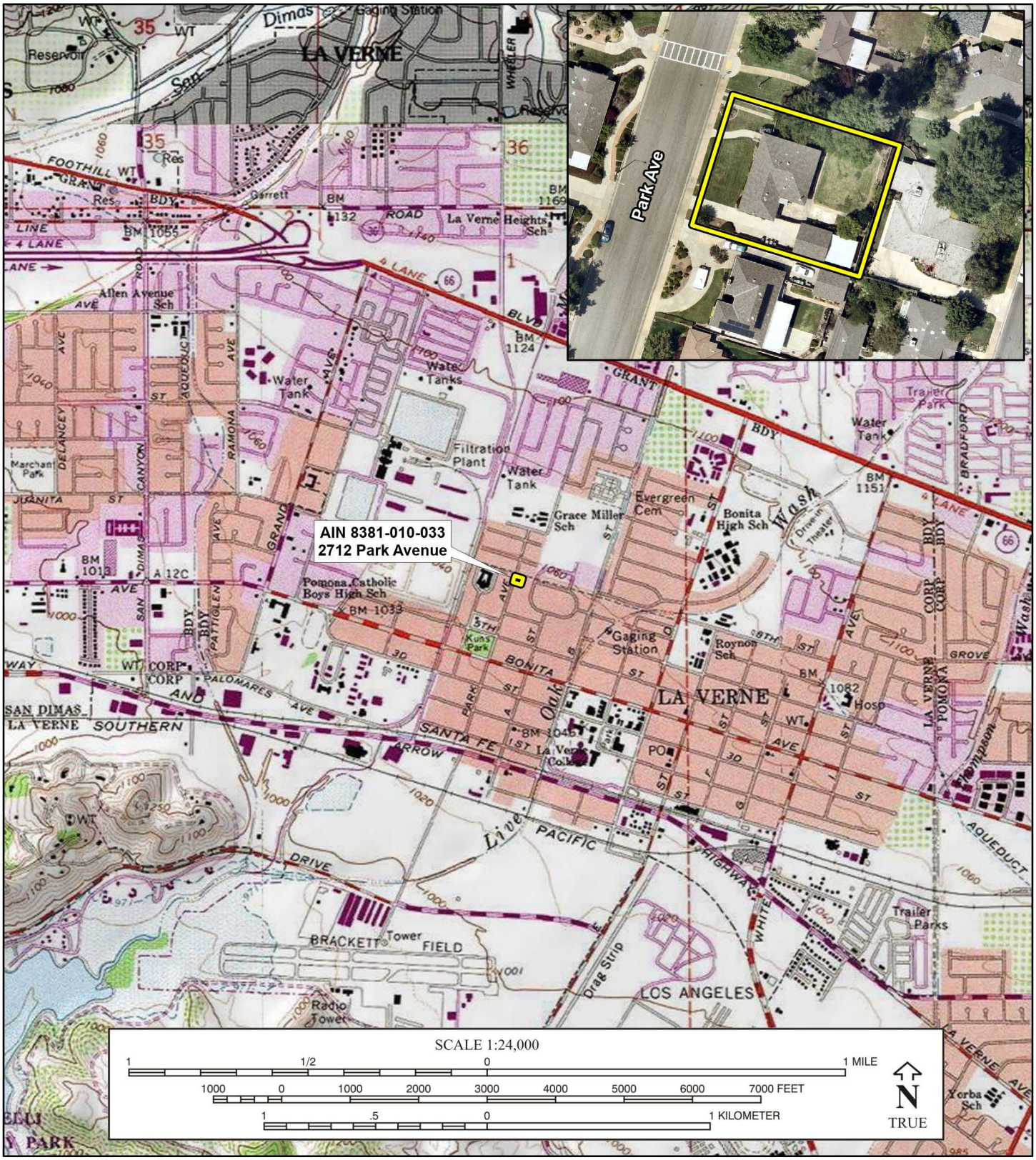
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State of California - Resource Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # _____
HRI # _____
Trinomial _____

Page 8 of 8 *Resource Name or 2712 Park Avenue

*Map Name: USGS 7.5' Quad, San Dimas; Nearmap *Scale: 1:24000 *Date of Map: 1981; 2024



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DPR 523J (1/95)

*Required Information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

 Resource Name or #: 2730 Park Avenue

P1. Other Identifier: _____

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** Los Angeles **and** (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** *San Dimas, CA* **Date:** 1981 **T**__; **R**__; S.B.**B.M.**

c. Address: 2730 Park Avenue **City:** La Verne **Zip:** 91750

d. UTM: Zone: 11; _____mE/ _____mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate): AIN 8381-010-028

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This one-story Minimal Ranch residence is situated on the east side of Park Avenue in a residential neighborhood that includes modern and historic-period (50 years of age or older) single- and multi-family homes. The wood-framed residence is irregular in plan and rests on a raised foundation. It has a moderately pitched, cross-hipped roof sheathed with composition shingles that has a brick chimney and narrow eaves. The exterior walls are covered with stucco and the façade has brick skirting. The west-facing, asymmetrical façade has a bay window with modern, single-hung windows flanking a fixed window; recessed entry with a wood and glass door accessed by a raised, concrete stoop, accented with seven angled vertical boards; a metal-framed sliding window; a gated breezeway; and an attached garage with a modern door. Fenestration in the side and rear elevations consists of metal-framed, single-hung, and sliding windows. The rear elevation also includes an addition to the garage, a modern door, an attached patio cover, and a raised, covered porch. The backyard has large, freestanding bird cages and a brick fireplace, grill, countertops, and a shed all sheltered beneath a freestanding canopy. The property includes mature trees and appears to be in at least fair condition. Integrity has been compromised by non-original fenestration.

***P3b. Resource Attributes:** (Original uses) HP2-Single-family property

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) Façade, view east (10/8/24)

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1952 (City of La Verne var.)

***P7. Owner and Address:**
Hillcrest
2705 Mountain View Drive
La Verne, CA 91750-4313

***P8. Recorded by:** (Name, affiliation, and address)
Casey Tibbet, M.A.
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, CA 92507

***P9. Date Recorded:**
October 8, 2024

***P10. Survey Type:** (Describe) Intensive-level CEQA compliance

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")

***Attachments:** ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) 2730 Park Avenue

B1. Historic Name:
B2. Common Name:
B3. Original Use: Single-family residence **B4. Present Use:** Single-family residence
***B5. Architectural Style:** Minimal Ranch
***B6. Construction History:** (Construction date, alterations, and date of alterations)

1952 – Permit issued to owner Reliable Builders, Inc. for a new 1,450-square-foot, one-story, six-room dwelling with stucco walls and a shake roof and a garage. Architect/engineer is listed as Roy Stuhley of Reliable Builders, Inc.
1992 – Permits issued to owner Harold Peck to install a 12 x 22-foot manufactured awning at the rear of the residence and to reroof the residence with composition shingle.
1993 – Permit issued to contractor Kevin Becker for a heating, ventilation, and air conditioning (HVAC) system.
1994 – Permit issued to owners Mr. and Mrs. Peck for a new patio cover (enclosed).

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** _____ **Original Location:** _____
***B8. Related Features:**

B9a. Architect: Roy Stuhley, Reliable Builders, Inc. **b. Builder:** Reliable Builders, Inc.
***B10. Significance: Theme:** _____ **Area:** _____
Period of Significance: _____ **Property Type:** _____ **Applicable Criteria:** NA
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

This 1952 Minimal Ranch-style residence does not meet the criteria for listing in the California Register of Historical Resources (California Register) and there are no local criteria for significance. It is not a "historical resource" for purposes of the California Environmental Quality Act (CEQA).

Historic Overview. In 1774, an expedition of nonnative people on their way to San Francisco used the mission trail (now Arrow Highway) to cross the Pomona Valley and the area that is now La Verne (La Verne Historical Society n.d.). Six decades later, after Mexico gained control of California, the area was part of the 1837 Rancho San Jose land grant that was given to Ygnacio Palomares and Ricardo Vejar (Anonymous 2018). In 1852, after the United States gained control of California, Palomares and Vejar filed a claim for the rancho, which was patented in 1875 (Ibid.). Palomares and Vejar used the lands primarily for sheep and cattle operations, as well as growing crops, until the severe drought in the mid-1860s, which decimated the sheep and cattle industries (Ibid.; Brackett 1920). In 1864, Palomares died and Vejar lost his share of the rancho to foreclosure (Ibid.). In the following years, with the valley economy in near ruin, the ranchos began to disintegrate, and the livestock and grain industries began being replaced by grape crops and, later, olive groves (Brackett 1920; Dumke 1991). *See Continuation Sheet*

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**

Ancestry.com
Var. Various records including city directories, voter registration, Census data, and military information accessed online in October 2024 at: https://www.ancestry.com/search/.

Anonymous
2018 Rancho San Jose. Accessed online in June 2018 at: https://en.wikipedia.org/wiki/Rancho_San_Jose.

See Continuation Sheet

B13. Remarks:

***B14. Evaluator:** Casey Tibbet, M.A., LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, CA 92507

***Date of Evaluation:** October 2024

(Sketch Map with north arrow required.)

Refer to Location Map

(This space reserved for official comments.)

***B10. Significance:** (continued from page 2)

In the late 1860s and 1870s, large sheep and cattle ranches began transitioning to small farms and more intensive agricultural development. In 1876, the Southern Pacific Railroad completed a line from San Francisco to Los Angeles and soon railroads were branching out across southern California (Landis 2010). This was followed by "extensive advertising and publicity campaign[s]," which helped create an unprecedented land boom in the 1880s (Dumke 1991:28). In 1887, "Lordsburg was one of 25 settlements established" along Atchison, Topeka and Santa Fe Railway's (Santa Fe) San Bernardino to Los Angeles line (City of La Verne 1992:3).

Named for its founder, Isaac Wilson Lord, Lordsburg (now La Verne) boasted a large hotel (1888) and parcels of land for sale, but the community experienced one of the few failures of attempted land development in southern California when the boom went bust shortly after the town was founded (Heckman 2000; City of La Verne 1992). No paying guests ever stayed in the 130-room, Queen Anne-style hotel, which was located approximately 1 mile southeast of the subject property (La Verne Historical Society n.d.). In 1889, the Santa Fe brought in one of its most successful tour conductors, George McDonaugh, in an effort to generate interest in some of the struggling southern California towns along its routes (La Verne Historical Society n.d.; City of La Verne 1992). McDonaugh, who had worked in the Midwest and had helped settle German Baptist Brethren in Kansas and Texas, began advertising free tours in the *Gospel Messenger* which was commonly read in Brethren homes (City of La Verne 1992). In 1889, M.M. Eshelman toured Lordsburg and McDonaugh convinced him that the town would be suitable for a colony and a college (City of La Verne 1992:4). In 1890, Eshelman and other Brethren settled in Lordsburg, and after 1 year, approximately 100 members had relocated to the community (Ibid.). That same year (1890), the first navel oranges were planted in Lordsburg and over the next several decades the citrus industry would become the dominant economic force in the area (City of La Verne 1992).

While the citrus industry was growing, so was the college. In 1891, the Brethren opened Lordsburg College in Lord's hotel and were successful in attracting a sufficient number of settlers from their sect to establish a congregation and sustain the community (Heckman 2000). After 10 years, the college closed for a year (1900–1901) but reopened in 1902 under a new president who made expansion his primary goal (Wilson Library 1991). The area had grown enough that, in 1905, Bonita Union High School (now Damien High School) was opened (approximately 1 mile southwest of the subject property) serving the communities of San Dimas and Lordsburg (Tearnen and Bricker 1998). By 1908, the college had full ownership of the hotel and land adjacent to it and, in 1918, the first new building, a women's dormitory, was constructed (Wilson Library 1991). In 1917, after the death of Isaac Lord, the college and Lordsburg were renamed La Verne (Heckman 2000). The last service was held in the old hotel in 1926, ending the use of that building by the college (Wilson Library 1991). Later, the hotel was torn down, and the materials were reused in other buildings on campus and throughout the community (Wilson Library 1991).

Citriculture was the economic base of the community until the 1940s, when the local citrus industry began to decline due to an unknown blight. After World War II (WWII), the groves began to give way to residential development, and the community truly became a college town (City of La Verne 2018). By 1953, the subject residence and a few other homes had been built on both sides of Park Avenue between Elmcrest Street and 6th Street, and a small housing tract had been developed north of Elmcrest Street (NETR var.). However, into the 1990s, many reminders of the citrus heritage remained, most notably in the form of old packinghouses along Arrow Highway (City of La Verne 1992). The original commercial center around D Street and First Street still has numerous historic-period buildings, and the city is filled with early 20th century homes.

People Associated with this Residence. This residence was built in 1952 by Reliable Builders, Inc.; Roy Stuhley, President of Reliable Builders, was listed as the architect (City of La Verne var.; *Progress-Bulletin* 1951a). In 1951, after building five subdivisions in other areas, the company proposed two subdivisions in La Verne. The first was 16 units at 4th and D streets and the second was 56 units along the northern extension of Park Avenue (*Progress-Bulletin* 1951b). The North Park Avenue tract was called La Verne Highlands and was owned by the Hanawalt family (*Progress-Bulletin* 1951c). It was located a few lots north of the subject property along Elmcrest and Maplewood streets (Tract No. 17459 1951). An online search of Los Angeles County newspapers found several mentions of Reliable Builders, Inc. from 1951 into 1953 and many additional mentions of Reliable Builders as late as 1977. Mr. Stuhley is routinely referred to as a builder or developer in various news articles; he does not appear to have been a trained architect. The last mention of him found in conjunction with a development project was in 1970 (*Los Angeles Times* 1970).

The earliest occupant found was Chester Glenn Van Dusen in 1953 (*Progress-Bulletin* 1953). Research indicates Mr. Van Dusen lived at this address with his wife Gladys until his death in 1959 (*Progress-Bulletin* 1959). He was born in 1904 in Kansas and moved to California as a young man (Ibid.). From 1928 to 1950, he worked as a pressman in the commercial printing department of the *Progress-Bulletin* (Ibid.). From 1950 until his death in 1959, he worked for the Day Printing Corporation (Ibid.).

In 1960, Harold R. and Velda Peck were listed at 2730 Park Avenue (*Progress-Bulletin* 1960; Legacy.com 2024). Harold Ray Peck was born in June 1924 in Missouri, but by age 5 was living with his family in Pomona, California (Ancestry.com var.). During WWII, Harold was an armorer gunner on a B-24 doing reconnaissance missions in southeast Asia (Legacy.com 2024). He received an Associate of Arts from Mt. San Antonio College (Mt. SAC); Bachelor of Science and master's degrees in Agricultural Sciences from California Polytechnic State University, San Luis Obispo; and a Counseling Credential from Loyola (*see Continuation Sheet*)

***B10. Significance:** (continued from page 3)
University (Ibid.). In 1952, he became an agriculture instructor at Mt. SAC (*Los Angeles Times* 1967). According to his 2010 obituary, during his 37 years at Mt. SAC, "he was responsible for the administration of the working farm, created a bird sanctuary, and served as Dean of Vocational Sciences" (Legacy.com 2024). He "raised prize-winning birds and was a renowned expert in the field of aviculture" (Ibid.). "He received numerous national and state honors including California Agriculture Teacher of the Year, Outstanding Professor Emeritus at Mt. San Antonio College, induction into the Agriculture Hall of Fame, and appointment to the position of Chair of the United States Department of Education, Commission on Agricultural Post Secondary Curriculum. Harold was a popular expert guest on television shows, appearing 21 times" (Ibid.). The Pecks had three children, son Terry and daughters Sandra and Susan (Ibid.). The Pecks were listed at this address at least into the 1990s (Ancestry.com var.). Research, including outreach to the Mt. SAC Agricultural Sciences Department and a review of the notice of Mr. Peck's death in the horticultural department's newsletter, was unable to confirm the achievements listed in Mr. Peck's obituary (Lannom 2011).

Architectural Style. The Minimal Ranch style is a subset of the Traditional Ranch style, which was immensely popular and is often considered the "quintessential Ranch house" (City of Los Angeles 2015:17). Buildings designed in the Traditional Ranch style generally have a rusticated appearance, are typically one-story, and include elements of working ranches, such as wide eaves, a combination of exterior claddings, and large picture windows (Architectural Resources Group 2016). The Minimal Ranch is a pared-down version of the Traditional Ranch, with a smaller footprint and fewer architectural details, such as wall materials and ornamentation. They were typically built in accordance with the Federal Housing Administration (FHA) guidelines in order to be eligible for federal home loans. Because of their modest character and lack of architectural details, minor alterations to these residences often have a larger impact than they would on a more articulated design.

Significance Evaluation. This property is being evaluated for significance in compliance with CEQA using the California Register criteria. Although the City has no historic preservation ordinance or criteria for significance, it identifies and protects historic resources by designating landmark nominations via City Council resolution and creating Specific Plan areas subject to design review.

Criterion 1: It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States. This residence is associated with the post-WWII residential boom that made a significant contribution to the broad patterns of local, regional, and even national history. "More than 40 million housing units were built in the United States during the 30 year period following the end of World War II, and at least 30 million of these were single-family houses" (California Department of Transportation [Caltrans] 2011:2). These homes were typically modest in size and style and constructed in a short time as part of large tracts marketed to the working class. "The fundamental unit for postwar housing is not the individual house, but the tract, or a single construction phase within a larger tract or new community" and typically a single home would not be individually significant in this context (Caltrans 2011:121). As with most homes associated with this historic context, individually this residence is unimportant and insignificant.

Criterion 2: It is associated with the lives of persons important to local, California, or national history. The residence was occupied by Harold R. Peck and members of his family from 1960 into the 1990s. According to Mr. Peck's obituary, he had many achievements during his 37 years as an agriculture instructor at Mt. San Antonio College. However, research was unable to confirm much of what was stated in the obituary and no evidence of any important contributions to the field of agricultural sciences by Mr. Peck was found. The residence is not significant under this criterion.

Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values. This residence embodies characteristics of the Minimal Ranch style, but the alterations (windows and door) have compromised its integrity of design, materials, and workmanship. It does not possess high artistic values and does not rise to a level beyond the ordinary. It is not the work of a master architect or builder. It is not significant under this criterion.

Criterion 4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation. This residence was built in 1952 using common methods and materials. It does not have the potential to yield information important to the prehistory or history of the local area, State, or nation. It is not significant under this criterion.

See Continuation Sheet

***B12. References:** (continued from page 2)

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Los Angeles Times
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1967 Instructor Honored by Association. July 16, page 215.
1970 Two Apartment Projects Slated. June 16, page 136.

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1953 Two Persons Hurt in Four Traffic Accidents Here. November 14, page 19.
1959 Former P-B Pressman Dies. August 26, page 17.
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See Continuation Sheet

***B12. References:** (continued from page 5)

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Tract No. 17459
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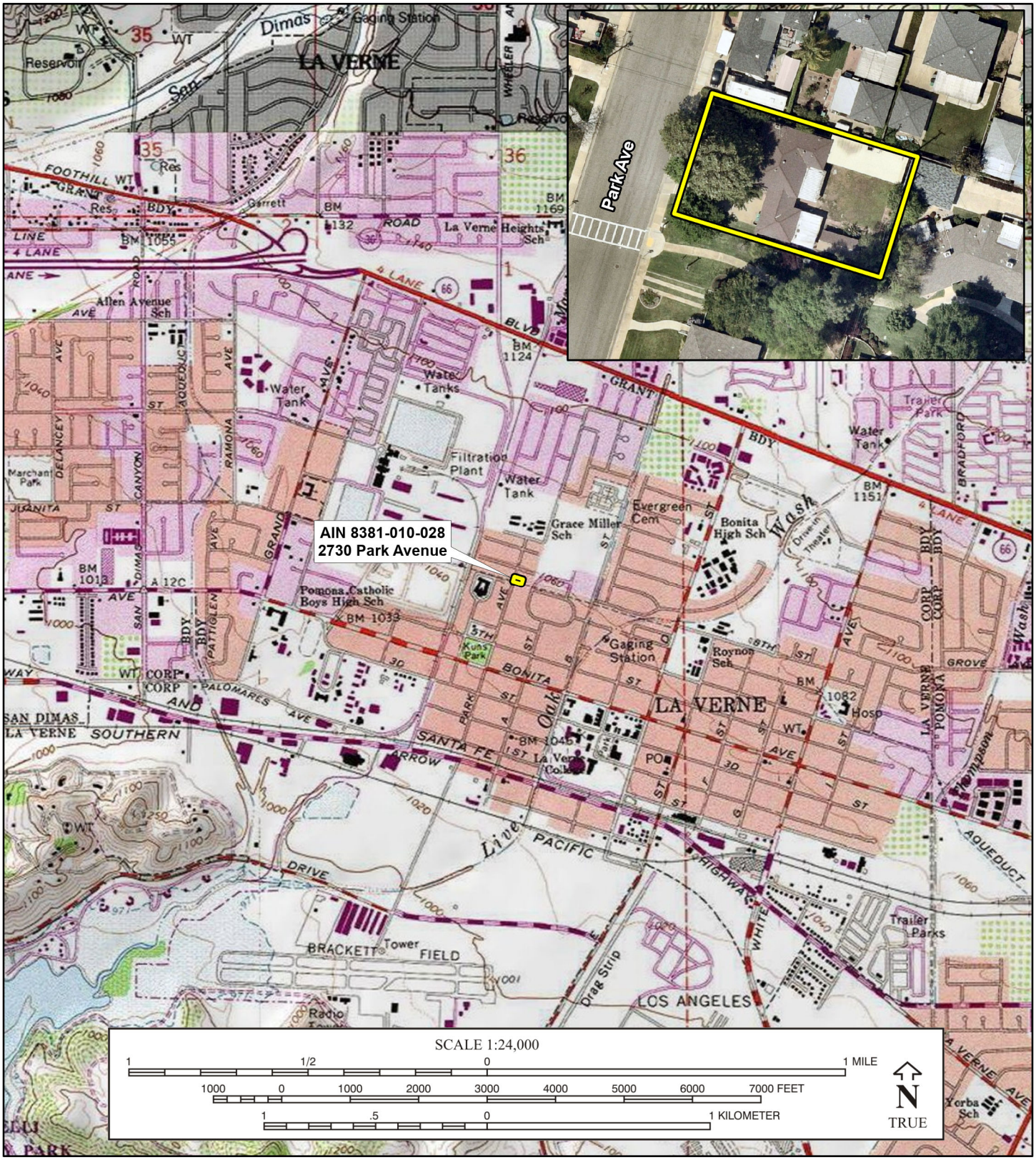
Wilson Library
1991 University of La Verne: A Centennial History. From the video archive of Bill and Charlotte Neill. Produced in 1991 as part of the celebration for the college's hundredth anniversary. Viewed online in July 2018 at: https://www.youtube.com/watch?v=hPJHtKHzgLs.

State of California - Resource Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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Trinomial _____

Page 7 of 7 *Resource Name or 2730 Park Avenue

*Map Name: USGS 7.5' Quad, San Dimas; Nearmap *Scale: 1:24000 *Date of Map: 1981; 2024



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DPR 523J (1/95)

*Required Information

RMA GeoScience
Every Project Matters | www.rmacompanies.com

June 12, 2024 RMA Project Number 07-240341-0

Hillcrest
2705 Mountain View Dr.
La Verne, CA 91750

Attention: Mike Townsend

Subject: Geotechnical Investigation
Gateway Project
Park Avenue and A Street
Le Verne, CA

Dear Mr. Townsend:

In accordance with your request, a geotechnical investigation has been completed for the proposed development at the above referenced property. The results of the investigation and testing are presented in the accompanying report, which includes a description of site conditions, results of our field exploration and testing, laboratory testing, conclusions, and recommendations. This report has been prepared for specific application to this project, in accordance with generally accepted geotechnical engineering practice.

We appreciate this opportunity to be of service to you. If you have any questions regarding this report, please do not hesitate to contact us at your convenience.

Respectfully submitted,

RMA GeoScience



Haiyan Liu, PE, C81463
Project Engineer

Mark Swiatek, CEG 1781
Principal Geologist

Distribution: (1) Addressee

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GEOTECHNICAL INVESTIGATION
GATEWAY PROJECT
PARK AVENUE & A STREET
LA VERNE, CALIFORNIA

For

Hillcrest
2705 Mountain View Dr
La Verne, CA 91750

June 12, 2024

Project No. 07-240341-0

RMA GeoScience
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Figure 4 Seismic Hazard Zone Map

APPENDICES

Appendix A	Field Investigation
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1.00 INTRODUCTION

1.01 Purpose

The purpose of the geotechnical investigation is to summarize the geotechnical and geologic conditions at the site and to assess their potential impact on the proposed development.

1.02 Scope of the Investigation

The general scope of this geotechnical investigation included the following:

- Review of published and unpublished geologic, seismic, groundwater, and geotechnical literature
- Examination of aerial photographs and topographic maps
- Review of State of California Alquist-Priolo Earthquake Fault Zone and Seismic Hazard maps
- Contacting of Underground Service Alert (USA) to locate onsite utility lines
- Logging, sampling, and backfilling of nine (9) hand auger borings.
- Laboratory testing of representative soil samples
- Geotechnical evaluation of the compiled data
- Preparation of this report presenting our findings, conclusions, and recommendations

Our scope of work did not include a preliminary site assessment for the potential of hazardous materials onsite.

1.03 Site Location and Description

The Gateway project has two parts: Gateway North and Gateway South and would address the geographic division of Hillcrest East and West campuses. The location of newly purchased homes in the Gateway project includes 2692, 2712 and 2730 Park Avenue and 2675, 2677, 2781, and 2783 A Street. The existing house will be demolished and 9 units of one-story single-family dwellings will be constructed.

1.04 Site History

Based on review of aerial photographs and other information readily available online the following site history has been determined. The existing home areas were occupied by single-family residences with an orchard and vacant lands from as far back as the earliest aerial photographed reviewed from 1948. Residential structures at 2692 and 2704 Park Avenue were shown in aerial photography in 1948. Residential structures at 2712 and 2730 Park Avenue were shown in aerial photography in 1953. Residential structures at 2675, 2677, 2781, and 2783 A Street were shown in aerial photography in 1964.

1.05 Record Review Findings

Review of published geologic, seismic, groundwater, and geotechnical literature was performed for the site, and the information found was used to facilitate the writing of this investigation.

1.06 Planned Development

It is our understanding that the current Gateway project includes 9 new homes. The new residential structures will be one-story wood-frame construction with slab-on-grade foundations.

1.07 Investigation Methods

Our investigation consisted of office research, field exploration, laboratory testing, review and analysis of the compiled data, and preparation of this report. It has been performed in a manner consistent with generally accepted engineering and geologic principles and practices, and has incorporated applicable requirements of California Buildings Code. Definitions of technical terms and symbols used in this report include those of the ASTM International, the California Building Code, and commonly used geologic nomenclature.

Technical supporting data are presented in the attached appendices. Appendix A presents a description of the methods and equipment used in performing the field exploration and logs of our subsurface exploration. Appendix B presents a description of our laboratory testing and the test results. General Earthwork and Grading Specifications are presented in Appendix C. References are presented in Appendix D.

2.00 FINDINGS

2.01 Geologic Setting

The site is situated at the east end of the San Gabriel Valley between the San Jose Hills to the south and the San Gabriel Mountains to the north. The site lies on a broad alluvial fan that was formed from deposition of sediments emanating from San Dimas Canyon to the north. According to Dibblee (2002) the alluvial sediments are Pleistocene in age. A regional geologic map was presented in Figure 3.

The earth materials encountered during our investigation are described below. A full description of the earth materials encountered within each borehole is included on the boring logs, Appendix A.

2.02 Earth Materials

<u>Landscaping Lawn with Top Soils</u>

Landscaping grass with top soils were encountered in all nine (9) hand auger borings with thickness ranging from 12 inches to 18 inches thick. The top soils consisted of silty fine sand with trace gravel and clay. The top soils were moist to very moist.

Older Alluvium Deposits (Q_{oa})

The site is underlain by older alluvium which consists of light brown to dark brown with tan Silty Sand with gravel and clay and medium to coarse sand with gravel and silt. The soils were in a moist to very moist condition.

2.03 Expansive Soils

Based on our preliminary observations and laboratory data, the soils at shallow depths are expected to have an expansion index in the low range. Additional expansion index and plasticity index testing will be required at the completion of rough grading to verify the properties of the near surface soils.

2.04 Surface and Groundwater Conditions

Groundwater was not encountered in the boring excavated to a maximum depth of 15 feet. Surface water on the site is limited to precipitation falling directly on the ground surface and around buildings. There was no surface water encountered at the time of our investigation. Depth to historic high groundwater is greater than 100 feet below existing grade according to the Seismic Hazard Zone Report for the area (CDMG, 1998).

2.05 Faults

The proposed site is not located within an Alquist-Priolo Earthquake Fault Zone, and there are no known active faults on or immediately adjacent to the property. However, there are faults in close enough proximity to the site to cause moderate to intense ground shaking during the lifetime of the proposed development. Additionally, the site has experienced earthquake-induced ground shaking in the past and can be expected to experience further shaking in the future. The closest zoned fault is the Cucamonga section of the Sierra Madre fault zone, located approximately 6 miles to the northeast of the subject site.

2.06 Landslides

According to the California Geological Survey Seismic Hazard Zones Map for the area (1999) the site does not lie in a landslide hazard zone. Since the site is relatively flat and there are no nearby slopes earthquake-induced landsliding does not appear to be a hazard to proposed development.

2.07 Liquefaction

According to the California Geological Survey Seismic Hazard Zones Map (1999) the site does not lie in a liquefaction hazard zone. Liquefaction is a phenomenon where earthquake-induced ground vibrations increase the pore pressure in saturated, granular soils until it is equal to the confining, overburden pressure. When this occurs, the soil can completely lose its shear strength and enter a liquefied state. The possibility of liquefaction is dependent upon grain size, relative density, confining pressure, saturation of the soils, and intensity and duration of ground shaking. In order for liquefaction to occur, three criteria must be met: underlying loose, coarse-grained (sandy) soils, a groundwater depth of less than about 50 feet, and a potential for seismic shaking from nearby large-magnitude earthquake.

Depth to groundwater in the region of the site is greater than 100 feet below ground surface as discussed in Section 2.04 and the site soils are relatively stiff or dense, therefore the liquefaction hazard potential at the site is negligible. A map showing the potential liquefaction hazard zone is presented in Figure 4.

2.08 Historic Seismicity

The region of the subject site has experienced shaking from several earthquakes recorded back to 1812. The nearest large historic earthquake is the Northridge Earthquake that occurred in 1994, the epicenter of which is 49.7 miles from the site. Historic earthquakes with magnitudes of greater than or equal to 6.0 and have been epicentered within approximately 50 miles of the site, are summarized in the table below.

Large Historic Earthquakes

Earthquake Event	LAT. NORTH	LONG. WEST	DATE	DEPTH (km)	Quake Mag.	APPROX. DISTANCE mi [km]
Raymond	34.830	118.750	11/27/1852	0	7.0	26.4(42.5)
Tejon Pass	34.900	118.900	10/23/1916	0	6.0	34.4(55.3)
Sylmar	34.411	118.4	02/09/1971	8.4	6.4	34.6(55.6)
Long Beach	33.6170	117.967	3/11/1933	0	6.3	35.5(57.2)
Unnamed	35.637	118.583	07/23/1952	0	6.1	35.9(57.8)
Kern County	35.000	119.017	07/21/1952	0	7.7	41.5(66.8)
Unnamed	34.300	118.600	04/04/1893	0	6.0	45.2(72.7)
Unnamed	35.383	118.850	07/29/1952	0	6.1	45.6(73.5)
Northridge	34.2130	118.5370	01/17/1994	18	6.7	49.7(79.9)

2.09 Flooding Potential

According to Federal Emergency Management Agency (Flood Insurance Rate Map #06037C1725F, Effective date 9/26/2008), the site is located in an area of Flood Zone X, which is an area where the likelihood of flood hazards is considered minimal.

3.00 CONCLUSIONS AND RECOMMENDATIONS

3.01 General Conclusion

Based on the data collected thus far the project appears feasible from a geotechnical standpoint. Our preliminary recommendations provided below are based on the data collected thus far and our understanding of the project and our general experience in engineering geology and geotechnical engineering.

3.02 Seismic Design Parameters

Mapped Spectral Accelerations were obtained by using the online ATC Calculator (ASCE 7-16 Standard) and a site class D was used for the project site based on the soil profiles of the subject site and our experiences at

the project areas. Since the mapped risk-targeted maximum considered earthquake (MCE_R) spectral response acceleration parameter at a period of 1 second (S_1) is greater than 0.2, a ground motion hazard analysis is required per ACSE/SEI 7-16 to be performed in accordance with Section 21.2 for structures on Site Class D. However, instead of performing the ground motion hazard analysis, a long period coefficient (F_V) of 1.7 was used for calculation of S_{M1} and S_{D1}. The parameters generated for the subject site are presented in the following table:

2022 California Building Code (CBC) Seismic Parameters

Parameter	Value
Site Location	Latitude = 34.1067 degrees Longitude = -117.7761 degrees
Site Class	Site Class = D
Mapped Spectral Accelerations	S_s (0.2- second period) = 1.713g S_1 (1-second period) = 0.642g
Site Coefficients (Site Class D)	F_a = 1.0 F_v = 1.7
Maximum Considered Earthquake Spectral Accelerations (Site Class D)	S_{MS} (0.2- second period) = 1.713g S_{M1} (1-second period) = 1.091g
Design Earthquake Spectral Accelerations (Site Class D)	S_{DS} (0.2- second period) = 1.142g S_{D1} (1-second period) = 0.728g

For Risk Category II structures with mapped spectral response acceleration parameter at 1-s period (S_1) is less than 0.75, the Seismic Design Category is D (ASCE 7-16 Section 11.6).

Peak earthquake ground acceleration adjusted for site class effects (PGA_M) has been determined in accordance with ASCE 7-16 Section 11.8.3 as follows: $PGA_M = F_{PGA} \times PGA = 1.1 \times 0.731g = 0.804g$.

3.03 Liquefaction and Secondary Earthquake Hazards

Potential secondary seismic hazards that can affect land development projects include liquefaction, tsunamis, seiches, seismically induced settlement, seismically induced flooding and seismically induced landsliding.

Liquefaction

Liquefaction hazard potential for the site is discussed in Section 2.07 of this report.

Tsunamis and Seiches

Tsunamis are sea waves that are generated in response to large-magnitude earthquakes. When these waves reach shorelines, they sometimes produce coastal flooding. Seiches are the oscillation of large bodies of standing water, such as lakes, that can occur in response to ground shaking. Tsunamis and seiches do not pose hazards due to the inland location of the site.

Seismically Induced Flooding

The Puddingstone Reservoir located approximately 1.5 miles southwest of the site sits at an elevation that is roughly 100 feet lower than the site. The potential for seismic induced flooding is unlikely.

Seismically Induced Landsliding

According to the California Geological Survey Seismic Hazard Zones Map (1999) the site does not lie in a landslide hazard zone. Since the site is relatively flat earthquake-induced landsliding does not appear to be a hazard to proposed development.

3.04 General Earthwork and Grading

All grading should be performed in accordance with the General Earthwork and Grading Specifications outlined in Appendix C, unless specifically revised or amended below. Recommendations contained in Appendix C are general specifications for typical grading projects and may not be entirely applicable to this project.

It is also recommended that all earthwork and grading be performed in accordance with the requirements of the lead agency.

3.05 Earthwork Shrinkage and Subsidence

The site is not located within a zone of land subsidence according to the United States Geological Survey California Water Science Center website. It is our opinion that the potential for land subsidence due to over pumping of groundwater or oil extraction is low.

Shrinkage is the decrease in volume of soil upon removal and recompaction expressed as a percentage of the original in-place volume. Subsidence occurs as natural ground is densified to receive fill. These factors account for changes in earth volumes that will occur during grading. Our estimates are as follows:

- Shrinkage factor = 5% to 15% for soil removed and replaced as compacted fill.
- Subsidence factor = 0.1 foot.

The degree to which fill soils are compacted and variations in the in-situ density of existing soils will influence earth volume changes. Consequently, some adjustments in grades near the completion of grading could be required to balance the earthwork.

3.06 Removals and Overexcavation

Upon demolition and removal of all existing structures, site improvements, all vegetation, organic rich soil (soils containing more that 2 percent organics by weight), trash and debris should be cleared from the grading area and removed from the site. After the removal of deleterious materials, stripping of organic-rich soils, and removal of tree roots, the following removals and over-excavation must be done within the area of the limits of grading:

- All fill materials should be removed down to competent native soils. Within the building areas, removals

are recommended to a minimum of five (5) feet below existing grade or three feet (3) below the bottom of planned footings, whichever is greater. Overexcavation should extend a minimum of five (5) feet outside the limits of the structure footprints.

- Within the area of planned walkway and all other areas where grading is planned, the subgrade must be over-excavated at least three (3) feet below the stripped surface or the finished subgrade surface, whichever is lower.

Following the over-excavation indicated above, a designated representative for the Project Geotechnical Engineer must review the exposed ground surface and determine if any additional over-excavation is required. The over-excavated ground surface in all areas determined to be satisfactory for the support of fills must be scarified to a minimum depth of 6 inches. Scarification should continue until the soils are broken down and free from lumps or clods and until the scarified zone is uniform. The moisture content of the scarified zone shall be adjusted to within 2% of the optimum moisture content. The scarified zone must then be uniformly compacted to at least 90% relative compaction

The above recommendations are based on the assumption that soils encountered during field exploration are representative of soils throughout the site. However, there can be unforeseen and unanticipated variations in soils between points of subsurface exploration. Hence, overexcavation depths must be verified, and adjusted if necessary, at the time of grading.

3.07 Swimming Pool Backfill

The existing swimming pool should be demolished and backfilled. The pool location may be plotted on project fine grading plans or a separate plot plan. A permit may be required by City of La Verne. The following minimum standards are recommended.

- Break out or puncture holes in the bottom of the pool/spa structures to allow water to drain.
- Remove all decking and pool structures bond beam to within 12" below grade.
- Remove all electrical conduit and gas lines.
- Back fill with minimum 3/4" gravel to a depth of 6" along entire pool/spa bottom.
- Backfill with dirt and compact every 12" lift of dirt up to the finished grade.
- Submit a soil compaction report, signed by a licensed Soils Engineer, demonstrating that a minimum compaction of 90% has been achieved.

3.08 Foundation

Isolated spread footings and/or continuous wall footings are recommended to support the proposed structures. If the recommendations in the section on grading are followed and footings are established in compacted fill materials, footings may be designed using the following allowable soil bearing values:

- <u>Continuous Footings:</u>

  For one- and two-stories residential structures, footings having a minimum width of 12 inches and a minimum depth of 15 inches below the lowest adjacent grade have allowable bearing capacity of

2,000 pounds per square foot (psf). This value may be increased by 20% for each additional foot of width and/or depth to a maximum value of 3,000 psf.

- Isolated Spread Footings:

  Footings having a minimum width of 24 inches and a minimum depth of 15 inches below the lowest adjacent grade have allowable bearing capacity of 2,000 psf. This value may be increased by 20% for each additional foot of width or depth to a maximum value of 3,000 psf.

- Retaining Wall Footings:

  Footings for retaining walls should be founded a minimum depth of 12 inches and have a minimum width of 12 inches. Footings may be designed using the allowable bearing capacity and lateral resistance values recommended for building footings. However, when calculating passive resistance, the upper 6 inches of the footings should be ignored in areas where the footings will not be covered with concrete flatwork. Reinforcement should be provided for structural considerations as determined by the design engineer.

The above bearing capacities represent an allowable net increase in soil pressure over existing soil pressure and may be increased by one-third for short-term wind or seismic loads. The anticipated maximum total settlement is expected to be 1 inch with a differential settlement of approximately ½ inch in a 30 feet span.

A nominal reinforcement consisting of at least one #4 bar placed within 3 inches of the top of footings and another placed within 3 inches of the bottom of footings is recommended. Reinforcement of wide footings should be determined by the structural engineer who may also require heavier reinforcement.

Due to the preliminary nature of the expansion tests performed for this study, we recommend additional testing be performed near the completion of rough grading to verify the test results and recommended foundation design criteria.

3.09 Slab-On-Grade

Concrete floor slabs on grade with a minimum thickness of 4 inches are recommended for slabs on grade for the proposed structures for normal floor loading conditions. However, if heavy concentrated or moving loads are anticipated, slabs should be designed using a modulus of subgrade reaction (k) of 150 psi/in when soils are prepared in conformance with the grading recommendations contained within the report. Reinforcement of slabs on grading is not required to mitigate the expansive soils. Reinforcement may be specified by the structural engineer.

Concrete floor slabs on grade should be divided into squares or rectangles using weakened plane joints (contraction joints), each with maximum dimensions not exceeding 15 feet. Contraction joints should be made in accordance with American Concrete Institute (ACI) guidelines. If weakened plane joints are not used, then the slabs shall be reinforced with 6x6-10/10 welded wire fabric placed at mid-height of the slab.

Special care should be taken on floors slabs to be covered with thin-set tile or other inflexible coverings. These areas may be reinforced with 6x6-10/10 welded wire fabric placed at mid-height of the slab, to mitigate drying shrinkage cracks. Alternatively, inflexible flooring may be installed with unbonded fabric or liners to prevent

reflection of slab cracks through the flooring.

A moisture vapor retarder/barrier is recommended beneath all slabs-on-grade that will be covered by moisture-sensitive flooring materials such as vinyl, linoleum, wood, carpet, rubber, rubber-backed carpet, tile, impermeable floor coatings, adhesives, or where moisture-sensitive equipment, products, or environments will exist. We recommend that design and construction of the vapor retarder or barrier conform to Section 1805 of the 2022 California Building Code (CBC) and pertinent sections of American Concrete Institute (ACI) guidance documents 302.1R-04, 302.2R-06 and 360R-10.

The moisture vapor retarder/barrier should consist of a minimum 10 mils thick polyethylene with a maximum perm rating of 0.3 in accordance with ASTM E 1745. Seams in the moisture vapor retarder/barrier should be overlapped no less than 6 inches or in accordance with the manufacturer's recommendations. Joints and penetrations should be sealed with the manufacturer's recommended adhesives, pressure-sensitive tape, or both. The contractor must avoid damaging or puncturing the vapor retarder/barrier and repair any punctures with additional polyethylene properly lapped and sealed.

ACI guidelines allow for the placement of moisture vapor retarder/barriers either directly beneath floor slabs or below an intermediate granular soil layer.

Placing the moisture retarder/barrier directly beneath the floor slab will provide improved curing of the slab bottom and will eliminate potential problems caused by water being trapped in a granular fill layer. Concrete slabs poured directly on a vapor retarder/barrier can experience shrinkage cracking and curling due to differential rates of curing through the thickness of the slab. Therefore, for concrete placed directly on the vapor retarded, we recommend a maximum water cement ratio of 0.45 and the use of water-reducing admixtures to increase workability and decrease bleeding.

If granular soil is placed over the vapor retarder/barrier, we recommend that the layer be at least 2 inches thick in accordance with traditional practice in southern California. Granular fill should consist of clean fine graded materials with 10 to 30% passing the No. 100 sieve and free from clay or silt. The granular layer should be uniformly compacted and trimmed to provide the full design thickness of the proposed slab. The granular fill layer should not be left exposed to rain or other sources of water such as wet-grinding, power washing, pipe leaks or other processes, and should be dry at the time of concrete placement. Granular fill layers that become saturated should be removed and replaced prior to concrete placement.

An additional layer of sand may be placed beneath the vapor retarder/barrier at the developer's discretion to minimize the potential of the retarder/barrier being punctured by underlying soils.

3.10 Miscellaneous Concrete Flatwork

Miscellaneous concrete flatwork and walkways may be designed with a minimum thickness of 4 inches. Large slabs should be reinforced with a minimum of 6x6-10/10 welded wire mesh placed at mid-height in the slab. Control joints should be constructed to create squares or rectangles with a maximum spacing of 15 feet.

Walkways may be constructed without reinforcement. Walkways should be separated from foundations with a thick expansion joint filler. Control joints should be constructed into non-reinforced walkways at a maximum of 5 feet spacing.

The subgrade soils beneath all miscellaneous concrete flatwork should be compacted to a minimum of 95 percent relative compaction for a minimum depth of 12 inches. The geotechnical engineer should monitor the compaction of the subgrade soils and perform testing to verify that proper compaction has been obtained.

3.11 Footing Excavation and Slab Preparation

All footing excavations should be observed by the geotechnical consultant to verify that they have been excavated into competent soils. The foundation excavations should be observed prior to the placement of forms, reinforcement steel, or concrete. These excavations should be evenly trimmed and level. Prior to concrete placement, any loose or soft soils should be removed. Excavated soils should not be placed on slab or footing areas unless properly compacted.

Prior to the placement of the moisture barrier and sand, the subgrade soils underlying the slab should be observed by the geotechnical consultant to verify that all under-slab utility trenches have been properly backfilled and compacted, that no loose or soft soils are present, and that the slab subgrade has been properly compacted to a minimum of 95 percent relative compaction within the upper 12 inches. Footings may experience and overall loss in bearing capacity or an increased potential to settle where located in close proximity to existing or future utility trenches. Furthermore, stresses imposed by the footings on the utility lines may cause cracking, collapse and/or a loss of serviceability. To reduce this risk, footings should extend below a 1:1 plane projected upward from the closest bottom of the trench.

Subgrade soils beneath slabs on grade and walkways moist prior to the placement of concrete. The geotechnical consultant should verify that the appropriate moisture content has been achieved a maximum of 24 hours prior to the placement of concrete or moisture barriers.

3.12 Lateral Load Resistance

Lateral loads may be resisted by soil friction and the passive resistance of the soil. The following parameters are recommended.

- Passive Earth Pressure = 300 pcf (equivalent fluid weight).

  We recommend neglecting passive soil resistance from the upper foot of soil unless protected by a concrete slab or pavement.

- Coefficient of Friction (soil to footing) = 0.30
- Retaining structures should be designed to resist the following lateral active earth pressures:

Surface Slope of Retained Materials (Horizontal:Vertical)	Equivalent Fluid Weight (pcf)
Level	40
5:1	42
4:1	43
3:1	46
2:1	58

These active earth pressures are only applicable if the retained earth is allowed to strain sufficiently to achieve the active state. The required minimum horizontal strain to achieve the active state is approximately 0.0025H. Retaining structures should be designed to resist an at-rest lateral earth pressure if this horizontal strain cannot be achieved.

- At-rest Lateral Earth Pressure = 61 pcf (equivalent fluid weight)

The lateral earth pressure due to earthquake motions for the retaining walls are calculated by using PGA=S_{DS}/2.5=0.457g and Υ=130 pcf for retaining wall dynamic load increment calculations. The point of application may vary between 0.37H to 0.40H.

- Basement (restrained) walls with level backfill: $P_{ae} = \frac{1}{2}\Upsilon H^2(0.68\ PGA/g) = 20.2H^2$
- Cantilever (unrestrained) walls with level backfill: $P_{ae} = \frac{1}{2}\Upsilon H^2(0.42\ PGA/g) = 12.3H^2$
- Cantilever (unrestrained) walls with no steeper than 2:1 slope: $P_{ae} = \frac{1}{2}\Upsilon H^2(0.70\ PGA/g) = 20.8H^2$

3.13 Cement Type and Corrosion Potential

Soluble sulfate tests performed on shallow samples of soil indicates that concrete at the subject project will have a negligible exposure to water-soluble sulfate in the soil. Our recommendations for concrete exposed to sulfate-containing soils are presented in the following table.

Recommendations for Concrete exposed to Sulfate-containing Soils

Sulfate Exposure	Water Soluble Sulfate (SO_4) in Soil (% by Weight)	Sulfate (SO_4) in Water (ppm)	Cement Type (ASTM C150)	Maximum Water-Cement Ratio (by Weight)	Minimum Compressive Strength (psi)
Negligible	0.00 - 0.10	0-150	--	--	2,500
Moderate	0.10 - 0.20	150-1,500	II	0.50	4,000
Severe	0.20 - 2.00	1,500-10,000	V	0.45	4,500
Very Severe	Over 2.00	Over 10,000	V plus pozzolan or slag	0.45	4,500

Use of alternate combinations of cementitious materials may be permitted if the combinations meet design recommendations contained in American Concrete Institute guideline ACI 318-11.

The soils were also tested for soil reactivity (pH) and electrical resistivity (ohm-cm). The test results indicate that the on-site soils have soil reactivity of 7.8 and 8.1 and electrical resistivity of 5,843 and 4,371 ohm-cm. A neutral or non-corrosive soil has a reactivity value ranging from 5.5 to 8.4. Generally, soils that could be considered moderately corrosive to ferrous metals have resistivity values of about 3,000 ohm-cm to 10,000 ohm-cm. Soils with resistivity values less than 3,000 ohm-cm can be considered corrosive and soils with resistivity values less than 1,000 ohm-cm can be considered extremely corrosive.

Based on our analysis, underlying onsite soils are moderately corrosive to ferrous metals. Protection of buried pipes utilizing coatings on all underground pipes; clean backfills and a cathodic protection system can be effective in controlling corrosion. A qualified corrosion engineer may be consulted to further assess the corrosive properties of the soil.

3.14 Utility Trench Backfill

The onsite fill soils will not be suitable for use as pipe bedding for buried utilities. All pipes should be bedded in a sand, gravel or crushed aggregate imported material complying with the requirements of the Standard Specifications for Public Works Construction (Greenbook) Section 306-1.2.1. Crushed rock products that do not contain appreciable fines should not be utilized as pipe bedding and/or backfill. Bedding materials should be densified to at least 90% relative compaction (ASTM D1557). The geotechnical consultant should review and approve of proposed bedding materials prior to use.

The on-site soils are expected to be suitable as trench backfill provided they are screened of organic matter, boulders and cobbles over 6 inches in diameter. Trench backfill should be densified to at least 90% relative compaction (ASTM D1557). On-site granular soils with a sand equivalent value of 15 or greater may be water densified initially per Greenbook Specifications. Supplemental mechanical compaction methods will be required to attain the required 90% relative compaction.

All utility trench backfill within street right of way, utility easements, under or adjacent to sidewalks, driveways, or building pads should be observed and tested by the geotechnical consultant to verify proper compaction. Trenches excavated adjacent to foundations should not extend within the footing influence zone defined as the area within a line projected at a 1:1 drawn from the bottom edge of the footing. Trenches crossing perpendicular to foundations should be excavated and backfilled prior to the construction of the foundations. The excavations should be backfilled in the presence of the geotechnical engineer and tested to verify adequate compaction beneath the proposed footing.

Cal/OSHA construction safety orders should be observed during all underground work.

3.15 Temporary Excavations

Based on the recommended removal depths as described in Section 3.08, temporary excavations within the limits of grading are expected to be 5 feet. Excavations may be cut vertically to a maximum height of 5 feet. Cuts above 5 feet may be laid back at a gradient of 1:1.

3.16 Drainage

Surface drainage should be directed away from the proposed structures into suitable drainage devices. Neither excess irrigation nor rainwater should be allowed to collect or pond against building foundations or within low-lying or level areas of the lot. Surface waters should be diverted away from the tops of slopes and prevented from draining over the top of slopes and down the slope face.

3.17 Plan Review

Once formal plans are prepared for the subject property, this office should review the plans from a geotechnical viewpoint, comment on changes from the plan used during preparation of this report and revise the recommendations of this report where necessary.

4.00 CLOSURE

This investigation was completed in accordance with generally accepted industry practice to provide recommendations for developing the property from a geotechnical perspective. Information presented in this report is based on research, field investigation, laboratory testing, and engineer judgment obtained from similar projects completed on nearby properties. This assessment is not, and should not be construed as, a warranty or guarantee concerning the geotechnical conditions which may affect the future development of the property. All discovered information has been disclosed and a good faith effort has been made to consult pertinent sources.

This study and report have been prepared on behalf and for the exclusive use of Hillcrest and solely for use as a preliminary evaluation of the subject site. This report and its findings shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without prior written consent of RMA Geoscience, Inc. and Hillcrest Homes. However, RMA Geoscience, Inc. acknowledges and agrees that the report may be conveyed to the design professionals for consideration in developing the property.

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FIGURES

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From Google Earth Pro June 2024

North

Not to Scale

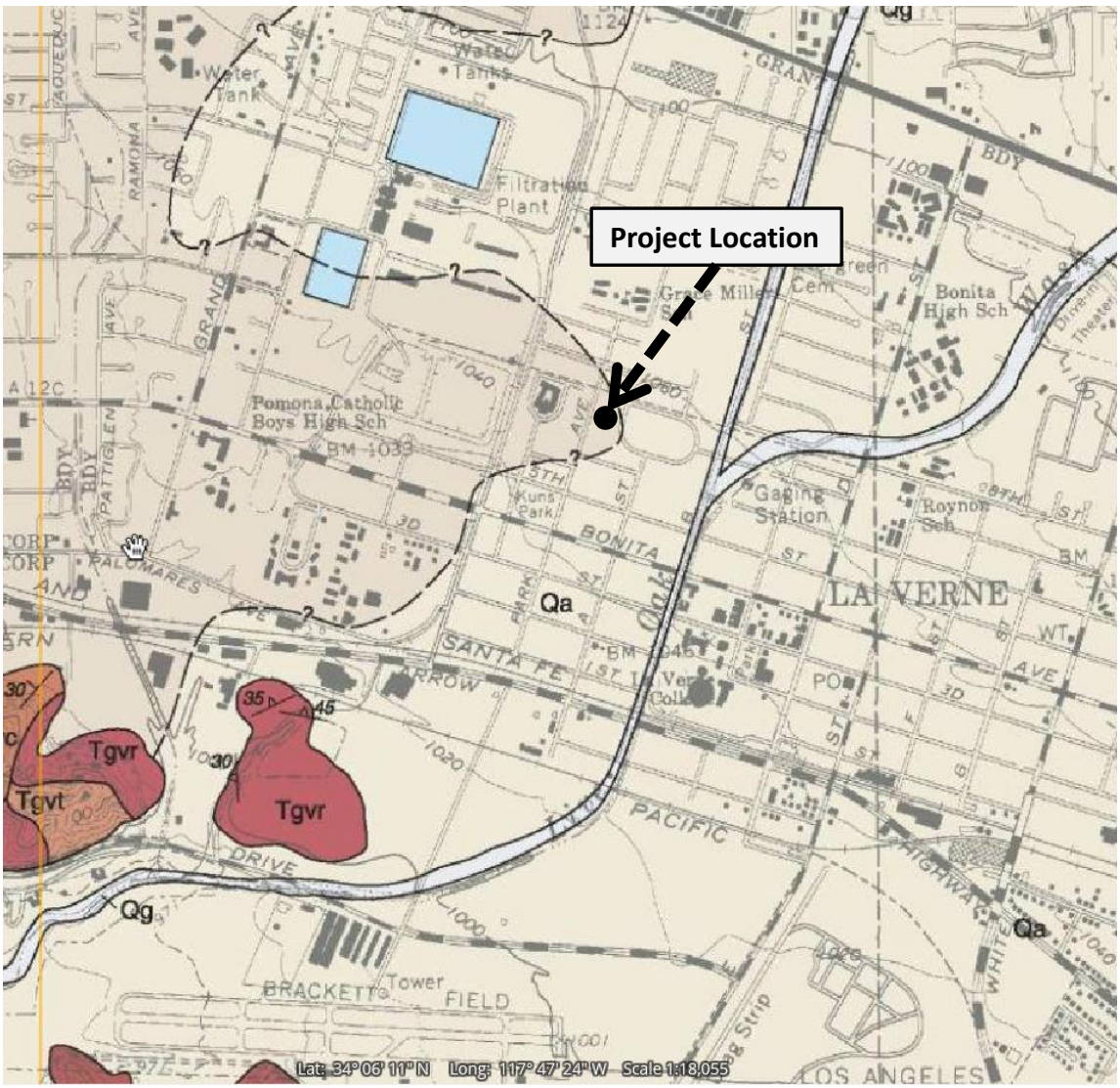
Figure 1: Site Vicinity Map

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HA-1 Approximate Hand Auger location Base Map: site plan - revised 4-24-24 from Hillcrest

Figure 2: Hand Auger Locatoin Map



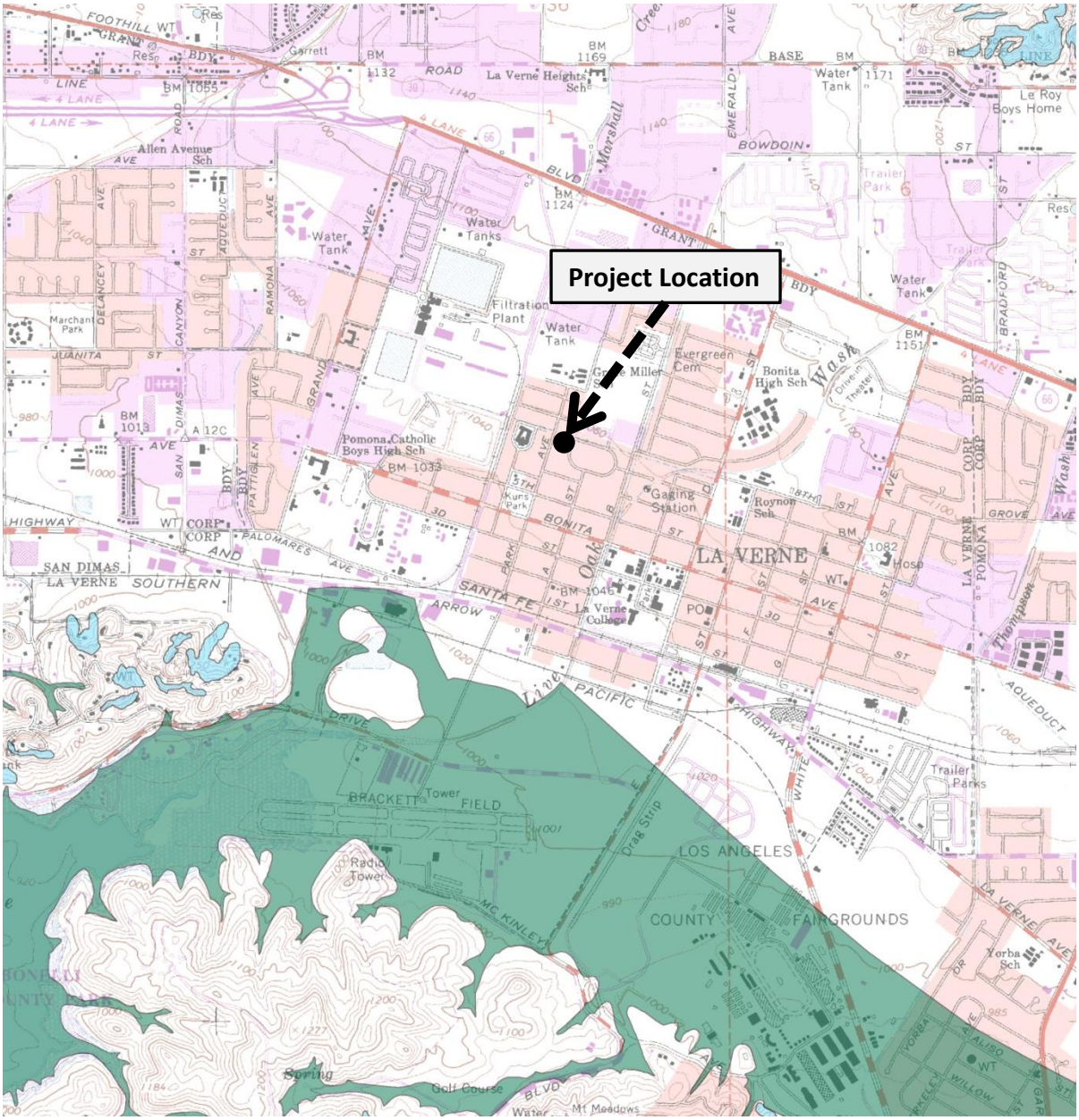
Source: https://ngmdb.usgs.gov/mapview/

North

Not to Scale

Figure 3: Regional Geologic Map

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North

Not to Scale

Base Map: California Division of Mines and Geology, Seismic Hazard Zone Map, San Dimas Quadrangle, 1999

Figure 4: Seismic Hazard Map

APPENDIX A

FIELD INVESTIGATION

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APPENDIX A

FIELD INVESTIGATION

A-1.00 FIELD EXPLORATION

A-1.01 Number of Borings

Our subsurface investigation consisted of excavation of 9 exploratory borings to depths of 15 feet with a hand labor crew within subject sites.

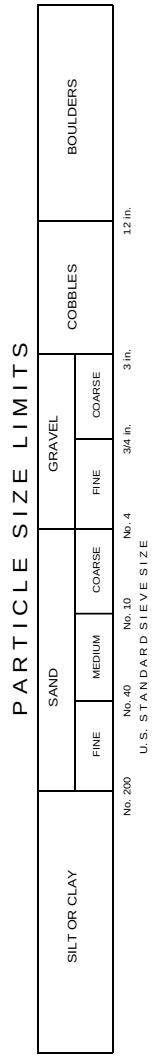
A-1.02 Location of Boring

A Boring Location Map showing the approximate locations of the borings is presented as Figure 2.

A-1.03 Boring Logging

Logs of the boring were prepared by one of our staff and are attached in this appendix. The logs contain factual information and interpretation of subsurface conditions between samples. The strata indicated on these logs represent the approximate boundary between earth units and the transition may be gradual. The logs show subsurface conditions at the dates and locations indicated, and may not be representative of subsurface conditions at other locations and times.

Identification of the soils encountered during the subsurface exploration was made using the field identification procedure of the Unified Soils Classification System (ASTM D2488). A legend indicating the symbols and definitions used in this classification system and a legend defining the terms used in describing the relative compaction, consistency or firmness of the soil are attached in this appendix. Bag samples of the major earth units were obtained for laboratory inspection and testing.



MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No. 200 sieve size)	GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size.	CLEAN GRAVELS (Little or no fines)	GW	Well graded gravel, gravel-sand mixtures. little or no fines.
			GP	Poorly graded gravel or gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amt. of fines)	GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 sieve size)	CLEAN SANDS (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures.
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS (More than 50% of material is SMALLER than No. 200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)		ML	Inorganic silts and very fine sands, rock flour silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50)		MH	Inorganic silts, micaceous or diatamaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.

BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.

UNIFIED SOIL CLASSIFICATION SYSTEM

I. SOIL STRENGTH/DENSITY

BASED ON STANDARD PENETRATION TESTS

Compactness of sand		Consistency of clay	
Penetration Resistance N (blows/Ft)	Compactness	Penetration Resistance N (blows/ft)	Consistency
0-4	Very Loose	<2	Very Soft
4-10	Loose	2-4	Soft
10-30	Medium Dense	4-8	Medium Stiff
30-50	Dense	8-15	Stiff
>50	Very Dense	15-30	Very Stiff
		>30	Hard

N = Number of blows of 140 lb. weight falling 30 in. to drive 2-in OD sampler 1 ft.

BASED ON RELATIVE COMPACTION

Compactness of sand		Consistency of clay	
% Compaction	Compactness	% Compaction	Consistency
<75	Loose	<80	Soft
75-83	Medium Dense	80-85	Medium Stiff
83-90	Dense	85-90	Stiff
>90	Very Dense	>90	Very Stiff

II. SOIL MOISTURE

Moisture of sands		Moisture of clays	
% Moisture	Description	% Moisture	Description
<5%	Dry	<12%	Dry
5-12%	Moist	12-20%	Moist
>12%	Very Moist	>20%	Very Moist, wet

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HAND AUGER NUMBER 1

Client: Hillcrest

Project Name: Gateway Project

Project Number 07-240341

Project Location: Park Avenue, Le Verne, CA

Date Started: 5/30/2024 Completed: 5/30/2024

Ground Elevation: 1059' Boring Diameter: 4"

Excavation Method: hand digging

Ground Water Levels: Not Encountered

Contractor: Mike's excavating

Notes:

Logged By: HHL

Depth (ft)	Drive Sample	Blow Count (N Value)	Bulk Sample	Moisture Content (%)	Dry Density (pcf)	Wet Density (pcf)	Liquid Limit	Plastic Limit	Plasticity Index	Material Description	<#200	D_{50}	USCS Classification
										Landscaping Grass with top soil = 1.5 feet			
2	☒			14.9	103.7	119.1				At 2 feet: Silty Sand with gravel and clay and roots, moist, light brown			SM
										At 3 feet: Clayey Sand with silt and gravel, very moist, dark brown			
5	☒			16.0	115.5	134.1				At 5 feet: Silty Sand with gravel and trace clay, light brown, very moist			SM
10	☒			17.9	109.5	129.1				At 10 feet: Silty Sand with gravel and trace clay, very moist, light brown with tan			SM
										At 12 feet: more gravelly			
15	☒			9.4	111.2	121.6				At 15 feet: Silty Sand with gravel, very moist, light brown			SM
										Total Depth = 15 feet			
										No groundwater encountered			
										Backfilled with cuttings			
20													
25													
30													

Material Description

■ Thin Wall Tube ☒ 2.5" Ring Sample ▨ Bulk Sample ◫ Standard Split Spoon Sample ▽ Static Water Table

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HAND AUGER NUMBER 2

Client: Hillcrest

Project Name: Gateway Project

Project Number 07-240341

Project Location: Park Avenue, Le Verne, CA

Date Started: 5/30/2024 Completed: 5/30/2024

Ground Elevation: 1058' Boring Diameter: 4"

Excavation Method: hand digging

Ground Water Levels: Not Encountered

Contractor: Mike's excavating

Notes:

Logged By: HHL

Depth (ft)	Drive Sample	Blow Count (N Value)	Bulk Sample	Moisture Content (%)	Dry Density (pcf)	Wet Density (pcf)	Liquid Limit	Plastic Limit	Plasticity Index	Material Description	<#200	D_{50}	USCS Classification
										Landscaping Grass with top soil = 1.0 feet			
2	☒			17.5	107.6	126.5				At 2 feet: Silty Sand with clay, dark brown, moist			SM
5	☒			16.3	113.9	132.4				At 5 feet: Silty Sand with gravel and trace clay, light brown, moist			SM
10	☒			14.5	113.4	129.9				At 10 feet: Silty Sand, moist, light brown			SM
										At 13 feet: became gravelly			
15	☒			6.9	121.5	129.8				At 15 feet: Sand and Gravel with silt , moist, light brown with tan and gray			SP-SM
										Total Depth = 15 feet			
										No groundwater encountered			
										Backfilled with cuttings			
20													
25													
30													

Thin Wall Tube ☒ 2.5" Ring Sample ☒ Bulk Sample ◫ Standard Split Spoon Sample ▽ Static Water Table

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HAND AUGER NUMBER 3

Client: Hillcrest

Project Name: Gateway Project

Project Number 07-240341

Project Location: Park Avenue, Le Verne, CA

Date Started: 5/30/2024 Completed: 5/30/2024

Ground Elevation: 1058' Boring Diameter: 4"

Excavation Method: hand digging

Ground Water Levels: Not Encountered

Contractor: Mike's excavating

Notes:

Logged By: HHL

Depth (ft)	Drive Sample	Blow Count (N Value)	Bulk Sample	Moisture Content (%)	Dry Density (pcf)	Wet Density (pcf)	Liquid Limit	Plastic Limit	Plasticity Index	Material Description	<#200	D_{50}	USCS Classification
										Landscaping Grass with top soil = 1.0 feet			
2	☒			19.0	98.8	117.6				At 2 feet: Clayey Sand with silt, dark brown, very moist			SC
5	☒			16.0	115.2	133.6				At 5 feet: Silty Sand with gravel and trace clay, light brown, very moist			SM
10	☒			12.4	129.0	145.0				At 10 feet: Silty Sand with gravel and trace clay, very moist, light brown			SM
										At 13 feet: became gravelly			
15	☒			8.2	123.8	133.9				At 15 feet: Silty Sand with gravel, very moist, light brown with tan			SM
										Total Depth = 15 feet			
										No groundwater encountered			
										Backfilled with cuttings			
20													
25													
30													

Thin Wall Tube ☒ 2.5" Ring Sample ☒ Bulk Sample ◫ Standard Split Spoon Sample ▽ Static Water Table

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HAND AUGER NUMBER 4

Client: Hillcrest

Project Name: Gateway Project

Project Number 07-240341

Project Location: Park Avenue, Le Verne, CA

Date Started: 5/30/2024 Completed: 5/30/2024

Ground Elevation: 1063' Boring Diameter: 4"

Excavation Method: hand digging

Ground Water Levels: Not Encountered

Contractor: Mike's excavating

Notes:

Logged By: HHL

Depth (ft)	Drive Sample	Blow Count (N Value)	Bulk Sample	Moisture Content (%)	Dry Density (pcf)	Wet Density (pcf)	Liquid Limit	Plastic Limit	Plasticity Index	Material Description	<#200	D_{50}	USCS Classification
										Landscaping Grass with top soil = 1.0 feet			
2	☒			12.0	115.1	128.9				At 2 feet: Silty Sand with trace clay, dark brown, moist			SM
5	☒			11.9	115.0	128.8				At 5 feet: Silty Sand with gravel and trace clay, light brown, very moist			SM
10	☒			5.7	128.2	135.6				At 10 feet: Silty Sand, very moist, light brown			SM
15	☒			17.1	116.6	136.5				At 15 feet: Same			SM
										Total Depth = 15 feet **No groundwater encountered** **Backfilled with cuttings**			
20													
25													
30													

Material Description

Thin Wall Tube ☒ 2.5" Ring Sample

Bulk Sample ◫ Standard Split Spoon Sample ▽ Static Water Table

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HAND AUGER NUMBER 5

Client: Hillcrest

Project Name: Gateway Project

Project Number 07-240341

Project Location: Park Avenue, Le Verne, CA

Date Started: 5/30/2024 Completed: 5/30/2024

Ground Elevation: 1063' Boring Diameter: 4"

Excavation Method: hand digging

Ground Water Levels: Not Encountered

Contractor: Mike's excavating

Notes:

Logged By: HHL

Depth (ft)	Drive Sample	Blow Count (N Value)	Bulk Sample	Moisture Content (%)	Dry Density (pcf)	Wet Density (pcf)	Liquid Limit	Plastic Limit	Plasticity Index	Material Description	<#200	D_{50}	USCS Classification
										Landscaping Grass with top soil = 16"			
2	☒			16.1	110.1	127.9				At 2 feet: Silty Sand with clay, dark brown, moist			SM
5	☒			13.7	116.2	132.1				At 5 feet: Medium to coarse Silty Sand with clay, light brown, very moist			SM
10	☒			15.0	118.9	136.7				At 10 feet: Silty Sand with clay, light brown, very moist to wet			SM
15	☒			12.5	119.0	133.9				At 15 feet: Silty Sand with clay, light brown, very moist			SM
										Total Depth = 15 feet **No groundwater encountered** **Backfilled with cuttings**			
20													
25													
30													

Material Description: ■ Thin Wall Tube; ☒ 2.5" Ring Sample; ▨ Bulk Sample; ◫ Standard Split Spoon Sample; ▽ Static Water Table

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HAND AUGER NUMBER 6

Client: Hillcrest

Project Name: Gateway Project

Project Number 07-240341

Project Location: Park Avenue, Le Verne, CA

Date Started: 5/31/2024 Completed: 5/31/2024

Ground Elevation: 1057' Boring Diameter: 4"

Excavation Method: hand digging

Ground Water Levels: Not Encountered

Contractor: Mike's excavating

Notes:

Logged By: HHL

Depth (ft)	Drive Sample	Blow Count (N Value)	Bulk Sample	Moisture Content (%)	Dry Density (pcf)	Wet Density (pcf)	Liquid Limit	Plastic Limit	Plasticity Index	Material Description	<#200	D_{50}	USCS Classification
										Landscaping Grass with top soil = 16"			
2	☒			15.1	112.0	128.9				At 2 feet: Silty Sand with trace clay, dark brown, moist			SM
5	☒			16.6	111.7	130.3				At 5 feet: Silty Sand with trace clay, light brown, very moist			SM
										At 7 feet: Coarse Sand with gravel and silt, moist, light brown			SP-SM
10	☒			12.6	116.6	131.4							
15	☒			16.0	116.3	135.0				At 15 feet: Fine to medium Silty Sand with gravel, moist, light brown			SM
20										**Total Depth = 15 feet** **No groundwater encountered** **Backfilled with cuttings**			
25													
30													

Material Description: ■ Thin Wall Tube; ☒ 2.5" Ring Sample; ▨ Bulk Sample; ◫ Standard Split Spoon Sample; ▽ Static Water Table

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HAND AUGER NUMBER 7

Client: Hillcrest

Project Name: Gateway Project

Project Number 07-240341

Project Location: Park Avenue, Le Verne, CA

Date Started: 5/31/2024 Completed: 5/31/2024

Ground Elevation: 1057' Boring Diameter: 4"

Excavation Method: hand digging

Ground Water Levels: Not Encountered

Contractor: Mike's excavating

Notes:

Logged By: HHL

Depth (ft)	Drive Sample	Blow Count (N Value)	Bulk Sample	Moisture Content (%)	Dry Density (pcf)	Wet Density (pcf)	Liquid Limit	Plastic Limit	Plasticity Index	Material Description	<#200	D_{50}	USCS Classification
										Landscaping Grass with top soil = 1.5 feet			
2	☒			12.1	108.8	121.9				At 2 feet: Silty Sand with clay, dark brown, moist			SM
5	☒			16.2	116.2	135.0				At 5 feet: Silty Sand with clay, light brown, very moist			SM
10	☒			14.7	115.3	132.3				At 10 feet: Silty Sand with clay, light brown, very moist			SM
15	☒			15.1	119.2	137.2				At 15 feet: Same			SM
										Total Depth = 15 feet **No groundwater encountered** **Backfilled with cuttings**			
20													
25													
30													

Material Description

■ Thin Wall Tube ☒ 2.5" Ring Sample ▨ Bulk Sample ◫ Standard Split Spoon Sample ▽ Static Water Table

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HAND AUGER NUMBER 8

Client: Hillcrest

Project Name: Gateway Project

Project Number 07-240341

Project Location: Park Avenue, Le Verne, CA

Date Started: 5/31/2024 Completed: 5/31/2024

Ground Elevation: 1061' Boring Diameter: 4"

Excavation Method: hand digging

Ground Water Levels: Not Encountered

Contractor: Mike's excavating

Notes:

Logged By: HHL

Depth (ft)	Drive Sample	Blow Count (N Value)	Bulk Sample	Moisture Content (%)	Dry Density (pcf)	Wet Density (pcf)	Liquid Limit	Plastic Limit	Plasticity Index	Material Description	<#200	D_{50}	USCS Classification
										Landscaping Grass with top soil = 1.5 feet			
2	☒			15.9	111.9	129.6				At 2 feet: Clayey Sand with silt, dark brown, very moist			SC
5	☒			16.4	111.3	129.6				At 5 feet: Fine to medium Silty Sand with clay, light brown, very moist			SM
										At 9 feet: Medium to Coarse Sand with gravel and silt, light brown, very moist			SP-SM
10	☒			6.3	107.0	113.7				At 11 feet: Silty Sand with trace clay, light brown, very moist to wet			SM
15	☒			17.6	116.9	137.5				At 15 feet: Same			SM
										Total Depth = 15 feet			
										No groundwater encountered			
										Backfilled with cuttings			
20													
25													
30													

Thin Wall Tube ■ | 2.5" Ring Sample ☒ | Bulk Sample ▨ | Standard Split Spoon Sample ◫ | Static Water Table ▽

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HAND AUGER NUMBER 9

Client: Hillcrest

Project Name: Gateway Project

Project Number 07-240341

Project Location: Park Avenue, Le Verne, CA

Date Started: 5/30/2024 Completed: 5/30/2024

Ground Elevation: 1061' Boring Diameter: 4"

Excavation Method: hand digging

Ground Water Levels: Not Encountered

Contractor: Mike's excavating

Notes:

Logged By: HHL

Depth (ft)	Drive Sample	Blow Count (N Value)	Bulk Sample	Moisture Content (%)	Dry Density (pcf)	Wet Density (pcf)	Liquid Limit	Plastic Limit	Plasticity Index	Material Description	<#200	D_{50}	USCS Classification
										Landscaping Grass with top soil = 1.5 feet			
2	☒			13.6	116.0	131.7				At 2 feet: Silty Sand with clay, dark brown, very moist			SC
5	☒			13.2	105.5	119.4				At 5 feet: Silty Sand with gravel and clay, light brown, very moist			SM
										At 8 feet: Coarse Sand with gravel, light brown, moist			SP-SM
10	☒			12.8	113.8	128.4				At 10 feet: Silty Sand with coarse sand, light brown with tan, very moist			SM
15	☒			16.3	117.9	137.1				At 15 feet: Silty Sand with gravel, light brown with tan, very moist to wet			SM
20										**Total Depth = 15 feet** **No groundwater encountered** **Backfilled with cuttings**			
25													
30													

Thin Wall Tube ■ | 2.5" Ring Sample ☒ | Bulk Sample ▨ | Standard Split Spoon Sample ◫ | Static Water Table ▽

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APPENDIX B

LABORATORY TESTS

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APPENDIX B

B-1.00 LABORATORY TESTS

B-1.01 Maximum Density

Maximum density - optimum moisture relationships for the major soil type encountered during the field exploration were performed in the laboratory using the standard procedures of ASTM D1557.

B-1.02 Expansion Tests

Expansion index tests were performed on representative samples of the soil types present during grading by the test methods outlined in ASTM D4829.

B-1.03 Moisture Determination

Moisture content of the soil samples was performed in accordance to standard method for determination of water content of soil by drying oven, ASTM D2216. The mass of material remaining after oven drying is used as the mass of the solid particles.

B-1.04 Density of Split-Barrel Samples

The density of ring and tube samples, which were obtained using a split-barrel sampler, were determined in accordance with ASTM D2937. The results of these tests are provided on the boring logs in Appendix A.

B-1.05 Consolidation (One-Dimensional)

One-dimensional consolidation tests were performed on ring samples using the standard test method of ASTM D2435. The rate of consolidation of the tested samples was not determined and the applied loading increments are indicated on the summary of the test results. The test results are included in this Appendix B.

B-1.06 Soluble Sulfates

A test was performed on representative sample encountered during the investigation using the California Test Method 417.

B-1.07 Soil Reactivity (pH) and Minimum Resistivity

A near-surface soil samples were tested for soil reactivity (pH) and minimum electrical resistivity using California Test Method 643. The pH measurement determines the degree of acidity or alkalinity in the soils. The minimum resistivity is used as an indicator of how corrosive the soil is relative to buried metallic items.

B-1.08 Test Results

Test results for all laboratory tests performed on the subject project are presented in this appendix. For a sample-by-sample description, see the logs presented in Appendix A.

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MAXIMUM DENSITY - OPTIMUM MOISTURE

(Test Method: ASTM D1557)

Sample Number	Optimum Moisture (Percent)	Maximum Density (lbs/ft^3)
B3 @ 0-5 ft	11.5	125.2
B5 @ 0-5 ft	12.3	126.1

EXPANSION TEST

Test Method: ASTM D4829

Sample Number	Expansion Index	Expansion Classification
B-3 at 0-5 ft	27	Low
B-4 at 0-5 ft	0	Very Low

SOLUBLE SULFATES

(California Test Methods: 417 & 422)

Sample Number	Soluble Sulfate (ppm)	Chloride Content (ppm)
B1 @ 0-5 ft	23	20
B8 @ 0-5 ft	16	31

SOIL REACTIVITY (pH) AND MINIMUM RESISTIVITY

(California Test Method: 643)

Sample Number	pH	Minimum Resistivity (Ohm-cm)
B1 @ 0-5 ft	8.1	5843
B8 @ 0-5 ft	7.8	4371

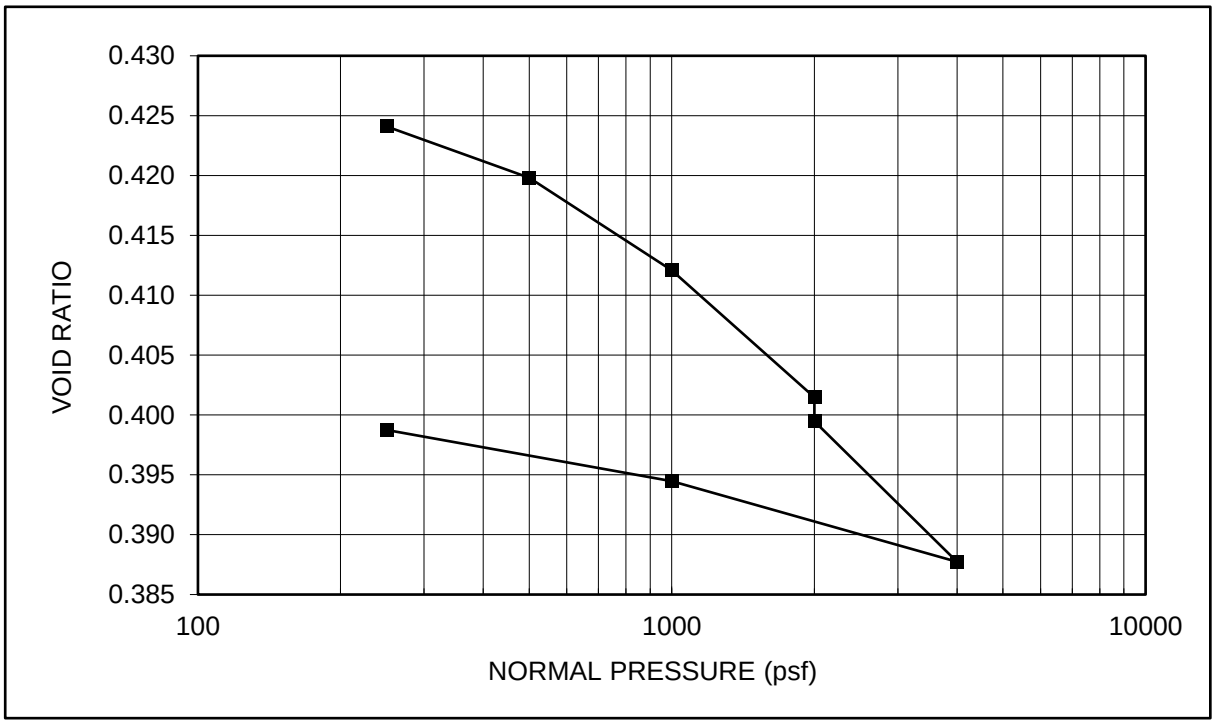
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ONE-DIMENSIONAL CONSOLIDATION
ASTM D2435

Project ID: 07-240341-0
Location: HA-1
Depth: 5 feet
Soil Description: Silty Sand

Dry Unit Weight (pcf):	115.5		Initial Dial Reading:	0.0232	inch
Initial Moisture:	14.0%		Initial Specimen Height:	1.0000	inch
Final Moisture:	18.2%		Initial Void Ratio:	0.432	
Initial Saturation:	85.9%		Final Void Ratio:	0.399	
Final Saturation:	99.6%		Specific Gravity :	2.65	

Moisture Condition	Load (psf)	Final Dial Reading (inches)	Sample Height (inches)	Void Ratio	Strain (%)	ΔStrain (%)
In Situ	250	0.0285	0.9947	0.424	0.53	0.53
	500	0.0315	0.9917	0.420	0.83	0.00
	1000	0.0369	0.9863	0.412	1.37	0.54
	2000	0.0443	0.9789	0.401	2.11	0.74
Add water	2000	0.0457	0.9775	0.399	2.25	0.14
	4000	0.0539	0.9693	0.388	3.07	0.82
	1000	0.0492	0.9740	0.394	2.60	-0.47
	250	0.0462	0.9770	0.399	2.30	-0.30



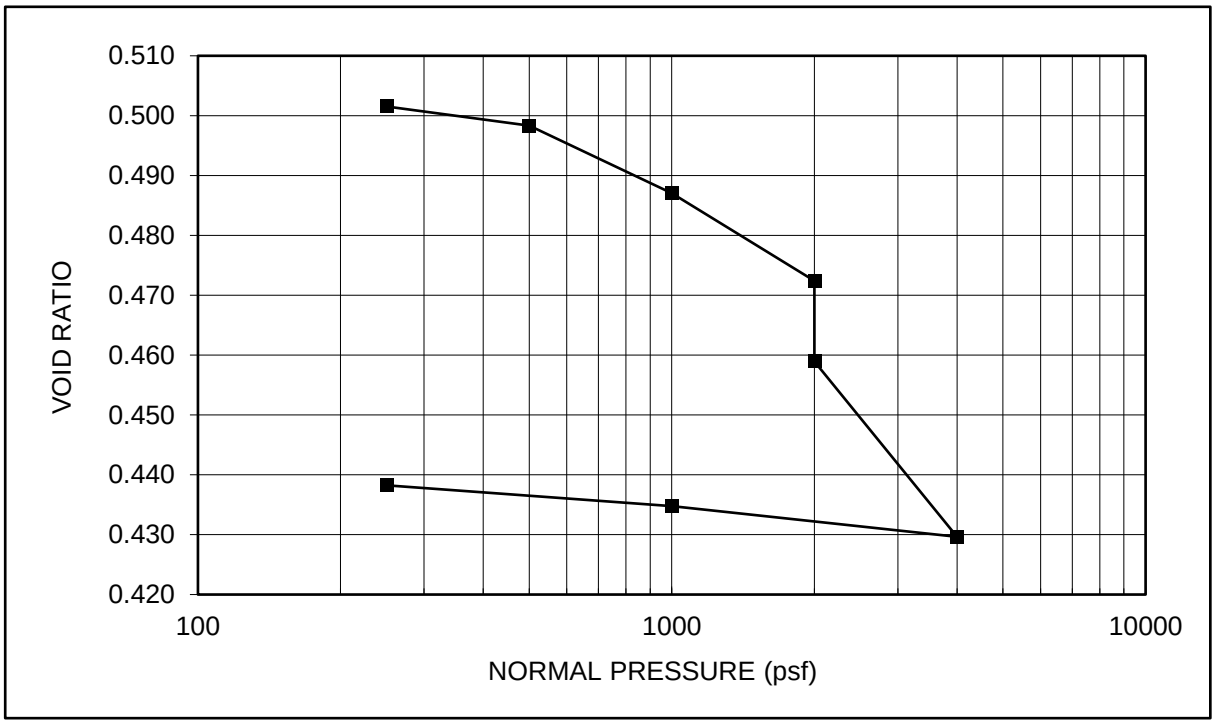
RMA GeoScience

ONE-DIMENSIONAL CONSOLIDATION
ASTM D2435

Project ID: 07-240341-0
Location: HA-2
Depth: 10 feet
Soil Description: Silty Sand

Dry Unit Weight (pcf):	109.5		Initial Dial Reading:	0.0553	inch
Initial Moisture:	15.9%		Initial Specimen Height:	1.0000	inch
Final Moisture:	17.6%		Initial Void Ratio:	0.510	
Initial Saturation:	82.6%		Final Void Ratio:	0.438	
Final Saturation:	99.3%		Specific Gravity :	2.65	

Moisture Condition	Load (psf)	Final Dial Reading (inches)	Sample Height (inches)	Void Ratio	Strain (%)	ΔStrain (%)
In Situ	250	0.0610	0.9943	0.502	0.57	0.57
	500	0.0631	0.9922	0.498	0.78	0.00
	1000	0.0706	0.9847	0.487	1.53	0.75
	2000	0.0803	0.9750	0.472	2.50	0.97
Add water	2000	0.0892	0.9661	0.459	3.39	0.89
	4000	0.1086	0.9467	0.430	5.33	1.94
	1000	0.1052	0.9501	0.435	4.99	-0.34
	250	0.1029	0.9524	0.438	4.76	-0.23



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APPENDIX C

GENERAL EARTHWORK
AND
GRADING SPECIFICATIONS

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GENERAL EARTHWORK AND GRADING SPECIFICATIONS

C-1.00 GENERAL DESCRIPTION

C-1.01 Introduction

These specifications present our general recommendations for earthwork and grading as shown on the approved grading plans for the subject project. These specifications shall cover all clearing and grubbing, removal of existing structures, preparation of land to be filled, filling of the land, spreading, compaction and control of the fill, and all subsidiary work necessary to complete the grading of the filled areas to conform with the lines, grades and slopes as shown on the approved plans.

The recommendations contained in the geotechnical report of which these general specifications are a part of shall supersede the provisions contained hereinafter in case of conflict.

C-1.02 Laboratory Standard and Field Test Methods

The laboratory standard used to establish the maximum density and optimum moisture shall be ASTM D1557.

The insitu density of earth materials (field compaction tests) shall be determined by the sand cone method (ASTM D1556), direct transmission nuclear method (ASTM D2922) or other test methods as considered appropriate by the geotechnical consultant.

Relative compaction is defined, for purposes of these specifications, as the ratio of the in-place density to the maximum density as determined in the previously mentioned laboratory standard.

C-2.00 Clearing

C-2.01 Surface Clearing

All structures marked for removal, timber, logs, trees, brush and other rubbish shall be removed and disposed of off the site. Any trees to be removed shall be pulled in such a manner so as to remove as much of the root system as possible.

C-2.02 Subsurface Removals

A thorough search should be made for possible underground storage tanks and/or septic tanks and cesspools. If found, tanks should be removed and cesspools pumped dry.

Any concrete irrigation lines shall be crushed in place and all metal underground lines shall be removed from the site.

C-2.03 Backfill of Cavities

All cavities created or exposed during clearing and grubbing operations or by previous use of the site shall be cleared of deleterious material and backfilled with native soils or other materials approved by the soil engineer. Said backfill shall be compacted to a minimum of 90% relative compaction.

C-3.00 ORIGINAL GROUND PREPARATION

C-3.01 Stripping of Vegetation

After the site has been properly cleared, all vegetation and topsoil containing the root systems of former vegetation shall be stripped from areas to be graded. Materials removed in this stripping process may be used as fill in areas designated by the soil engineer, provided the vegetation is mixed with a sufficient amount of soil to assure that no appreciable settlement or other detriment will occur due to decaying of the organic matter. Soil materials containing more than 3% organics shall not be used as structural fill.

C-3.02 Removals of Non-Engineered Fills

Any non-engineered fills encountered during grading shall be completely removed and the underlying ground shall be prepared in accordance to the recommendations for original ground preparation contained in this section. After cleansing of any organic matter the fill material may be used for engineered fill.

C-3.03 Overexcavation of Fill Areas

The existing ground in all areas determined to be satisfactory for the support of fills shall be scarified to a minimum depth of 6 inches. Scarification shall continue until the soils are broken down and free from lumps or clods and until the scarified zone is uniform. The moisture content of the scarified zone shall be adjusted to within 2% of optimum moisture. The scarified zone shall then be uniformly compacted to 90% relative compaction.

Where fill material is to be placed on ground with slopes steeper than 5:1 (H:V) the sloping ground shall be benched. The lowermost bench shall be a minimum of 15 feet wide, shall be a minimum of 2 feet deep, and shall expose firm material as determined by the geotechnical consultant. Other benches shall be excavated to firm material as determined by the geotechnical consultant and shall have a minimum width of 4 feet.

Existing ground that is determined to be unsatisfactory for the support of fills shall be overexcavated in accordance to the recommendations contained in the geotechnical report of which these general specifications are a part.

C-4.00 FILL MATERIALS

C-4.01 General

Materials for the fill shall be free from vegetable matter and other deleterious substances, shall not contain rocks or lumps of a greater dimension than is recommended by the geotechnical consultant, and shall be approved by the geotechnical consultant. Soils of poor gradation, expansion, or strength properties shall be placed in areas designated by the geotechnical consultant or shall be mixed with other soils providing satisfactory fill material.

C-4.02 Oversize Material

Oversize material, rock, or other irreducible material with a maximum dimension greater than 12 inches shall not be placed in fills, unless the location, materials, and disposal methods are specifically approved by the geotechnical consultant. Oversize material shall be placed in such a manner that nesting of oversize material does not occur and in such a manner that the oversize material is completely surrounded by fill material compacted to a minimum of

90% relative compaction. Oversize material shall not be placed within 10 feet of finished grade without the approval of the geotechnical consultant.

C-4.03 Import

Material imported to the site shall conform to the requirements of Section 4.01 of these specifications. Potential import material shall be approved by the geotechnical consultant prior to importation to the subject site.

C-5.00 PLACING AND SPREADING OF FILL

C-5.01 Fill Lifts

The selected fill material shall be placed in nearly horizontal layers which when compacted will not exceed approximately 6 inches in thickness. Thicker lifts may be placed if testing indicates the compaction procedures are such that the required compaction is being achieved and the geotechnical consultant approves their use.
Each layer shall be spread evenly and shall be thoroughly blade mixed during the spreading to insure uniformity of material in each layer.

C-5.02 Fill Moisture

When the moisture content of the fill material is below that recommended by the soils engineer, water shall then be added until he moisture content is as specified to assure thorough bonding during the compacting process.

When the moisture content of the fill material is above that recommended by the soils engineer, the fill material shall be aerated by blading or other satisfactory methods until the moisture content is as specified.

C-5.03 Fill Compaction

After each layer has been placed, mixed, and spread evenly, it shall be thoroughly compacted to not less than 90% relative compaction. Compaction shall be by sheepsfoot rollers, multiple-wheel pneumatic tired rollers, or other types approved by the soil engineer.

Rolling shall be accomplished while the fill material is at the specified moisture content. Rolling of each layer shall be continuous over its entire area and the roller shall make sufficient trips to insure that the desired density has been obtained.

C-5.04 Fill Slopes

Fill slopes shall be compacted by means of sheepsfoot rollers or other suitable equipment. Compacting of the slopes may be done progressively in increments of 3 to 4 feet in fill height. At the completion of grading, the slope face shall be compacted to a minimum of 90% relative compaction. This may require track rolling or rolling with a grid roller attached to a tractor mounted side-boom.

Slopes may be over filled and cut back in such a manner that the exposed slope faces are compacted to a minimum of 90% relative compaction.

The fill operation shall be continued in six inch (6") compacted layers, or as specified above, until the fill has been brought to the finished slopes and grades as shown on the accepted plans.

C-5.05 Compaction Testing

Field density tests shall be made by the geotechnical consultant of the compaction of each layer of fill. Density tests shall be made at locations selected by the geotechnical consultant.

Frequency of field density tests shall be not less than one test for each 2.0 feet of fill height and at least every one thousand cubic yards of fill. Where fill slopes exceed four feet in height their finished faces shall be tested at a frequency of one test for each 1000 square feet of slope face.

Where sheepsfoot rollers are used, the soil may be disturbed to a depth of several inches. Density reading shall be taken in the compacted material below the disturbed surface. When these readings indicate that the density of any layer of fill or portion thereof is below the required density, the particular layer or portion shall be reworked until the required density has been obtained.

C-6.00 SUBDRAINS

C-6.01 Subdrain Material

Subdrains shall be constructed of a minimum 4-inch diameter pipe encased in a suitable filter material. The subdrain pipe shall be Schedule 40 Acrylonitrile Butadiene Styrene (ABS) or Schedule 40 Polyvinyl Chloride Plastic (PVC) pipe or approved equivalent. Subdrain pipe shall be installed with perforations down. Filter material shall consist of 3/4" to 1 1/2" clean gravel wrapped in an envelope of filter fabric consisting of Mirafi 140N or approved equivalent.

C-6.02 Subdrain Installation

Subdrain systems, if required, shall be installed in approved ground to conform the approximate alignment and details shown on the plans or herein. The subdrain locations shall not be changed or modified without the approval of the geotechnical consultant. The geotechnical consultant may recommend and direct changes in the subdrain line, grade or material upon approval by the design civil engineer and the appropriate governmental agencies.

C-7.00 EXCAVATIONS

C-7.01 General

Excavations and cut slopes shall be examined by the geotechnical consultant. If determined necessary by the geotechnical consultant, further excavation or overexcavation and refilling of overexcavated areas shall be performed, and/or remedial grading of cut slopes shall be performed.

C-7.02 Fill-Over-Cut Slopes

Where fill-over-cut slopes are to be graded the cut portion of the slope shall be made and approved by the geotechnical consultant prior to placement of materials for construction of the fill portion of the slope.

C-8.00 TRENCH BACKFILL

C-8.01 General

Trench backfill within street right of ways shall be compacted to 90% relative compaction as determined by the ASTM D1557 test method. Backfill may be jetted as a means of initial compaction; however, mechanical compaction will be required to obtain the required percentage of relative compaction. If trenches are jetted, there must be a suitable delay for drainage of excess water before mechanical compaction is applied.

C-9.00 SEASONAL LIMITS

C-9.01 General

No fill material shall be placed, spread or rolled while it is frozen or thawing or during unfavorable weather conditions. When the work is interrupted by heavy rain, fill operations shall not be resumed until field tests by the soils engineer indicate that the moisture content and density of the fill are as previously specified.

C-10.00 SUPERVISION

C-10.01 Prior to Grading

The site shall be observed by the geotechnical consultant upon completion of clearing and grubbing, prior to the preparation of any original ground for preparation of fill.

The supervisor of the grading contractor and the field representative of the geotechnical consultant shall have a meeting and discuss the geotechnical aspects of the earthwork prior to commencement of grading.

C-10.02 During Grading

Site preparation of all areas to receive fill shall be tested and approved by the geotechnical consultant prior to the placement of any fill.

The geotechnical consultant or his representative shall observe the fill and compaction operations so that he can provide an opinion regarding the conformance of the work to the recommendations

APPENDIX D

REFERENCES

RMA GeoScience
Every Project Matters | www.rmacompanies.com

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Vector Environmental Consulting Inc.
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Phone: (949) 526-4510

Lead Inspection Report

Site Information:

2730 Park Avenue
La Verne, CA 91750

Owner Information:

Hillcrest Homes
2705 Mountain View Drive
La Verne, CA 917507

Date: October 27th, 2023

Vector Environmental Consulting Inc.
2913 El Camino Real #504
Tustin, California 92782
Phone: (949) 526-4510

Date: October 27th, 2023

Site Information: 2730 Park Avenue
La Verne, CA 91750

Owner Information: Hillcrest Homes
2705 Mountain View Drive
La Verne, CA 917507

Subject: Lead Inspection Report

Vector Environmental Consulting conducted a pre-demolition lead inspection of the major paint systems associated with the demolition of the structure noted above. All samples were collected utilizing XRF data collection. XRF data, sampling procedures and recommendations can be found on subsequent pages of this report.

Regulatory Information

The HUD/EPA standard for lead-based paint of equal to or greater than 1.0 mg/cm2 or 0.5% by weight, as defined by Title X of the Housing and Community Development Act of 1992.

For purposes of the HUD/EPA Lead-Based Paint Disclosure Rule, 1.0 milligrams per square centimeter (mg/cm^2) or 0.5% by weight are the standards that must be used. If a State or local government has an EPA-authorized plan for certifying lead-based paint inspectors and has lower lead standards, those lower lead standards would apply to inspections (but not to the Lead Disclosure Rule; paint with lead below the federal threshold is not considered lead-based paint for purposes of that Rule).

Although, there is no official standard for lead in school buildings, Los Angeles County and Los Angeles Unified School District have set a standard of 0.7 mg/cm^2. For lead containing materials within this region this standard has determined this to be the action level for abatement activities.

Definitions

Lead-based paint inspection – Title X of the Housing and Community Development Act of 1992, defines lead-based paint inspection as the following:

A surface-by-surface investigation to determine the presence of lead-based paint as provided in section 302(c) of the Lead-Based Paint Poisoning Prevention Act and the provision of a report explaining the results of the investigation. (15 U.S.C. 2681 (7), for use by EPA and its stakeholders; and 42 U.S.C. 4851(12), for use by HUD and its stakeholders.

Lead abatement – The United States Environmental Protection Agency (EPA) defines lead abatement as the following:

Lead abatement projects are designed to permanently eliminate existing lead-based paint hazards. They may be ordered by a state or local government in response to a lead-poisoned child or other reason or may be undertaken voluntarily at any time. Lead-based activities are regulated differently than renovation, repair and painting jobs (RRP), even though, in some cases, the activities are similar. Lead-based paint removal is only considered abatement if the removal is instigated for the purposes of removing lead-based paint, not for renovation purposes.

Renovation, Repair and Painting (RRP) – The United States Environmental Protection Agency (EPA) defines the RRP rule as the following:

RRP projects are typically performed at the option of the property owner for aesthetic or other reasons, or as an interim control to minimize lead hazards. It is NOT designed to permanently eliminate lead-based paint hazards. Since RRP projects can disturb lead-based paint in homes and buildings build before 1978, thus creating new lead hazards, individual renovators must be trained and certified lead-safe RRP practices, and firms must be certified.

Lead Abatement vs RRP Projects

	Lead Abatement Activities	**Similar or Different**	**RRP Projects**
Purpose	Permanently eliminate existing lead-based paint hazards	Different	Conduct renovations, repairs or painting to reduce lead-based paint hazards
Initiated by	State or local government or Voluntary request by property Owner	Different	Voluntary request by property owner
Certifications	Individuals must be trained and certified in lead abatement activities – Firms must be certified to conduct lead abatement activities	Similar	Individuals must be trained and certified in RRP activities – Firms must be certified to conduct RRP activities
Occupation Protection	Firms are required to make sure occupants are out of the home, childcare facility or preschool	Different	Firms are not required to make sure occupants are out of the home, childcare facility or preschool – Firms must distribute EPA's The Lead Safe Certified Guide to Renovate Right before starting renovation work.

OSHA Compliance

OSHA (Occupational Safety and Health Administration) through the regulation 1532.1 further delineates requirements for lead activities. 1532.1 defines "trigger tasks" (e.g., manual demolition, etc.) that disturb lead paint and the contractor responsibilities to its employees. The regulation specifically addresses PEL's (permissible exposure limits) to staff disturbing lead paint. This regulation is initiated when "trigger task" work is implemented on paint systems with .06% or 600 ppm (parts per million). It should be noted that this level (.06%) is virtually any amount of lead paint. As of January 2002, OSHA now requires all contractors to notify the department when disturbing lead paint above 1.0mg/cm2. This level is the same threshold for abatement by HUD.

OSHA requires that the employer is required to protect their employees to the level stipulated in the Standard, or to do an exposure assessment. An exposure assessment is the air monitoring of an employee during lead work to determine his exposure and ultimately to determine the level of protection required. This assessment is applicable to paint systems above .06% or 600 ppm.

Sampling Methodology

Inspection by X-Ray Fluorescents

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections in housing because of the demonstrated ability to determine if lead-based paint is present on many surfaces and to measure the paint without destructive sampling or paint removal, as well as the high speed and low cost per sample. Portable XRF instruments expose a building component to electromagnetic radiation in the form of X-rays or gamma radiation. In response to radiation, each element, including lead, emits energy at a fixed and characteristic level. Emission of characteristic x-rays is called "X-Ray Fluorescence," or XRF. The energy released is measured by the instrument's fluorescence detector and displayed. The inspector must then compare this displayed value (reading) with the threshold or inconclusive range specified in the XRF Performance Characteristic Sheet (PCS) for the specific XRF instrument being used, and the specific substrate beneath the painted surface.

- If the reading is less than the threshold, then the reading is considered negative for lead-based paint.

- If the reading is greater than or equal to the threshold, then the reading is considered positive. For instrument – substrate combinations that have an inconclusive range:

- If the reading is less than the lower boundary of the inconclusive range, then the reading is considered negative.

- If the reading is within the inconclusive range, including its boundary values, then the reading is considered inconclusive.

- If the reading is greater than the upper boundary of the inconclusive range, then the reading is considered positive

Inspection by Paint-Chip Analysis

Laboratory analysis of paint-chip samples is recommended for inaccessible areas or building components with irregular (non-flat) surfaces that cannot be tested using XRF instrumentation. Laboratory analysis is also recommended to confirm inconclusive XRF results, as specified on the applicable XRF Performance Characteristic Sheet, or at the inspector's professional judgment. Only laboratories recognized under the EPA NLLAP may be used for analyzing samples of paint in target housing or pre-1978 child occupied facilities. Laboratory analysis is more accurate and precise than XRF, but only if great care is used to collect and analyze the paint-chip sample. Laboratory results of paint chip samples should be reported as mg/cm^2. The dimensions of the area from which a paint-chip sample is removed must be measured as accurately as possible (to the nearest millimeter or 1/16th of an inch) and the sample must include every layer of paint with minimal substrate included.

Although laboratory results can also be reported as a percentage of lead by weight of the paint sample, precents should only be used when it is not feasible to use mg/cm^2. These two units of measure are not interchangeable. Laboratory results should be reported as mg/cm^2 if the surface area can be accurately measured and if all paint within that area is collected.

Determining Sample Locations

A testing combination is a unique combination of room equivalent, building component type, and substrate. Visible color may not be an accurate predictor of painting history and is not included in the definition of a testing combination. The list is not intended to be exhaustive. Unlisted components that are coated with paint, varnish, shellac, wallpaper, stain, or other coating should also be considered as a separate testing combination.

Certain building components that are adjacent to each other and not likely to have different painting histories can be grouped together into a single testing combination, as follows:

- Window casings, stops, jambs and aprons are typically a single testing combination
- Interior window mullions and window sashes are a single testing combination
- Exterior window mullions and window sashes are a single testing combination
- Door jambs, stops, transoms, casings and other door frame parts are a single testing combination
- Door stiles, rails, panels, mullions and other door parts are a single testing combination
- Baseboards and associated trim (such as quarter-round or other caps) are a single testing combination (do not group chair rails, crown molding or walls with baseboards)
- Painted electrical sockets, switches or plates can be grouped with walls

Each of these building parts should be tested separately if there is some specific reason to believe that they have a different painting history. In most cases, separate testing will not be necessary

Sample Results

The lead-based paint inspection conducted at 2730 Park Avenue included 18 XRF readings and 0 Paint Chip Samples, covering representative building components, substrates and paint colors on or in the building.

The following table lists the higher lead containing components that could likely require demolition and/or removal. These items would certainly require "abatement procedures" be implemented.

Subsequent tables illustrate all of the paint systems at the school site. Regulations may apply to other components with lower levels of lead. The contractor is required to review and verify the scope of work for the project and determine the impact of activities on lead painted surfaces (at any level).

The following table lists the components that are above the HUD regulated level of 1.0 mg/cm^2

Building	Component	Location	Quantity
2730	Sink	Kitchen	1 ea
2730	Counter Tile	Kitchen	40 sf
2730	Counter Tile	Restroom	30 sf
2730	Sink	Restroom	1 ea
2730	Bathtub	Restroom	1 ea

The following table lists the components that are above the Los Angeles County and LAUSD standard of 0.7 mg/cm^2

Building	Component	Location	Quantity
No Lead Detected at This Level			

Summary & Recommendations

Depending on the scope of work for the project; contractors should determine the level of contractor licensing for the abatement and/or work disturbing lead paint systems.

We recommend "lead certified" painting contractors for the painting of buildings coated with lead paint. Preparation of these surfaces falls under the "trigger task" category of OSHA 1532.1. Preparation of painted surfaces and the ultimate "guarantee" of the final painted product is better completed by a "single" contractor.

RRP certified firms should be considered for incidental work that disturbs small amounts of lead paint. These categories of work may include concrete coring (through lead paint) and structure welding (door hinges etc.).

Abatement companies with CDPH (California Department of Public Health) lead certified staff will be required for all abatement work. The companies selected will have to insure that a

certified lead supervisor be present during abatement preparation and be within two hours (response time) during abatement activities.

Painting contractors will be required to collect all paint chips from the preparation activities. The contractor will sample and categorize the waste for disposal. Proof of sampling and waste disposal will be required.

Metal components (coated with lead paint) will likely be recycled. A letter (stating acceptance of material) will be required from the contractor's recycling facility.

All other waste produced from abatement activities will be separated and staged in a safe storage area at the project site during the sampling process. The characterization of the waste can take up to two weeks and an area will need to be allocated for this purpose. The contractor will be required to conduct and pay all costs associated with the characterization of the waste. Copies (proof) of all characterization of waste will be demanded on completion and before waste transport.

Vector Environmental Consulting Inc.



David G Johnson
President
Disabled Veteran Business Enterprise # 2026880
Certified Asbestos Consultant #22-6940
Lead Inspector/ Assessor #9289

Sampling Data

Lead Sampling Data

Inspection Date: 10/25/23

Bldg.	Location	Component	Substrate	Color	Lead Mg/cm2	Comments
2730	Exterior	Wall	Stucco	Pink	0.01	
2730	Exterior	Privacy Screen	Wood	White	0.01	
2730	Exterior	Fascia	Wood	White	0.01	
2730	Exterior	Window Frame	Metal	White	0.01	
2730	Exterior	Handrail	Metal	White	0.04	
2730	Exterior	Door Frame	Wood	Brown	0.01	
2730	Exterior	Door	Wood	Brown	0.01	
2730	Interior	Wall	Plaster	Wallpaper	0.00	
2730	Interior	Wall	Plaster	White	0.01	
2730	Interior	Door Frame	Wood	White	0.00	
2730	Interior	Door	Wood	White	0.00	
2730	Interior	Counter Tile	Ceramic	White	1.90	Restroom
2730	Interior	Sink	Porcelain	White	1.00	Restroom
2730	Interior	Bathtub	Porcelain	White	2.34	Restroom
2730	Interior	Floor Tile	Ceramic	Tan	0.01	Restroom
2730	Interior	Counter Tile	Ceramic	White	1.00	Kitchen
2730	Interior	Sink	Porcelain	White	4.90	Kitchen
2730	Interior	Casework	Wood	Brown	0.01	Kitchen

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Tustin, California 92782
Phone: (949) 526-4510

Asbestos Inspection Report

Site Information:

2730 Park Avenue
La Verne, CA 91750

Owner Information:

Hillcrest Homes
2705 Mountain View Drive
La Verne, CA 917507

Date: October 27th, 2023

Vector Environmental Consulting Inc.
2913 El Camino Real #504
Tustin, California 92782
Phone: (949) 526-4510

Date: October 27th, 2023

Site Information: 2730 Park Avenue
La Verne, CA 91750

Owner Information: Hillcrest Homes
2705 Mountain View Drive
La Verne, CA 917507

Subject: Asbestos Inspection Report

Vector Environmental Consulting Inc. conducted a comprehensive and thorough pre-demolition asbestos inspection at the above referend address. All suspect materials were sampled in accordance with the regulations. Sampling methodology, laboratory reports and recommendations can be found on subsequent pages of this report.

Regulatory Requirements

EPA's air toxics regulation for asbestos is intended to minimize the release of asbestos fibers during activities involving the handling of asbestos.

Air toxics regulations under the Clean Air Act specify work practices for asbestos to be followed during demolitions and renovations of all facilities, including, but not limited to, structures, installations, and buildings. The regulations require a thorough inspection where the demolition or renovation operation will occur.

The EPA's regulations (40 CFR 61 Subpart M) in reference to asbestos containing materials are enforced locally by Air Pollution Control Districts and/or Air Quality Management Districts. South Coast Air Quality Management District (SCAQMD) is the governing agency regarding asbestos containing materials in Los Angeles, Orange, Riverside and San Bernardino Counties. Their rule 1403 mandates all sampling requirements and regulates the removal and disposal of asbestos containing materials within these regions.

Other areas such as San Diego County utilize different regulatory authorities, such as, San Diego Air Pollution Control Division and their rule 1206 for local enforcement of asbestos. Ensure your contactor and/or consultant follow the local regulations required for inspections and removals.

Sampling Methodology

Vector Environmental staff adheres to all federal and local regulations during inspections. Our staff utilizes safe work practices during all sampling procedures to ensure the occupants of the structure are not exposed to unwanted hazardous materials. Our inspections range from visual verification and assumptions to physical sampling and laboratory analysis. Sampling of materials during this inspection comply with the provisions of 40 CFR Part 763.86. David G Johnson (CAC #22-6940) conducted this inspection on October 25th, 2023.

Vector Environmental incorporates the use of leak tight containers and physical markings to identify the location, and sample type of the material collected. These samples are further logged on a chain of custody and sampling diagram, both of which, can be found on ensuing pages of this report. All sampling was conducted following the provision of 40 CFR Part 763.86.

All of the samples collected during our inspection are transferred to an accredited laboratory who has participated in the National Voluntary Laboratory Accreditation Program (NVLAP). Vector Environmental utilizes the services of EmLab P&K, LLC (NVLAP 200757-0) 2841 Dow Avenue, Suite 300, Tustin, CA 92780 (866) 465-6653.

Laboratory Analysis

Laboratories are required to adhere to an additional set of regulations (40 CFR part 763, Section 1, Appendix A, Polarized Light Microscopy) to analyze bulk samples of suspected asbestos containing materials.

A low-power binocular microscope, preferably stereoscopic, is used to examine the bulk samples received by the investigator. Bulk samples of building materials taken for the identification and quantitation of asbestos are first examined for homogeneity at low magnification with the aid of a stereomicroscope. Once the homogeneity is determined the samples are analyzed by each present layer. The samples are commonly reported in % by weight.

Asbestos containing materials are materials found to contain greater than one percent asbestos by weight utilizing Polarized Light Microscopy (PLM); However, this analysis is not without it flaws. PLM analysis is only accurate down to ten percent of a materials' weight. Thus, any result found to contain anything less than ten percent is the laboratory's best guess at composition.

When a material contains suspected fibers in such a low concentration that a laboratory technician cannot accurately determine if the material is likely over one percent, a less than one percent or "trace" asbestos result is given. If a less than one percent or "trace" asbestos result is received, a Certified Asbestos Consultant (CAC) is required to either assume the material to contain greater than one percent or conduct further analysis of the material utilizing the 1000 point-count method (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1262). Once the materials have been accurately analyzed utilizing this method, reports can reveal a content of as low as less than one tenth of one percent. These results are then interpreted by the CAC and determined the regulations implicated on the materials.

Even trace amounts of asbestos can be regulated by agencies other than the EPA, such as, OSHA.

Suspect Materials

Suspect materials are an indicator of sampling requirements within a structure. Areas can be considered homogeneous in composition of the materials are of like condition, application, and age. These homogeneous areas are compiled to determine the number of samples required for each material. As the consultant a CAC makes the determination for homogenous areas. With this information the consultant determines the number of samples needed for an accurate representation of the structure's composition.

Examples of Suspect Materials (including but not limited to):

- Vinyl Floor Tile
- Flooring Mastic
- Plaster
- Drywall & Joint Compound
- Window Putty
- Linoleum
- Acoustic Ceiling Texture
- Ducting & Registers
- Composition Roofing
- Penetration & Patch Mastic
- Stucco
- Asphalt
- Concrete

Vector Environmental uses this information to determine the sampling areas of a structure and compiles our data for use in the field. The above-mentioned materials are NOT inclusive of ALL suspect materials; rather, an example of materials that could potentially contain asbestos within a structure.

Below is a List of Suspect Materials Collected During This Inspection:

- Plaster
- Drywall & Joint compound
- Linoleum
- Acoustic Ceiling Texture
- Stucco
- Composition Roofing
- Penetration Mastic

Results

As mentioned earlier in this document Vector Environmental collects these samples and submits them to an accredited laboratory for analysis. EmLab P&K, LLC (NVLAP 200757-0) 2841 Dow Avenue, Suite 300, Tustin, CA 92780 (866) 465-6653.was utilized for this project.

The table below illustrates the materials at the site that were determined by the laboratory to contain greater than one percent asbestos by weight. Some areas may be combined for homogeneity during the inspections process. Therefore, some areas of similar condition found at the site may not be sampled specifically. The quantities provided in the table below are an estimation of the materials on site and should not be used for bidding purposes. It is the responsibility of the contractor to conduct "take-offs" for their own work.

ACM (>1%):

Material	Location	Quantity
Roofing Mastic	Roof of Structure	30 sf

Summary

Although we aggressively search all areas of the structure (wall cavities, plenums, etc.) additional suspect materials and/or debris may be present in concealed spaces but will only be accessible during the course of demolition activities. Care must be exercised when accessing these areas. Any suspect materials encountered during the course of demolition/renovation activities that were not previously sampled must be presumed to be asbestos containing until sampled and proven otherwise.

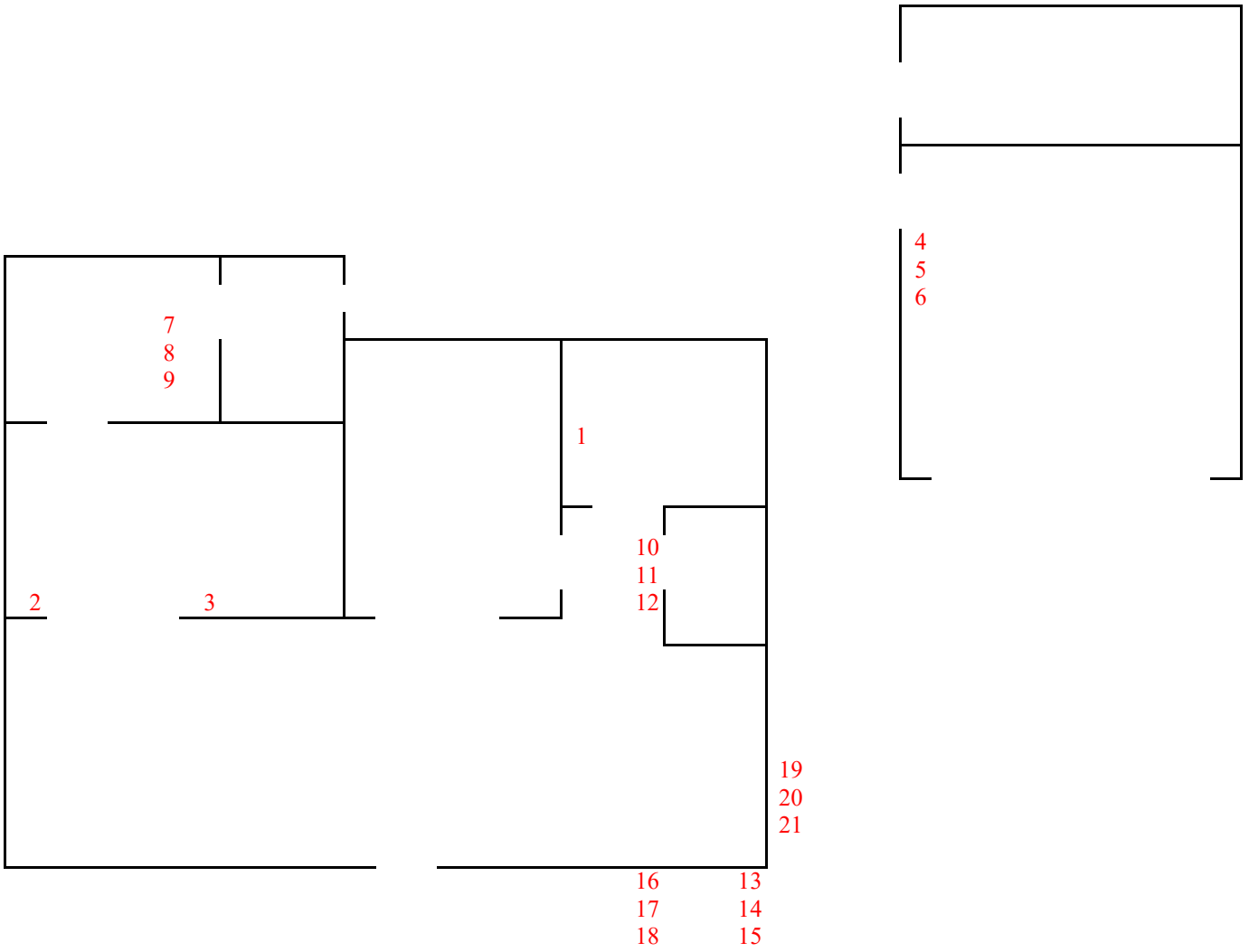
Vector Environmental Consulting Inc.



David G Johnson
President
Disabled Veteran Business Enterprise # 2026880
Certified Asbestos Consultant #22-6940
Lead Inspector/ Assessor #9289

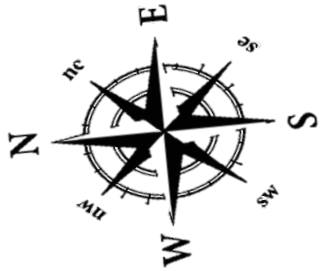
Site Diagram(s)

Site Diagram



Legend

Notes:



In some cases samples have been taken from structures built in the same era of construction, and considered homogeneous in other structures.

Sample Numbers Are Noted In Red

Sampling Table

Date: October 27th, 2023 Collected By: David Johnson

Location: 2730 Park Avenue
La Verne, CA 91750

Building #	Material	Sample #	Results	Condition	F/NF	Sample Location
2730	Plaster	1	ND	Good	N/A	Main House Interior Walls & Ceilings
2730	Plaster	2	ND	Good	N/A	Main House Interior Walls & Ceilings
2730	Plaster	3	ND	Good	N/A	Main House Interior Walls & Ceilings
2730	Drywall & Joint Compound	4	ND	Good	N/A	Garage Interior Walls
2730	Drywall & Joint Compound	5	ND	Good	N/A	Garage Interior Walls
2730	Drywall & Joint Compound	6	ND	Good	N/A	Garage Interior Walls
2730	Linoleum	7	ND	Good	N/A	Kitchen Flooring
2730	Linoleum	8	ND	Good	N/A	Kitchen Flooring
2730	Linoleum	9	ND	Good	N/A	Kitchen Flooring
2730	Acoustic Ceiling	10	ND	Good	N/A	Hallway, Dining, Living Room Ceilings
2730	Acoustic Ceiling	11	ND	Good	N/A	Hallway, Dining, Living Room Ceilings
2730	Acoustic Ceiling	12	ND	Good	N/A	Hallway, Dining, Living Room Ceilings
2730	Stucco	13	ND	Good	N/A	Exterior Walls
2730	Stucco	14	ND	Good	N/A	Exterior Walls
2730	Stucco	15	ND	Good	N/A	Exterior Walls
2730	Composition Roofing	16	ND	Good	N/A	Roof of Structure
2730	Composition Roofing	17	ND	Good	N/A	Roof of Structure
2730	Composition Roofing	18	ND	Good	N/A	Roof of Structure

ND- No Asbestos Detected
NF- Non-Friable
F- Friable

Date: October 27th, 2023 Collected By: David Johnson

Location: 2730 Park Avenue
La Verne, CA 91750

Building #	Material	Sample #	Results	Condition	F/NF	Sample Location
2730	Penetration Mastic	19	3% Chrysotile	Good	NF	Roof of Structure
2730	Penetration Mastic	20	3% Chrysotile	Good	NF	Roof of Structure
2730	Penetration Mastic	21	3% Chrysotile	Good	NF	Roof of Structure

ND- No Asbestos Detected
NF- Non-Friable
F- Friable

Laboratory Reports

eurofins | Built Environment Testing

Report for:

David Johnson
Vector Environmental Consulting Inc.
2913 El Camino Real #504
Tustin, CA 92782

Regarding: Eurofins EPK Built Environment Testing, LLC
Project: La Verne; 2730 Park Ave
EML ID: 3431870

Approved by:



Approved Signatory
Danny Li

Dates of Analysis:
Asbestos PLM: 10-26-2023

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1267)
NVLAP Lab Code 200757-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins EPK Built Environment Testing, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Eurofins EPK Built Environment Testing, LLC
2841 Dow Avenue, Suite 300, Tustin, CA 92780
(800) 651-4802 www.eurofinsus.com/Built

Client: Vector Environmental Consulting Inc.
C/O: David Johnson
Re: La Verne; 2730 Park Ave

Date of Receipt: 10-25-2023
Date of Report: 10-26-2023

ASBESTOS PLM REPORT

Total Samples Submitted:	21
Total Samples Analyzed:	19
Total Samples with Layer Asbestos Content > 1%:	1

Location: 1, Interior, Plaster

Lab ID-Version‡: 16707651-1

Sample Layers	Asbestos Content
White Skim Coat with Paint	ND
Gray Plaster	ND
Sample Composite Homogeneity:	Moderate

Location: 2, Interior, Plaster

Lab ID-Version‡: 16707652-1

Sample Layers	Asbestos Content
White Skim Coat with Paint	ND
Gray Plaster	ND
Sample Composite Homogeneity:	Moderate

Location: 3, Interior, Plaster

Lab ID-Version‡: 16707653-1

Sample Layers	Asbestos Content
White Skim Coat with Paint	ND
Gray Plaster	ND
Sample Composite Homogeneity:	Moderate

Location: 4, Interior, DW and JC

Lab ID-Version‡: 16707654-1

Sample Layers	Asbestos Content
White Joint Compound with Paint	ND
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Moderate

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

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C/O: David Johnson
Re: La Verne; 2730 Park Ave

Date of Receipt: 10-25-2023
Date of Report: 10-26-2023

ASBESTOS PLM REPORT

Location: 5, Interior, DW and JC

Lab ID-Version‡: 16707655-1

Sample Layers	Asbestos Content
White Joint Compound with Paint	ND
Yellow Tape (Mesh)	ND
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Moderate

Location: 6, Interior, DW and JC

Lab ID-Version‡: 16707656-1

Sample Layers	Asbestos Content
White Joint Compound with Paint	ND
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Moderate

Location: 7, Interior, Linoleum

Lab ID-Version‡: 16707657-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Beige Compound	ND
Brown Mastic	ND
Sample Composite Homogeneity:	Good

Location: 8, Interior, Linoleum

Lab ID-Version‡: 16707658-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Beige Compound	ND
Brown Mastic	ND
Sample Composite Homogeneity:	Good

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C/O: David Johnson
Re: La Verne; 2730 Park Ave

Date of Receipt: 10-25-2023
Date of Report: 10-26-2023

ASBESTOS PLM REPORT

Location: 9, Interior, Linoleum

Lab ID-Version‡: 16707659-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Beige Compound	ND
Brown Mastic	ND
Sample Composite Homogeneity:	Good

Location: 10, Interior, Acoustic Ceiling

Lab ID-Version‡: 16707660-1

Sample Layers	Asbestos Content
White Ceiling Texture (Acoustic)	ND
Sample Composite Homogeneity:	Good

Location: 11, Interior, Acoustic Ceiling

Lab ID-Version‡: 16707661-1

Sample Layers	Asbestos Content
White Ceiling Texture (Acoustic)	ND
Sample Composite Homogeneity:	Good

Location: 12, Interior, Acoustic Ceiling

Lab ID-Version‡: 16707662-1

Sample Layers	Asbestos Content
White Ceiling Texture (Acoustic)	ND
Sample Composite Homogeneity:	Good

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(800) 651-4802 www.eurofinsus.com/Built

Client: Vector Environmental Consulting Inc.
C/O: David Johnson
Re: La Verne; 2730 Park Ave

Date of Receipt: 10-25-2023
Date of Report: 10-26-2023

ASBESTOS PLM REPORT

Location: 13, Exterior, Stucco

Lab ID-Version‡: 16707663-1

Sample Layers	Asbestos Content
White Skim Coat	ND
Gray Stucco	ND
Sample Composite Homogeneity:	Moderate

Location: 14, Exterior, Stucco

Lab ID-Version‡: 16707664-1

Sample Layers	Asbestos Content
White Skim Coat	ND
Gray Stucco	ND
Sample Composite Homogeneity:	Moderate

Location: 15, Exterior, Stucco

Lab ID-Version‡: 16707665-1

Sample Layers	Asbestos Content
White Skim Coat	ND
Gray Stucco	ND
Sample Composite Homogeneity:	Moderate

Location: 16, Exterior, Roofing

Lab ID-Version‡: 16707666-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Composite Non-Asbestos Content:	5% Glass Fibers
Sample Composite Homogeneity:	Good

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
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Client: Vector Environmental Consulting Inc.
C/O: David Johnson
Re: La Verne; 2730 Park Ave

Date of Receipt: 10-25-2023
Date of Report: 10-26-2023

ASBESTOS PLM REPORT

Location: 17, Exterior, Roofing Lab ID-Version‡: 16707667-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Composite Non-Asbestos Content:	5% Glass Fibers
Sample Composite Homogeneity:	Good

Location: 18, Exterior, Roofing Lab ID-Version‡: 16707668-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Composite Non-Asbestos Content:	5% Glass Fibers
Sample Composite Homogeneity:	Good

Location: 19, Exterior, P. Mastic Lab ID-Version‡: 16707669-1

Sample Layers	Asbestos Content
Black Mastic	3% Chrysotile
Sample Composite Homogeneity:	Good

Comments: Samples 20 and 21 were not analyzed due to prior positive series.

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‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Lab Report Number:

Chain Of Custody

Vector Environmental Consuling Inc.
2913 El Camino Real #504
Tustin, California 92782
Phone: (949) 526-4510
Email: d.g.johnson77@gmail.com

Project Name:	LA VERNE
Project Address:	2730 PARK AVE
Sampling Technician:	DAVID JOHNSON
Date:	10.25.23



Special Instructions: *Stop at first positive. Do not composite analyze samples.*

Analysis Information

Turn Around Time:			
Rush (3 Hour)	Rush (Same Day)	Rush (Next Day)	Standard

Analysis Required:							
PLM	PCM - NIOSH 7400	TEM - NIOSH 7402	TEM - AHERA	Lead Waste Character	Lead Flame - AA	Fungal Spore Count	Fungal Direct Microscope

Sampling Information

Sample Number	Sample Type	Location	Start Time	Stop Time	Flow Rate	Material
1	B	INTERIOR				PLASTER
2						"
3						"
4						DW & JC
5						"
6						"
7						LINOLEUM
8						"
9						"
10						ACOUSTIC CEILING
11						"
12						"
13		EXTERIOR				STUCCO
14						"
15						"
16						ROOFING
17						"
18						"
19						P. MASTIC
20						"
21						"

Relinquished By (print): David Johnson Signature:
Received By (print): ASHLEY QUIM Signature:

Date Relinquished: 10.25.23
Date Received: 10/25/23

Time Relinquished: 1214
Time Received: 12:49

Certifications

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant



Name **David G Johnson**

Certification No. **22-6940**

Expires on **01/21/24**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Vector Environmental Consulting Inc.
2913 El Camino Real #504
Tustin, California 92782
Phone: (949) 526-4510

Lead Inspection Report

Site Information:

2712 Park Avenue
La Verne, CA 91750

Owner Information:

Hillcrest Homes
2705 Mountain View Drive
La Verne, CA 917507

Date: October 27th, 2023

Vector Environmental Consulting Inc.
2913 El Camino Real #504
Tustin, California 92782
Phone: (949) 526-4510

Date: October 27th, 2023

Site Information: 2712 Park Avenue
La Verne, CA 91750

Owner Information: Hillcrest Homes
2705 Mountain View Drive
La Verne, CA 917507

Subject: Lead Inspection Report

Vector Environmental Consulting conducted a pre-demolition lead inspection of the major paint systems associated with the demolition of the structure noted above. All samples were collected utilizing XRF data collection. XRF data, sampling procedures and recommendations can be found on subsequent pages of this report.

Regulatory Information

The HUD/EPA standard for lead-based paint of equal to or greater than 1.0 mg/cm2 or 0.5% by weight, as defined by Title X of the Housing and Community Development Act of 1992.

For purposes of the HUD/EPA Lead-Based Paint Disclosure Rule, 1.0 milligrams per square centimeter (mg/cm^2) or 0.5% by weight are the standards that must be used. If a State or local government has an EPA-authorized plan for certifying lead-based paint inspectors and has lower lead standards, those lower lead standards would apply to inspections (but not to the Lead Disclosure Rule; paint with lead below the federal threshold is not considered lead-based paint for purposes of that Rule).

Although, there is no official standard for lead in school buildings, Los Angeles County and Los Angeles Unified School District have set a standard of 0.7 mg/cm^2. For lead containing materials within this region this standard has determined this to be the action level for abatement activities.

Definitions

Lead-based paint inspection – Title X of the Housing and Community Development Act of 1992, defines lead-based paint inspection as the following:

A surface-by-surface investigation to determine the presence of lead-based paint as provided in section 302(c) of the Lead-Based Paint Poisoning Prevention Act and the provision of a report explaining the results of the investigation. (15 U.S.C. 2681 (7), for use by EPA and its stakeholders; and 42 U.S.C. 4851(12), for use by HUD and its stakeholders.

Lead abatement – The United States Environmental Protection Agency (EPA) defines lead abatement as the following:

Lead abatement projects are designed to permanently eliminate existing lead-based paint hazards. They may be ordered by a state or local government in response to a lead-poisoned child or other reason or may be undertaken voluntarily at any time. Lead-based activities are regulated differently than renovation, repair and painting jobs (RRP), even though, in some cases, the activities are similar. Lead-based paint removal is only considered abatement if the removal is instigated for the purposes of removing lead-based paint, not for renovation purposes.

Renovation, Repair and Painting (RRP) – The United States Environmental Protection Agency (EPA) defines the RRP rule as the following:

RRP projects are typically performed at the option of the property owner for aesthetic or other reasons, or as an interim control to minimize lead hazards. It is NOT designed to permanently eliminate lead-based paint hazards. Since RRP projects can disturb lead-based paint in homes and buildings build before 1978, thus creating new lead hazards, individual renovators must be trained and certified lead-safe RRP practices, and firms must be certified.

Lead Abatement vs RRP Projects

	Lead Abatement Activities	**Similar or Different**	**RRP Projects**
Purpose	Permanently eliminate existing lead-based paint hazards	Different	Conduct renovations, repairs or painting to reduce lead-based paint hazards
Initiated by	State or local government or Voluntary request by property Owner	Different	Voluntary request by property owner
Certifications	Individuals must be trained and certified in lead abatement activities – Firms must be certified to conduct lead abatement activities	Similar	Individuals must be trained and certified in RRP activities – Firms must be certified to conduct RRP activities
Occupation Protection	Firms are required to make sure occupants are out of the home, childcare facility or preschool	Different	Firms are not required to make sure occupants are out of the home, childcare facility or preschool – Firms must distribute EPA's The Lead Safe Certified Guide to Renovate Right before starting renovation work.

OSHA Compliance

OSHA (Occupational Safety and Health Administration) through the regulation 1532.1 further delineates requirements for lead activities. 1532.1 defines "trigger tasks" (e.g., manual demolition, etc.) that disturb lead paint and the contractor responsibilities to its employees. The regulation specifically addresses PEL's (permissible exposure limits) to staff disturbing lead paint. This regulation is initiated when "trigger task" work is implemented on paint systems with .06% or 600 ppm (parts per million). It should be noted that this level (.06%) is virtually any amount of lead paint. As of January 2002, OSHA now requires all contractors to notify the department when disturbing lead paint above 1.0mg/cm2. This level is the same threshold for abatement by HUD.

OSHA requires that the employer is required to protect their employees to the level stipulated in the Standard, or to do an exposure assessment. An exposure assessment is the air monitoring of an employee during lead work to determine his exposure and ultimately to determine the level of protection required. This assessment is applicable to paint systems above .06% or 600 ppm.

Sampling Methodology

Inspection by X-Ray Fluorescents

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections in housing because of the demonstrated ability to determine if lead-based paint is present on many surfaces and to measure the paint without destructive sampling or paint removal, as well as the high speed and low cost per sample. Portable XRF instruments expose a building component to electromagnetic radiation in the form of X-rays or gamma radiation. In response to radiation, each element, including lead, emits energy at a fixed and characteristic level. Emission of characteristic x-rays is called "X-Ray Fluorescence," or XRF. The energy released is measured by the instrument's fluorescence detector and displayed. The inspector must then compare this displayed value (reading) with the threshold or inconclusive range specified in the XRF Performance Characteristic Sheet (PCS) for the specific XRF instrument being used, and the specific substrate beneath the painted surface.

- If the reading is less than the threshold, then the reading is considered negative for lead-based paint.

- If the reading is greater than or equal to the threshold, then the reading is considered positive. For instrument – substrate combinations that have an inconclusive range:

- If the reading is less than the lower boundary of the inconclusive range, then the reading is considered negative.

- If the reading is within the inconclusive range, including its boundary values, then the reading is considered inconclusive.

- If the reading is greater than the upper boundary of the inconclusive range, then the reading is considered positive

Inspection by Paint-Chip Analysis

Laboratory analysis of paint-chip samples is recommended for inaccessible areas or building components with irregular (non-flat) surfaces that cannot be tested using XRF instrumentation. Laboratory analysis is also recommended to confirm inconclusive XRF results, as specified on the applicable XRF Performance Characteristic Sheet, or at the inspector's professional judgment. Only laboratories recognized under the EPA NLLAP may be used for analyzing samples of paint in target housing or pre-1978 child occupied facilities. Laboratory analysis is more accurate and precise than XRF, but only if great care is used to collect and analyze the paint-chip sample. Laboratory results of paint chip samples should be reported as mg/cm^2. The dimensions of the area from which a paint-chip sample is removed must be measured as accurately as possible (to the nearest millimeter or 1/16th of an inch) and the sample must include every layer of paint with minimal substrate included.

Although laboratory results can also be reported as a percentage of lead by weight of the paint sample, precents should only be used when it is not feasible to use mg/cm^2. These two units of measure are not interchangeable. Laboratory results should be reported as mg/cm^2 if the surface area can be accurately measured and if all paint within that area is collected.

Determining Sample Locations

A testing combination is a unique combination of room equivalent, building component type, and substrate. Visible color may not be an accurate predictor of painting history and is not included in the definition of a testing combination. The list is not intended to be exhaustive. Unlisted components that are coated with paint, varnish, shellac, wallpaper, stain, or other coating should also be considered as a separate testing combination.

Certain building components that are adjacent to each other and not likely to have different painting histories can be grouped together into a single testing combination, as follows:

- Window casings, stops, jambs and aprons are typically a single testing combination
- Interior window mullions and window sashes are a single testing combination
- Exterior window mullions and window sashes are a single testing combination
- Door jambs, stops, transoms, casings and other door frame parts are a single testing combination
- Door stiles, rails, panels, mullions and other door parts are a single testing combination
- Baseboards and associated trim (such as quarter-round or other caps) are a single testing combination (do not group chair rails, crown molding or walls with baseboards)
- Painted electrical sockets, switches or plates can be grouped with walls

Each of these building parts should be tested separately if there is some specific reason to believe that they have a different painting history. In most cases, separate testing will not be necessary

Sample Results

The lead-based paint inspection conducted at 2712 Park Avenue included 22 XRF readings and 0 Paint Chip Samples, covering representative building components, substrates and paint colors on or in the building.

The following table lists the higher lead containing components that could likely require demolition and/or removal. These items would certainly require "abatement procedures" be implemented.

Subsequent tables illustrate all of the paint systems at the school site. Regulations may apply to other components with lower levels of lead. The contractor is required to review and verify the scope of work for the project and determine the impact of activities on lead painted surfaces (at any level).

The following table lists the components that are above the HUD regulated level of 1.0 mg/cm^2

Building	Component	Location	Quantity
2712	Sink	Kitchen	1 ea
2712	Counter & Shower Tile	Hallway Restroom	60 sf
2712	Counter Tile	Master Restroom	50 sf
2712	Sink	Mater Restroom	1 ea
2712	Bathtub	Master Restroom	1 ea

The following table lists the components that are above the Los Angeles County and LAUSD standard of 0.7 mg/cm^2

Building	Component	Location	Quantity
No Lead Detected at This Level			

Summary & Recommendations

Depending on the scope of work for the project; contractors should determine the level of contractor licensing for the abatement and/or work disturbing lead paint systems.

We recommend "lead certified" painting contractors for the painting of buildings coated with lead paint. Preparation of these surfaces falls under the "trigger task" category of OSHA 1532.1. Preparation of painted surfaces and the ultimate "guarantee" of the final painted product is better completed by a "single" contractor.

RRP certified firms should be considered for incidental work that disturbs small amounts of lead paint. These categories of work may include concrete coring (through lead paint) and structure welding (door hinges etc.).

Abatement companies with CDPH (California Department of Public Health) lead certified staff will be required for all abatement work. The companies selected will have to insure that a

certified lead supervisor be present during abatement preparation and be within two hours (response time) during abatement activities.

Painting contractors will be required to collect all paint chips from the preparation activities. The contractor will sample and categorize the waste for disposal. Proof of sampling and waste disposal will be required.

Metal components (coated with lead paint) will likely be recycled. A letter (stating acceptance of material) will be required from the contractor's recycling facility.

All other waste produced from abatement activities will be separated and staged in a safe storage area at the project site during the sampling process. The characterization of the waste can take up to two weeks and an area will need to be allocated for this purpose. The contractor will be required to conduct and pay all costs associated with the characterization of the waste. Copies (proof) of all characterization of waste will be demanded on completion and before waste transport.

Vector Environmental Consulting Inc.



David G Johnson
President
Disabled Veteran Business Enterprise # 2026880
Certified Asbestos Consultant #22-6940
Lead Inspector/ Assessor #9289

Sampling Data

Lead Sampling Data

Inspection Date: 10/25/23

Bldg.	Location	Component	Substrate	Color	Lead Mg/cm2	Comments
2712	Exterior	Wall	Stucco	Tan	0.01	
2712	Exterior	Railing	Wood	White	0.01	
2712	Exterior	Fascia	Wood	White	0.01	
2712	Exterior	Window Frames	Metal	White	0.01	
2712	Exterior	Door Frame	Wood	Green	0.04	
2712	Exterior	Door	Wood	Green	0.01	
2712	Interior	Wall	Plaster	White	0.01	
2712	Interior	Wall	Wood	Brown	0.00	
2712	Interior	Casework	Wood	Yellow	0.00	
2712	Interior	Counter	Granite	Black	0.00	
2712	Interior	Sink	Porcelain	White	1.00	
2712	Interior	Counter Tile	Ceramic	White	2.10	Hallway Restroom
2712	Interior	Toilet	Porcelain	White	0.00	Hallway Restroom
2712	Interior	Shower Tile	Ceramic	White	1.34	Hallway Restroom
2712	Interior	Wall	Plaster	Tan	0.01	Hallway Restroom
2712	Interior	Door Frame	Wood	White	0.01	
2712	Interior	Door	Wood	White	0.01	
2712	Interior	Counter Tile	Ceramic	Blue	4.00	Master Bathroom
2712	Interior	Counter Tile	Ceramic	Black	1.90	Master Bathroom
2712	Interior	Toilet	Porcelain	White	0.00	Master Bathroom
2712	Interior	Sink	Porcelain	White	2.10	Master Bathroom
2713	Interior	Bathtub	Porcelain	White	3.10	Master Bathroom

Vector Environmental Consulting Inc.
2913 El Camino Real #504
Tustin, California 92782
Phone: (949) 526-4510

Asbestos Inspection Report

Site Information:

2712 Park Avenue
La Verne, CA 91750

Owner Information:

Hillcrest Homes
2705 Mountain View Drive
La Verne, CA 917507

Date: October 27th, 2023

Vector Environmental Consulting Inc.
2913 El Camino Real #504
Tustin, California 92782
Phone: (949) 526-4510

Date: October 27th, 2023

Site Information: 2712 Park Avenue
La Verne, CA 91750

Owner Information: Hillcrest Homes
2705 Mountain View Drive
La Verne, CA 917507

Subject: Asbestos Inspection Report

Vector Environmental Consulting Inc. conducted a comprehensive and thorough pre-demolition asbestos inspection at the above referend address. All suspect materials were sampled in accordance with the regulations. Sampling methodology, laboratory reports and recommendations can be found on subsequent pages of this report.

Regulatory Requirements

EPA's air toxics regulation for asbestos is intended to minimize the release of asbestos fibers during activities involving the handling of asbestos.

Air toxics regulations under the Clean Air Act specify work practices for asbestos to be followed during demolitions and renovations of all facilities, including, but not limited to, structures, installations, and buildings. The regulations require a thorough inspection where the demolition or renovation operation will occur.

The EPA's regulations (40 CFR 61 Subpart M) in reference to asbestos containing materials are enforced locally by Air Pollution Control Districts and/or Air Quality Management Districts. South Coast Air Quality Management District (SCAQMD) is the governing agency regarding asbestos containing materials in Los Angeles, Orange, Riverside and San Bernardino Counties. Their rule 1403 mandates all sampling requirements and regulates the removal and disposal of asbestos containing materials within these regions.

Other areas such as San Diego County utilize different regulatory authorities, such as, San Diego Air Pollution Control Division and their rule 1206 for local enforcement of asbestos. Ensure your contactor and/or consultant follow the local regulations required for inspections and removals.

Sampling Methodology

Vector Environmental staff adheres to all federal and local regulations during inspections. Our staff utilizes safe work practices during all sampling procedures to ensure the occupants of the structure are not exposed to unwanted hazardous materials. Our inspections range from visual verification and assumptions to physical sampling and laboratory analysis. Sampling of materials during this inspection comply with the provisions of 40 CFR Part 763.86. David G Johnson (CAC #22-6940) conducted this inspection on October 25th, 2023.

Vector Environmental incorporates the use of leak tight containers and physical markings to identify the location, and sample type of the material collected. These samples are further logged on a chain of custody and sampling diagram, both of which, can be found on ensuing pages of this report. All sampling was conducted following the provision of 40 CFR Part 763.86.

All of the samples collected during our inspection are transferred to an accredited laboratory who has participated in the National Voluntary Laboratory Accreditation Program (NVLAP). Vector Environmental utilizes the services of EmLab P&K, LLC (NVLAP 200757-0) 2841 Dow Avenue, Suite 300, Tustin, CA 92780 (866) 465-6653.

Laboratory Analysis

Laboratories are required to adhere to an additional set of regulations (40 CFR part 763, Section 1, Appendix A, Polarized Light Microscopy) to analyze bulk samples of suspected asbestos containing materials.

A low-power binocular microscope, preferably stereoscopic, is used to examine the bulk samples received by the investigator. Bulk samples of building materials taken for the identification and quantitation of asbestos are first examined for homogeneity at low magnification with the aid of a stereomicroscope. Once the homogeneity is determined the samples are analyzed by each present layer. The samples are commonly reported in % by weight.

Asbestos containing materials are materials found to contain greater than one percent asbestos by weight utilizing Polarized Light Microscopy (PLM); However, this analysis is not without it flaws. PLM analysis is only accurate down to ten percent of a materials' weight. Thus, any result found to contain anything less than ten percent is the laboratory's best guess at composition.

When a material contains suspected fibers in such a low concentration that a laboratory technician cannot accurately determine if the material is likely over one percent, a less than one percent or "trace" asbestos result is given. If a less than one percent or "trace" asbestos result is received, a Certified Asbestos Consultant (CAC) is required to either assume the material to contain greater than one percent or conduct further analysis of the material utilizing the 1000 point-count method (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1262). Once the materials have been accurately analyzed utilizing this method, reports can reveal a content of as low as less than one tenth of one percent. These results are then interpreted by the CAC and determined the regulations implicated on the materials.

Even trace amounts of asbestos can be regulated by agencies other than the EPA, such as, OSHA.

Suspect Materials

Suspect materials are an indicator of sampling requirements within a structure. Areas can be considered homogeneous in composition of the materials are of like condition, application, and age. These homogeneous areas are compiled to determine the number of samples required for each material. As the consultant a CAC makes the determination for homogenous areas. With this information the consultant determines the number of samples needed for an accurate representation of the structure's composition.

Examples of Suspect Materials (including but not limited to):

- Vinyl Floor Tile
- Flooring Mastic
- Plaster
- Drywall & Joint Compound
- Window Putty
- Linoleum
- Acoustic Ceiling Texture
- Ducting & Registers
- Composition Roofing
- Penetration & Patch Mastic
- Stucco
- Asphalt
- Concrete

Vector Environmental uses this information to determine the sampling areas of a structure and compiles our data for use in the field. The above-mentioned materials are NOT inclusive of ALL suspect materials; rather, an example of materials that could potentially contain asbestos within a structure.

Below is a List of Suspect Materials Collected During This Inspection:

- Plaster
- Linoleum
- Acoustic Ceiling Texture
- Stucco
- Vapor Barrier
- Composition Roofing
- Penetration Mastic
- Transite Pipe (ASSUMED)

Results

As mentioned earlier in this document Vector Environmental collects these samples and submits them to an accredited laboratory for analysis. EmLab P&K, LLC (NVLAP 200757-0) 2841 Dow Avenue, Suite 300, Tustin, CA 92780 (866) 465-6653.was utilized for this project.

The table below illustrates the materials at the site that were determined by the laboratory to contain greater than one percent asbestos by weight. Some areas may be combined for homogeneity during the inspections process. Therefore, some areas of similar condition found at the site may not be sampled specifically. The quantities provided in the table below are an estimation of the materials on site and should not be used for bidding purposes. It is the responsibility of the contractor to conduct "take-offs" for their own work.

ACM (>1%):

Material	**Location**	**Quantity**
Linoleum & Mastic	Kitchen Flooring	200 sf
Roofing Mastic	Roof of Structure	30 sf
Transite Flue Pipe	Roof of Structure	1 ea 20 sf

ACCM (<1%):

Material	**Location**	**Quantity**
Plaster	Interior Walls & Ceilings	3,500 sf

Summary

Although we aggressively search all areas of the structure (wall cavities, plenums, etc.) additional suspect materials and/or debris may be present in concealed spaces but will only be accessible during the course of demolition activities. Care must be exercised when accessing these areas. Any suspect materials encountered during the course of demolition/renovation activities that were not previously sampled must be presumed to be asbestos containing until sampled and proven otherwise.

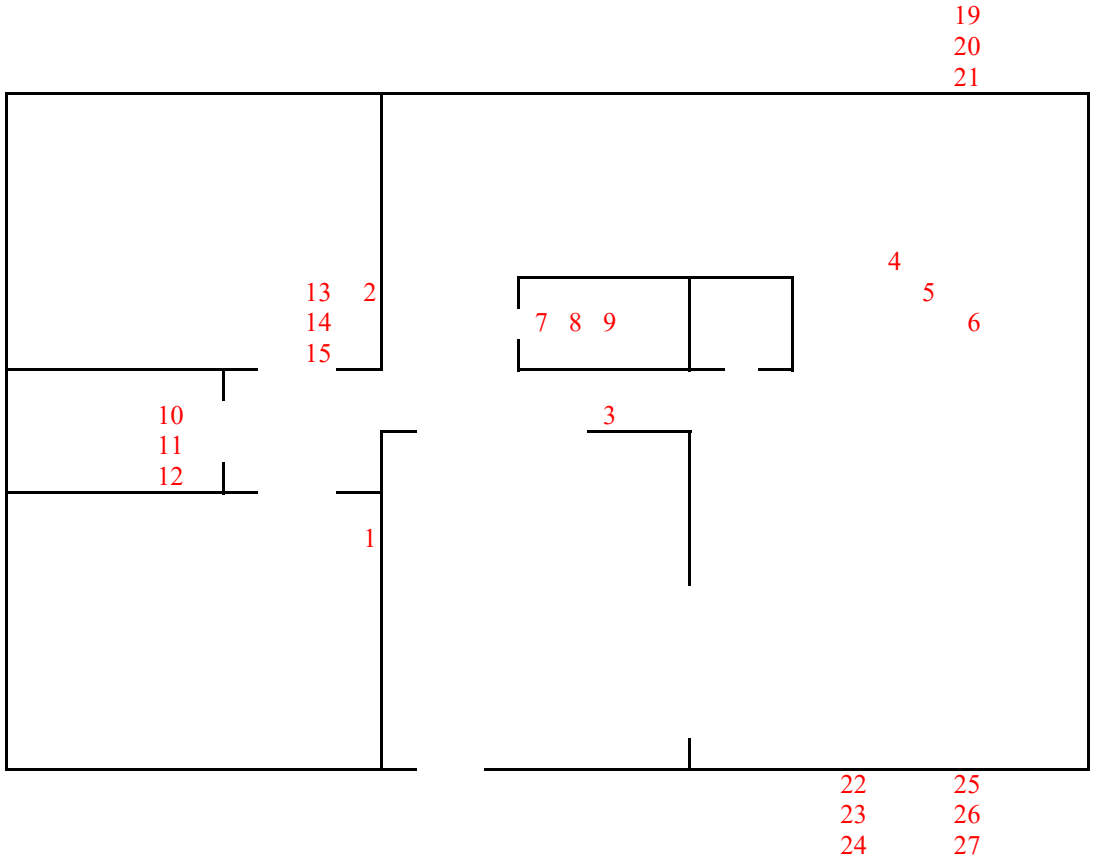
Vector Environmental Consulting Inc.

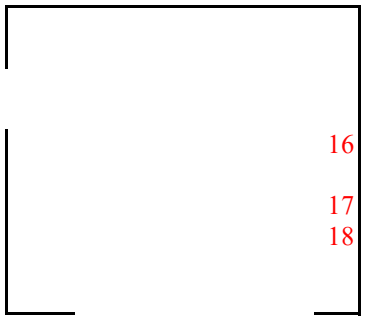


David G Johnson
President
Disabled Veteran Business Enterprise # 2026880
Certified Asbestos Consultant #22-6940
Lead Inspector/ Assessor #9289

Site Diagram(s)

Site Diagram





Legend

Notes:



In some cases samples have been taken from structures built in the same era of construction, and considered homogeneous in other structures.

Sample Numbers Are Noted In Red

Sampling Table

Date: October 27th, 2023 Collected By: David Johnson

Location: 2712 Park Avenue
La Verne, CA 91750

Building #	Material	Sample #	Results	Condition	F/NF	Sample Location
2712	Plaster	1	<1% Chrysotile Point Count 0.6%	Good	N/A	Interior Walls & Ceilings
2712	Plaster	2	<1% Chrysotile Point Count 0.6%	Good	N/A	Interior Walls & Ceilings
2712	Plaster	3	<1% Chrysotile Point Count 0.6%	Good	N/A	Interior Walls & Ceilings
2712	Linoleum	4	Linoleum - 15% Mastic - 2%	Good	F	Kitchen Flooring
2712	Linoleum	5	Linoleum - 15% Mastic - 2%	Good	F	Kitchen Flooring
2712	Linoleum	6	Linoleum - 15% Mastic - 2%	Good	F	Kitchen Flooring
2712	Linoleum	7	ND	Good	N/A	Hallway Restroom Flooring
2712	Linoleum	8	ND	Good	N/A	Hallway Restroom Flooring
2712	Linoleum	9	ND	Good	N/A	Hallway Restroom Flooring
2712	Linoleum	10	ND	Good	N/A	Master Bath Flooring
2712	Linoleum	11	ND	Good	N/A	Master Bath Flooring
2712	Linoleum	12	ND	Good	N/A	Master Bath Flooring
2712	Acoustic Ceiling	13	ND	Good	N/A	Ceilings of Bedrooms
2712	Acoustic Ceiling	14	ND	Good	N/A	Ceilings of Bedrooms
2712	Acoustic Ceiling	15	ND	Good	N/A	Ceilings of Bedrooms
2712	Stucco	16	ND	Good	N/A	Exterior Walls
2712	Stucco	17	ND	Good	N/A	Exterior Walls
2712	Stucco	18	ND	Good	N/A	Exterior Walls

ND- No Asbestos Detected
NF- Non-Friable
F- Friable

Date: October 27th, 2023 Collected By: David Johnson

Location: 2712 Park Avenue
La Verne, CA 91750

Building #	Material	Sample #	Results	Condition	F/NF	Sample Location
2712	Vapor Barrier	19	ND	Good	N/A	Exterior Walls
2712	Vapor Barrier	20	ND	Good	N/A	Exterior Walls
2712	Vapor Barrier	21	ND	Good	N/A	Exterior Walls
2712	Composition Roofing	22	ND	Good	N/A	Roof of Structure
2712	Composition Roofing	23	ND	Good	N/A	Roof of Structure
2712	Composition Roofing	24	ND	Good	N/A	Roof of Structure
2712	Penetration Mastic	25	5% Chrysotile	Good	NF	Roof of Structure
2712	Penetration Mastic	26	5% Chrysotile	Good	NF	Roof of Structure
2712	Penetration Mastic	27	5% Chrysotile	Good	NF	Roof of Structure

ND- No Asbestos Detected
NF- Non-Friable
F- Friable

Laboratory Reports

eurofins | Built Environment Testing

Report for:

David Johnson
Vector Environmental Consulting Inc.
2913 El Camino Real #504
Tustin, CA 92782

Regarding: Eurofins EPK Built Environment Testing, LLC
Project: La Verne; 2712 Park Ave
EML ID: 3431852

Approved by:



Approved Signatory
Danny Li

Dates of Analysis:
Asbestos PLM: 10-26-2023

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1267)
NVLAP Lab Code 200757-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins EPK Built Environment Testing, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Eurofins EPK Built Environment Testing, LLC
2841 Dow Avenue, Suite 300, Tustin, CA 92780
(800) 651-4802 www.eurofinsus.com/Built

Client: Vector Environmental Consulting Inc.
C/O: David Johnson
Re: La Verne; 2712 Park Ave

Date of Sampling: 10-25-2023
Date of Receipt: 10-25-2023
Date of Report: 10-26-2023

ASBESTOS PLM REPORT

Total Samples Submitted:	27
Total Samples Analyzed:	23
Total Samples with Layer Asbestos Content > 1%:	2

Location: 1, Interior, Plaster

Lab ID-Version‡: 16707676-1

Sample Layers	Asbestos Content
Gray Plaster	ND
Pink Plaster	< 1% Chrysotile
Sample Composite Homogeneity:	Moderate

Location: 2, Interior, Plaster

Lab ID-Version‡: 16707677-1

Sample Layers	Asbestos Content
Gray Plaster	ND
Pink Plaster	< 1% Chrysotile
Sample Composite Homogeneity:	Moderate

Location: 3, Interior, Plaster

Lab ID-Version‡: 16707678-1

Sample Layers	Asbestos Content
Gray Plaster	ND
Pink Plaster	< 1% Chrysotile
Sample Composite Homogeneity:	Moderate

Location: 4, Interior, Linoleum

Lab ID-Version‡: 16707679-1

Sample Layers	Asbestos Content
Beige Linoleum with Fibrous Backing	15% Chrysotile
Tan Mastic	2% Chrysotile
Sample Composite Homogeneity:	Moderate

Comments: Mastic layer inseparable without cross contamination. Samples 5 and 6 were not analyzed due to prior positive series.

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Eurofins EPK Built Environment Testing, LLC
2841 Dow Avenue, Suite 300, Tustin, CA 92780
(800) 651-4802 www.eurofinsus.com/Built

Client: Vector Environmental Consulting Inc.
C/O: David Johnson
Re: La Verne; 2712 Park Ave

Date of Sampling: 10-25-2023
Date of Receipt: 10-25-2023
Date of Report: 10-26-2023

ASBESTOS PLM REPORT

Location: 7, Interior, Linoleum

Lab ID-Version‡: 16707682-1

Sample Layers	Asbestos Content
Gray Linoleum with Fibrous Backing	ND
White Mastic	ND
Off-White Linoleum with Fibrous Backing	ND
Composite Non-Asbestos Content:	10% Cellulose 5% Glass Fibers 5% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

Location: 8, Interior, Linoleum

Lab ID-Version‡: 16707683-1

Sample Layers	Asbestos Content
Gray Linoleum with Fibrous Backing	ND
White Mastic	ND
Off-White Linoleum with Fibrous Backing	ND
Composite Non-Asbestos Content:	10% Cellulose 5% Glass Fibers 5% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

Location: 9, Interior, Linoleum

Lab ID-Version‡: 16707684-1

Sample Layers	Asbestos Content
Gray Linoleum with Fibrous Backing	ND
White Mastic	ND
Off-White Linoleum with Fibrous Backing	ND
Composite Non-Asbestos Content:	10% Cellulose 5% Glass Fibers 5% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

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Eurofins EPK Built Environment Testing, LLC
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(800) 651-4802 www.eurofinsus.com/Built

Client: Vector Environmental Consulting Inc.
C/O: David Johnson
Re: La Verne; 2712 Park Ave

Date of Sampling: 10-25-2023
Date of Receipt: 10-25-2023
Date of Report: 10-26-2023

ASBESTOS PLM REPORT

Location: 10, Interior, Linoleum

Lab ID-Version‡: 16707685-1

Sample Layers	Asbestos Content
White Linoleum with Fibrous Backing	ND
Off-White Mastic	ND
Beige Linoleum with Fibrous Backing	ND
Composite Non-Asbestos Content:	20% Cellulose
Sample Composite Homogeneity:	Moderate

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(800) 651-4802 www.eurofinsus.com/Built

Client: Vector Environmental Consulting Inc.
C/O: David Johnson
Re: La Verne; 2712 Park Ave

Date of Sampling: 10-25-2023
Date of Receipt: 10-25-2023
Date of Report: 10-26-2023

ASBESTOS PLM REPORT

Location: 11, Interior, Linoleum

Lab ID-Version‡: 16707686-1

Sample Layers	Asbestos Content
White Linoleum with Fibrous Backing	ND
Off-White Mastic	ND
Beige Linoleum with Fibrous Backing	ND
Composite Non-Asbestos Content:	20% Cellulose
Sample Composite Homogeneity:	Moderate

Location: 12, Interior, Linoleum

Lab ID-Version‡: 16707687-1

Sample Layers	Asbestos Content
White Linoleum with Fibrous Backing	ND
Off-White Mastic	ND
Beige Linoleum with Fibrous Backing	ND
Composite Non-Asbestos Content:	20% Cellulose
Sample Composite Homogeneity:	Moderate

Location: 13, Interior, Acoustic Ceiling

Lab ID-Version‡: 16707688-1

Sample Layers	Asbestos Content
White Acoustic Ceiling Material	ND
Sample Composite Homogeneity:	Good

Location: 14, Interior, Acoustic Ceiling

Lab ID-Version‡: 16707689-1

Sample Layers	Asbestos Content
White Acoustic Ceiling Material	ND
Sample Composite Homogeneity:	Good

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
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2841 Dow Avenue, Suite 300, Tustin, CA 92780
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Client: Vector Environmental Consulting Inc.
C/O: David Johnson
Re: La Verne; 2712 Park Ave

Date of Sampling: 10-25-2023
Date of Receipt: 10-25-2023
Date of Report: 10-26-2023

ASBESTOS PLM REPORT

Location: 15, Interior, Acoustic Ceiling Lab ID-Version‡: 16707690-1

Sample Layers	Asbestos Content
White Acoustic Ceiling Material	ND
Sample Composite Homogeneity:	Good

Location: 16, Interior, Stucco Lab ID-Version‡: 16707691-1

Sample Layers	Asbestos Content
Gray Stucco	ND
Beige Skim Coat	ND
Composite Non-Asbestos Content:	< 1% Cellulose
Sample Composite Homogeneity:	Moderate

Location: 17, Interior, Stucco Lab ID-Version‡: 16707692-1

Sample Layers	Asbestos Content
Gray Stucco	ND
Beige Skim Coat	ND
Composite Non-Asbestos Content:	< 1% Cellulose
Sample Composite Homogeneity:	Moderate

Location: 18, Interior, Stucco Lab ID-Version‡: 16707693-1

Sample Layers	Asbestos Content
Gray Stucco	ND
Beige Skim Coat	ND
Composite Non-Asbestos Content:	< 1% Cellulose
Sample Composite Homogeneity:	Moderate

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‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

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2841 Dow Avenue, Suite 300, Tustin, CA 92780
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Client: Vector Environmental Consulting Inc.
C/O: David Johnson
Re: La Verne; 2712 Park Ave

Date of Sampling: 10-25-2023
Date of Receipt: 10-25-2023
Date of Report: 10-26-2023

ASBESTOS PLM REPORT

Location: 19, Exterior, Vapor Barrier Lab ID-Version‡: 16707694-1

Sample Layers	Asbestos Content
Black Vapor Barrier	ND
Composite Non-Asbestos Content:	80% Cellulose
Sample Composite Homogeneity:	Good

Location: 20, Exterior, Vapor Barrier Lab ID-Version‡: 16707695-1

Sample Layers	Asbestos Content
Black Vapor Barrier	ND
Composite Non-Asbestos Content:	80% Cellulose
Sample Composite Homogeneity:	Good

Location: 21, Exterior, Vapor Barrier Lab ID-Version‡: 16707696-1

Sample Layers	Asbestos Content
Black Vapor Barrier	ND
Composite Non-Asbestos Content:	80% Cellulose
Sample Composite Homogeneity:	Good

Location: 22, Exterior, Composite Roofing Lab ID-Version‡: 16707697-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Composite Non-Asbestos Content:	15% Glass Fibers
Sample Composite Homogeneity:	Good

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Client: Vector Environmental Consulting Inc.
C/O: David Johnson
Re: La Verne; 2712 Park Ave

Date of Sampling: 10-25-2023
Date of Receipt: 10-25-2023
Date of Report: 10-26-2023

ASBESTOS PLM REPORT

Location: 23, Exterior, Composite Roofing Lab ID-Version‡: 16707698-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Composite Non-Asbestos Content:	15% Glass Fibers
Sample Composite Homogeneity:	Good

Location: 24, Exterior, Composite Roofing Lab ID-Version‡: 16707699-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Composite Non-Asbestos Content:	15% Glass Fibers
Sample Composite Homogeneity:	Good

Location: 25, Exterior, Roof Mastic Lab ID-Version‡: 16707700-1

Sample Layers	Asbestos Content
Black Mastic	5% Chrysotile
Sample Composite Homogeneity:	Good

Comments: Samples 26 and 27 were not analyzed due to prior positive series.

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

3431852

Lab Report Number:

Chain Of Custody

Vector Environmental Consuling Inc.
2913 El Camino Real #504
Tustin, California 92782
Phone: (949) 526-4510
Email: d.g.johnson77@gmail.com

Project Name:	La Verne
Project Address:	2712 Park Avenue
Sampling Technician:	David Johnson
Date:	10/25/2023

Special Instructions: *Stop at first positive. Do not composite analyze samples.*

Analysis Information

Turn Around Time:			
Rush (3 Hour)	Rush (Same Day)	Rush (Next Day)	Standard

Analysis Required:

PLM	PCM - NIOSH 7400	TEM - NIOSH 7402	TEM - AHERA	Lead Waste Character	Lead Flame - AA	Fungal Spore Count	Fungal Direct Microscope

Sampling Information

Sample Number	Sample Type	Location	Start Time	Stop Time	Flow Rate	Material
1	Bulk	Interior	N/A	N/A	N/A	Plaster
2	Bulk	Interior	N/A	N/A	N/A	Plaster
3	Bulk	Interior	N/A	N/A	N/A	Plaster
4	Bulk	Interior	N/A	N/A	N/A	Linoleum
5	Bulk	Interior	N/A	N/A	N/A	Linoleum
6	Bulk	Interior	N/A	N/A	N/A	Linoleum
7	Bulk	Interior	N/A	N/A	N/A	Linoleum
8	Bulk	Interior	N/A	N/A	N/A	Linoleum
9	Bulk	Interior	N/A	N/A	N/A	Linoleum
10	Bulk	Interior	N/A	N/A	N/A	Linoleum
11	Bulk	Interior	N/A	N/A	N/A	Linoleum
12	Bulk	Interior	N/A	N/A	N/A	Linoleum
13	Bulk	Interior	N/A	N/A	N/A	Acoustic Ceiling Texture
14	Bulk	Interior	N/A	N/A	N/A	Acoustic Ceiling Texture
15	Bulk	Interior	N/A	N/A	N/A	Acoustic Ceiling Texture
16	Bulk	Exterior	N/A	N/A	N/A	Stucco
17	Bulk	Exterior	N/A	N/A	N/A	Stucco
18	Bulk	Exterior	N/A	N/A	N/A	Stucco
19	Bulk	Exterior	N/A	N/A	N/A	Vapor Barrier
20	Bulk	Exterior	N/A	N/A	N/A	Vapor Barrier
21	Bulk	Exterior	N/A	N/A	N/A	Vapor Barrier
22	Bulk	Exterior	N/A	N/A	N/A	Composition Roofing

Relinquished By (print): David Johnson Signature: David Johnson Date Relinquished: 10-25-23 Time Relinquished: 1210

Received By (print): Jennifer Timmons Signature: Jennifer Timmons Date Received: Original COC received 10/25/23 12:49
Revised COC received 10/26/23 10:00 Time Received:

Lab Report Number:

Chain Of Custody

Vector Environmental Consuling Inc.
2913 El Camino Real #504
Tustin, California 92782
Phone: (949) 526-4510
Email: d.g.johnson77@gmail.com

Project Name:	La Verne
Project Address:	2712 Park Avenue
Sampling Technician:	David Johnson
Date:	10/25/2023

Special Instructions: *Stop at first positive. Do not composite analyze samples.*

Analysis Information

Turn Around Time:			
Rush (3 Hour)	Rush (Same Day)	Rush (Next Day)	Standard

Analysis Required:

PLM	PCM - NIOSH 7400	TEM - NIOSH 7402	TEM - AHERA	Lead Waste Character	Lead Flame - AA	Fungal Spore Count	Fungal Direct Microscope

Sampling Information

Sample Number	Sample Type	Location	Start Time	Stop Time	Flow Rate	Material
23	Bulk	Exterior	N/A	N/A	N/A	Composition Roofing
24	Bulk	Exterior	N/A	N/A	N/A	Composition Roofing
25	Bulk	Exterior	N/A	N/A	N/A	Penetration Mastic
26	Bulk	Exterior	N/A	N/A	N/A	Penetration Mastic
27	Bulk	Exterior	N/A	N/A	N/A	Penetration Mastic

Relinquished By (print): David Johnson Signature: David Johnson Date Relinquished: 10-25-23 Time Relinquished: 1210

Received By (print): Jennifer Timmons Signature: Date Received: Time Received:

Original COC received 10/25/23 12:49
Revised COC received 10/26/23 10:00

eurofins | Built Environment Testing

Report for:

David Johnson
Vector Environmental Consulting Inc.
2913 El Camino Real #504
Tustin, CA 92782

Regarding: Eurofins EPK Built Environment Testing, LLC
Project: La Verne; 2712 Park Ave
EML ID: 3431852

Approved by:



Approved Signatory
Danny Li

Dates of Analysis:
Asbestos-EPA 1000 point count: 10-26-2023

Service SOPs: Asbestos-EPA 1000 point count (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1262)
NVLAP Lab Code 200757-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received and tested.

Eurofins EPK Built Environment Testing, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Eurofins EPK Built Environment Testing, LLC
2841 Dow Avenue, Suite 300, Tustin, CA 92780
(800) 651-4802 www.eurofinsus.com/Built

Client: Vector Environmental Consulting Inc.
C/O: David Johnson
Re: La Verne; 2712 Park Ave

Date of Sampling: 10-25-2023
Date of Receipt: 10-25-2023
Date of Report: 10-27-2023

ASBESTOS POINT COUNT REPORT

Location:	1 Interior, Plaster		
Total Points Counted:	1000		
Lab ID-Version‡:	16713442-1		
Sample Layers	**Asbestos Type**	**Asbestos Points Counted**	**Asbestos Concentration (%)**
Pink Plaster	Chrysotile	6	0.6
Layer Totals:		6	0.6

The analytical sensitivity is 1 asbestos point. The limit of detection is 1 asbestos point divided by the total number of points counted and multiplied by 100.

The results relate only to the items tested. Interpretation is left to the company and/or persons who conducted the field work. The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

All samples were received in acceptable condition unless otherwise noted. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.
Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Lab Report Number:

Chain Of Custody

Vector Environmental Consuling Inc.
2913 El Camino Real #504
Tustin, California 92782
Phone: (949) 526-4510
Email: d.g.johnson77@gmail.com

Project Name:	LA VERNE
Project Address:	2712 PARK AVE
Sampling Technician:	DAVID JOHNSON
Date:	10.25.23



Special Instructions: *Stop at first positive. Do not composite analyze samples.*

Analysis Information

Turn Around Time:			
Rush (3 Hour)	Rush (Same Day)	Rush (Next Day)	Standard

Analysis Required:							
PLM	PCM - NIOSH 7400	TEM - NIOSH 7402	TEM - AHERA	Lead Waste Character	Lead Flame - AA	Fungal Spore Count	Fungal Direct Microscope

Sampling Information

Sample Number	Sample Type	Location	Start Time	Stop Time	Flow Rate	Material
1	B	INTERIOR				PLASTER
2						"
3						"
4						LINOLEUM
5						"
6						"
7						"
8						"
9						"
10						ACOUSTIC CEILING
11						"
12						"
13						STUCCO
14						"
15						"
16		EXTERIOR				VAPOR BARRIER
17						"
18						"
19						COMPOSITE ROOFING
20						"
21						"

Relinquished By (print): David Johnson Signature:
Received By (print): ASHLEY U [illegible] Signature:

Date Relinquished: 10.25.23
Date Received: 10/25/23 12:49 pm

Time Relinquished: 1210
Time Received:

Lab Report Number:

Chain Of Custody

Vector Environmental Consuling Inc.
2913 El Camino Real #504
Tustin, California 92782
Phone: (949) 526-4510
Email: d.g.johnson77@gmail.com

Project Name:	LA VERNE
Project Address:	2712 PARK AVE
Sampling Technician:	DAVID JOHNSON
Date:	10-25-23

003431852

Special Instructions: *Stop at first positive. Do not composite analyze samples.*

Analysis Information

Turn Around Time:

Rush (3 Hour)	Rush (Same Day)	Rush (Next Day)	Standard

Analysis Required:

PLM	PCM - NIOSH 7400	TEM - NIOSH 7402	TEM - AHERA	Lead Waste Character	Lead Flame - AA	Fungal Spore Count	Fungal Direct Microscope

Sampling Information

Sample Number	Sample Type	Location	Start Time	Stop Time	Flow Rate	Material
22	B	EXTERIOR				ROOF MASTIC
23						"
24						"
25						
26						
27						

Relinquished By (print): David Johnson Signature:
Received By (print): ASHLEY QUIM Signature:

Date Relinquished: 10.25.23
Date Received: 10/25/23 12:49 PM

Time Relinquished: 1210
Time Received:

Certifications

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant



Name **David G Johnson**

Certification No. **22-6940**

Expires on **01/21/24**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

LOW IMPACT DEVELOPMENT (LID) STUDY

HILLCREST GATEWAY PROJECT

2692 Park Avenue, 2675 and 2681 A Street
La Verne, CA.



OWNER:

Hillcrest
2705 Mountain View Drive
La Verne, CA. 91750

PREPARED BY:

Richard Cantwell, P.E.
2334 Club Vista Drive
Glendora, CA. 91741
(626) 335-3055

I. Introduction

The Westerly portion of this 0.68 acre lot (Sub-Area 1A) is currently developed with a 1,815 square foot, 1 story residence with an attached garage and an in-ground swimming pool. The property owner proposes to demolish the existing structures and redevelop this portion of the lot with 2 single story detached residences. One will be 2,126 square feet and the other 1,985 square feet.

The Easterly portion of the property (Sub-Area 1B) is currently developed with four small residential units ranging in size from 726 square feet to 953 square feet. The developer proposes to demolish the most Southwesterly of these residences, a nearby detached garage and several carports in order to facilitate construction of a 2,126 square foot one story residence with attached two car garage.

The project is located in an area of mixed residential and institutional uses. The Westerly portion that is fronted by Park Avenue to all appearances is a standard single family residential neighborhood while the Easterly portion fronted by A Street is more mixed use featuring both single family, multifamily and institutional uses.

A. Project Location

Being a through lot (frontages on two paralleling streets) the site is located on both the East side of Park Avenue between Sixth and Elmcrest Streets and the West side of A Street between two separate sections of Mountain View Drive. The lot is 29,540 square feet in area and enjoys vehicle access possibilities from both Park Avenue and A Street.

B. Project Description

The developer proposes to construct 2 new residences (2,126 and 1,985 square feet respectively) on Sub-Area 1A each enjoying an attached two car garage. The residence to be

constructed on Sub-Area 1B is to be 2,126 square feet and will also be served by a two car attached garage.

Vehicle access for all of the new structures will be gained from Park Avenue.

II. Site Assessment and Design Considerations

A. Designated or Non-Designated Projects

In Section 2.1 of the LID Manual there are 9 bullet points used to determine if a project is a Designated Project. If the project doesn't conform to any of these criteria it is determined to be a Non-Designated Project. Only 2 of these bullet points, however, appear relevant to this location.

Bullet Point 1 references properties that are greater in size than one acre (43,560 s.f.). This project doesn't qualify as it is only 0.68 acre (29,540 s.f.).

Bullet Point 9 refers to "Redevelopment projects, which are developments that result in creation or addition or replacement of 10,000 square feet or more of impervious surface area on a site that was previously developed as a single family home."

This property is currently developed with five single family dwellings, one detached garage, several carports and large concrete paved areas. The existing hardscape (structures and paving) is 16,123 square feet in area. The proposed development will reduce that figure by 1,072 square feet to 15,051 square feet. Consequently the 10,000 square foot threshold is not a factor either.

Given the foregoing this project should be defined as a Non-Designated Project.

B. Small Scale or Large Scale Non-Designated Projects

In Section 3.1 of the LID manual a Large Scale Non-Designated Project is described as a residential development of 5 or more units as well as all non-residential developments.

Because this site is a through lot and portions surface drain to both adjacent streets design will proceed with the two drainage areas (Sub Area 1A and Sub Area 1B) addressed as separate residential redevelopment projects. The redevelopment of this Sub Area 1A involves the construction of two new residences. Sub Area 1B will entail building one new residence and retaining of 3 existing units. Therefore since neither site contains more than four units then both should be considered a Small Scale Non-Designated Project.

C. Project Area Sizes

Per the Los Angeles County Assessors Map Book 8381, Page 10, Parcel 006 is irregularly shaped and is 29,540 square feet (0.68 acre) in area. As noted previously Sub-Area 1A is 15,148 square feet (0.35 acre) while Sub Area 1B measures 14,392 square feet (0.33 acre)

D. Drainage Areas

The West and East boundaries of this property front on public streets with full improvements that fully contain all surface water generated from those streets. The West half of the property is protected by a masonry wall on the South property

line of 2700 Park Avenue which prohibits the flow of surface water from entering the site. The East half of the site, however, has no protective boundary but the Hillcrest property to the North drains Easterly to A Street. Therefore only stormwater originating on site will be contained and infiltrated.

E. Location of Stormwater Runoff Discharge

In its current state of development, the property gives the impression of being two separate parcels each surface draining to an adjoining public street. Per Section 3.3 of the LID manual states "Large-Scale Non-Designated Projects are required to manage the difference between the stormwater runoff volume pre- and post-construction (△SWQDv) through on-site retention". "The △SWQDv is defined as the difference between undeveloped stormwater runoff volume (V_u) and the stormwater runoff volume post-development (V_d)." Storm runoff water will be collected on site and then be infiltrated using both Permeable Pavement without an Underdrain (RET-5) for the driveway and turn around areas as well as an Infiltration Trench (RET-3) located in the landscaped area. Specific details will be incorporated in the final site Grading and Drainage Plan.

F. Land Use Type

The current land use designation for these properties is PR4.5D (Planned Residential 4.5 DU per acre-Detached) with the exception of a small portion fronting A Street. That area is currently designated I (Institutional) As part of the development process the PR4.5D zoned should be rezoned to match Hillcrest's current zoning designation of I.

G. Activities Expected On-Site

The developer is proposing to construct 3 single family residences with attached garages. T Of the two residences to be constructed on Sub Area 1A the most Westerly house will have a footprint of 2,126 square feet including a 2 car attached garage. The Easterly house will have a footprint of 1,985 square feet including a 2 car attached garage.

The most only structure to be constructed on Sub Area 1B will provide a footprint of 2,126 square feet including a 2 car attached garage.

All 3 of these houses will be single story wood framed construction on slab foundations.

On the Northerly and Southeasterly portion of Sub Area 1B three small, older single story houses will be retained. The largest of the these is 965 square feet while the 2 smaller units are 741 and 734 square feet respectively.

III. Geotechnical Conditions

A. Topography

This entire site presently contains five residential structures and a detached 2 car garage. Based upon the current topography as well as an examination of the immediate surroundings the only rainfall runoff affecting this property emanates only on the site. All offsite drainage is prevented from entering the site by either perimeter walls or abutting public improvements. While the front yards of 2691 and 2693 A Street have no obvious barriers the topography indicates that abutting properties flow East to A Street.

B. Soil Type and Geology

The Geotechnical Investigation report prepared by RMA Geoscience (RMA) dated June 12, 2024 identifies top soil consists of 12 to 18 inches of silty fine sand (SM) with traces of gravel and clay. This soil was considered moist to very moist (no doubt due to frequent surface irrigation).

Underlying soil was reported to be “older alluvium …with Silty Sand with gravel and clay and medium to coarse sand with gravel and silt.”

An Infiltration Testing Report prepared by RMA Geoscience and dated June 18, 2024 recommended that a design infiltration rate of 1.0 inches per hour be used for design purposes. This exceeds the minimum acceptable limit of 0.3 inches per hour indicating the on-site soils are suitable for stormwater infiltration.

C. Groundwater

According to RMA’s Geotechnical Investigation report no groundwater was encounter in any of the 9 test borings. In their report they indicate the “Depth to historic high groundwater is greater than 100 feet below existing grade according to the Seismic Hazard Zone Report for the area (CDMG, 1998)”.

Based upon the location of groundwater it would appear that bedrock is located at a depth greater than 100 feet below the ground surface.

D. Other Geotechnical Issues

Collapsible Soil

Given the soil type described in the RMA's Geotechnical Investigation report there is little or no possibility of collapsible soil existing at this location. To quote the LID Standards Manual collapsible soils are"…sediments that are loosely deposited, separated by coatings or particles of clay or carbonate and subject to saturation." Silty sand and alluvium do not fit this profile.

Expansive Soil

The soil profile for silty sand indicates is not expansive and contains limited amounts of clay. RMA's lab findings verify this conclusion. The Expansion Index test results varied from 0 to 27. Expansion Test value of 0 is considered Very Low (0-20) while 27 is considered to be Low (21-50). Leaning to the conservative RMA has determined that the on-site soil expansion index is considered Low.

Slopes/Landslides

The sites are relatively flat and contain no slopes nor will there be any slopes on any of the sites in their developed state. As RMA has reported "According to the California Geological Survey Seismic Hazard Zone Map (1999)…the site(s) do not lie in a landslide zone."

Faults

Though the three sites are not located within an Alquist-Priolo Earthquake Fault Zone the Cucamonga branch of the Sierra Madre Fault is locate about 6 miles Northeast of the 3 sites. There is a possibility that moderate to intense ground shaking could occur in the future.

Liquefaction

Per RMA's report no groundwater should be expected above a depth of 100 feet. Since high groundwater is not an issue here and the soil is well drained there is little or no chance of liquefaction occurring during a seismic event or infiltration of surface runoff.

IV. Source Control Measures

As shown in Table 5-1 Source Control Measures Selection Matrix (LID Standards Manual, page 5-3) there are various required Source Control Measures for Non-Designated Projects. These are:

- Storm Drain Message and Signage (S-1)
- Landscape Irrigation Practices (S-8)
- Building Materials (S-9)

Storm Drain Message and Signage (S-1)

There are no onsite catch basins anticipated for this project as all surface runoff water will be retained and infiltrated on-site a sign and painted message will be unnecessary.

Sub Area A will use an on site Infiltration Trench (RET-3) to disperse the △SWQDv stormwater flow. Sub Area 1B will be graded to utilize the new, expansive landscape areas to retain and percolate stormwater on site to a much greater decree than previously.

Landscape Irrigation Practices (S-8)

The project landscape designer will be directed to employ measures that will reduce excessive irrigation runoff including but not limited to using:

Rain triggered shut off devices

Adjust irrigation system design to specific plantings

Include flow reducers or shut off valves to prevent loss due to breakage.

Follow local water conservation methods and techniques.

Building Materials (S-9)

Alternative building materials will be considered by the project architect. These may include the use of properly coated metal flashing, vents, etc.

V. Delta Storm Water Quality Design Volume (△SWQDv)

Sub-area 1A (West portion)

- Site Area = 15,148 sq. ft. = 0.35 acre
- Existing Impervious Area = 6,308 sq. ft.
- Proposed Impervious Area = 9,253 sq. ft.
- Existing Impervious Area percentage = 6,308/15,148 = 42%
- Proposed Impervious percentage = 9,253/15,148 = 61%
- Soil type = 012
- 85^{th} percentile, 24 hour storm total = 1.0 in.
- Flow path (before) = 208 ft.
- Flow path (after) = 146 ft.
- Average slope = 1.0%

V_u= 582 ft^3

V_d= 763 ft^3

$\triangle SWQDv = V_d - V_u$ = 763ft^3-582 ft^3= 181 ft^3

Using the $\triangle SWQD_V$ runoff volume as determined using Los Angeles County Department of Public Works HydroCalc software a drainage/infiltration system will be utilized.

Sub-area 1B (East portion)

- Site Area = 14,371 sq. ft. = 0.33 acre
- Existing impervious Area = 9,707 sq. ft.
- Proposed Impervious Area = 5,751 sq. ft.
- Existing Impervious percentage = 9,707/14,371 = 68%
- Proposed Impervious percentage = 5,3291/14,371 = 37%
- Soil type = 012
- 85th percentile, 24 hour storm total = 1.0 in.
- Flow path (after) = 152.4 ft.
- Average slope = 1.0%

V_u= 782 ft³

V_d= 504 ft³

$\triangle SWQDv = V_d - V_u$ = 504ft³-782 ft³= 0 ft³

Because the post construction impervious area for Sub-Area 1-B is less than the pre-construction impervious area no further study is deemed necessary. Storm runoff water will be directed to landscaped areas to be infiltrated rather than surface flowing to A Street as before.

V. Stormwater Quality Control Measures

Sub-Area 1A

The calculated $\triangle$SWQDv volume for this portion is a modest 181 cubic feet. An onsite Infiltration Trench (RET-3) will be utilized to collect and infiltrate this flow.

Sub-Area 1B

The calculated △SWQDv volume of in the developed condition is less than that in the developed one. Therefore no on site collection of runoff water is necessary. Stormwater will, however, be directed to landscaped areas for collection and infiltration.

VI. Stormwater Quality Control Measure Maintenance

The property owner will be required to execute any applicable Covenants and Agreements for the Maintenance of all BMPs and devices constructed or installed as part of the project (see Exhibits J & K). When those documents are executed they will be filed with the City of La Verne for eventual recording by the County Recorder.

The property owner will also be responsible to maintain any applicable BMPs in an effective and efficient condition and the City shall have all necessary enforcement powers to assure such maintenance is completed.

LIST OF EXHIBITS

A. Los Angeles County Assessor's Parcel Map

B. Los Angeles County Department of Public Works LID Manual Table 5-1

C. Los Angeles County DPW 85th Percentile 24 hour Rainfall Isohyetal Map

D. Los Angeles County DPW Soil Type Map

E. Los Angeles County DPW Soil Identification Table

F. Infiltration Trench (RET-3)

G-1. Los Angeles County DPW HydroCalc Analysis-Sub Area 1A-before

G-2. Los Angeles County DPW HydroCalc Analysis-Sub Area 1A-after

H-1. Los Angeles County DPW HydroCalc Analysis-Sub Area 1B-before

H-2. Los Angeles County DPW HydroCalc Analysis-Sub Area 1B-after

J. Covenant and Agreement (sample)

K. Covenant for Maintenance (sample)

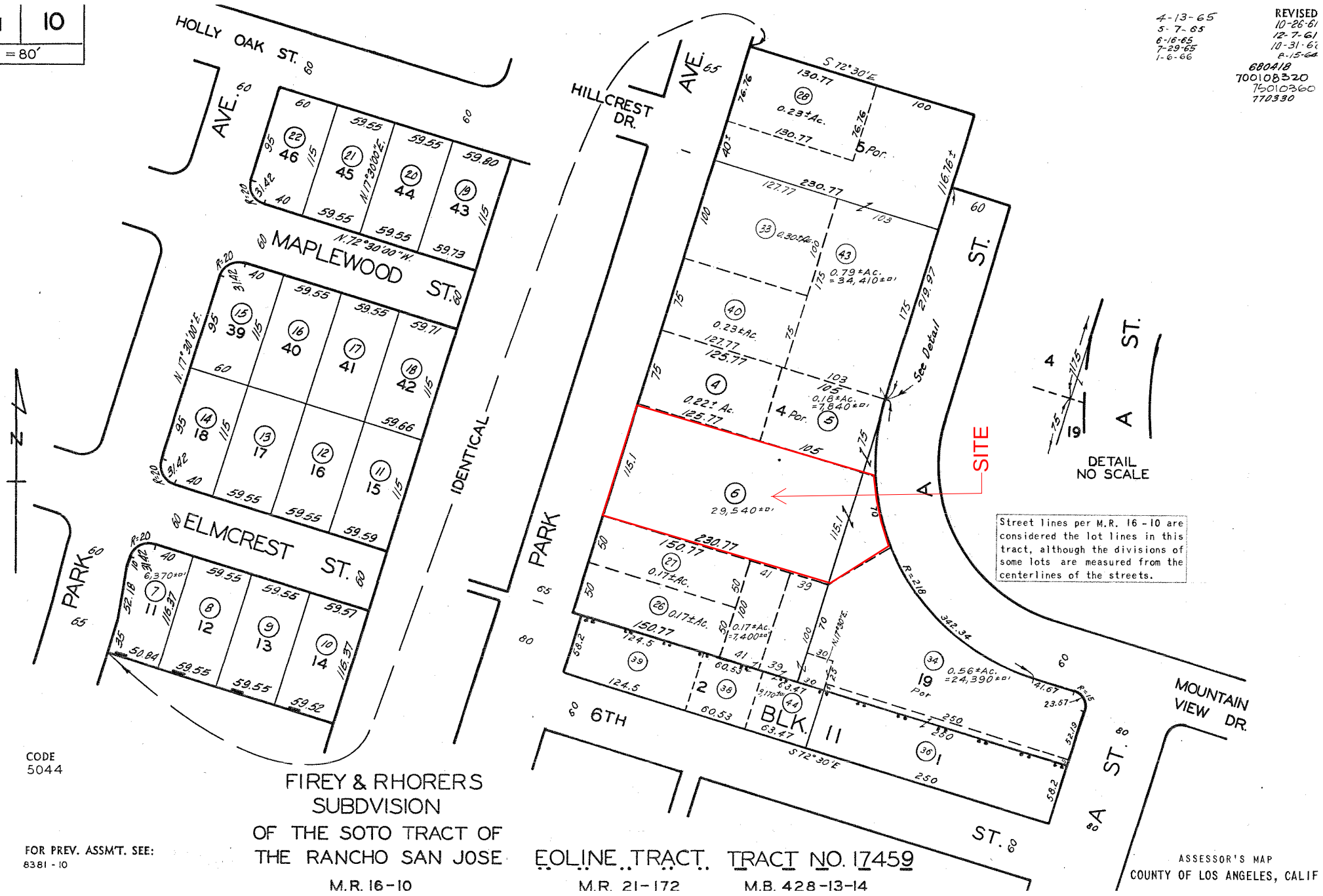
L-1. Site Grading Plan (Sheet 1 of 2)

L-2. Site Grading Plan (Sheet 2 of 2)

8381 | 10

SCALE 1" = 80'

EXHIBIT A



CODE
5044

FOR PREV. ASSM'T. SEE:
8381 - 10

FIREY & RHORERS SUBDVISION
OF THE SOTO TRACT OF
THE RANCHO SAN JOSE
M.R. 16-10

EOLINE TRACT TRACT NO. 17459
M.R. 21-172 M.B. 428-13-14

ASSESSOR'S MAP
COUNTY OF LOS ANGELES, CALIF

4-13-65
5-7-65
6-16-65
7-29-65
1-6-66

REVISED
10-26-61
12-7-61
10-31-62
8-15-64
680418
700108320
750103 60
770390

Table 5-1. Source Control Measures Selection Matrix (continued)

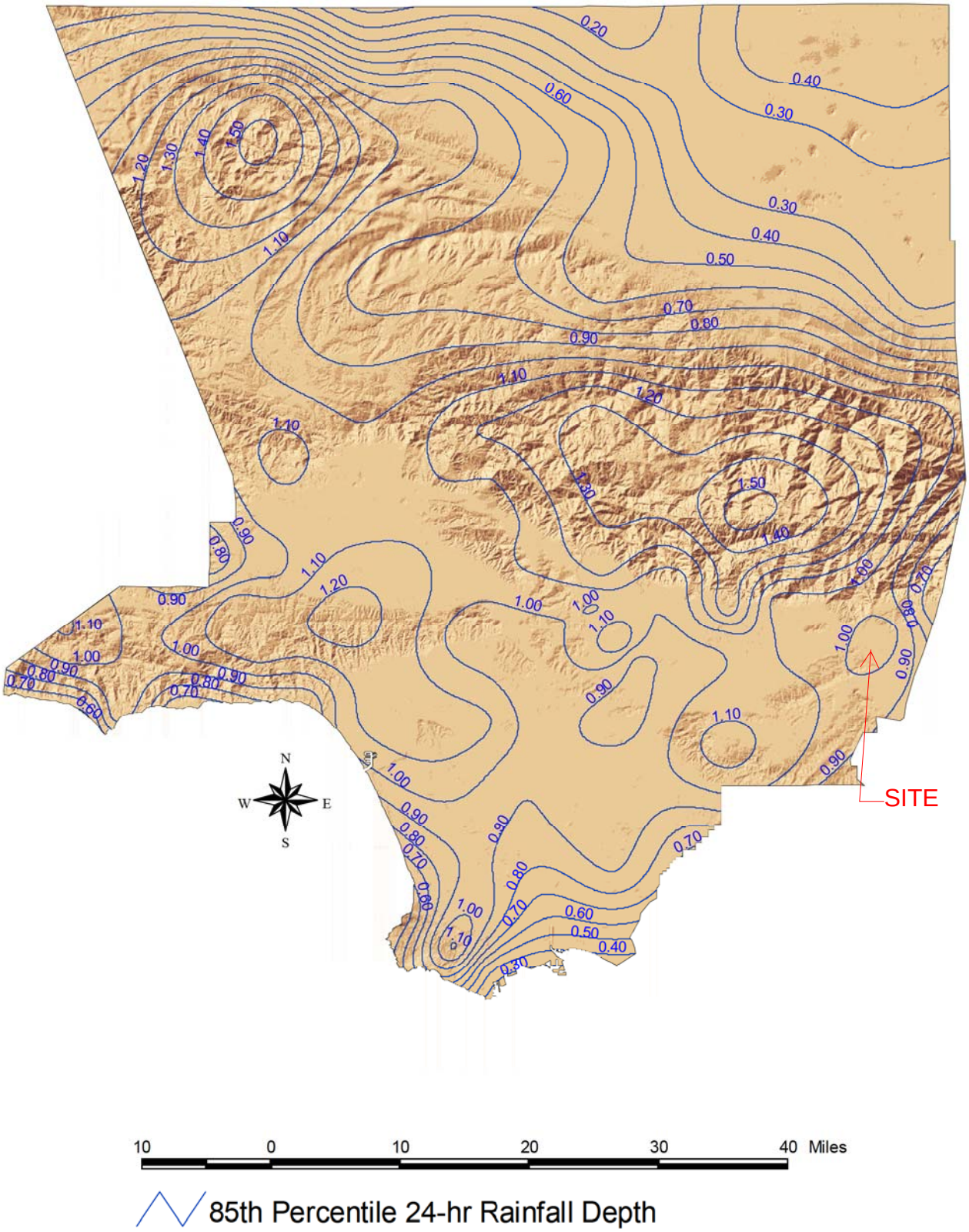
Project Type	Source Control Measure										
	Storm Drain Message and Signage (S-1)	Outdoor Material Storage Area (S-2)	Outdoor Trash Storage/ Waste Handling Area (S-3)	Outdoor Loading/Unloading Dock Area (S-4)	Outdoor Vehicle/Equipment Repair/Maintenance Area (S-5)	Outdoor Vehicle/ Equipment/ Accessory Wash Area (S-6)	Fuel & Maintenance Area (S-7)	Landscape Irrigation Practices (S-8)	Building Materials (S-9)	Animal Care and Handling Facilities (S-10)	Outdoor Horticulture Areas (S-11)
Designated Projects – Redevelopment											
Projects creating or adding ≥5,000 ft^2	R	R^1	R^1	R^1	R^1	R^1	R^1	R	R	R^1	R^1
Projects altering existing impervious surface	R	R^1	R^1	R^1	R^1	R^1	R^1	R	R	R^1	R^1
Non-Designated Projects											
Small-Scale Residential Projects	R	R^1	R^2	–	–	–	–	R	R	–	–
Large-Scale Projects	R	R^1	R^1	R^1	R^1	R^1	R^1	R	R	R^1	R^1

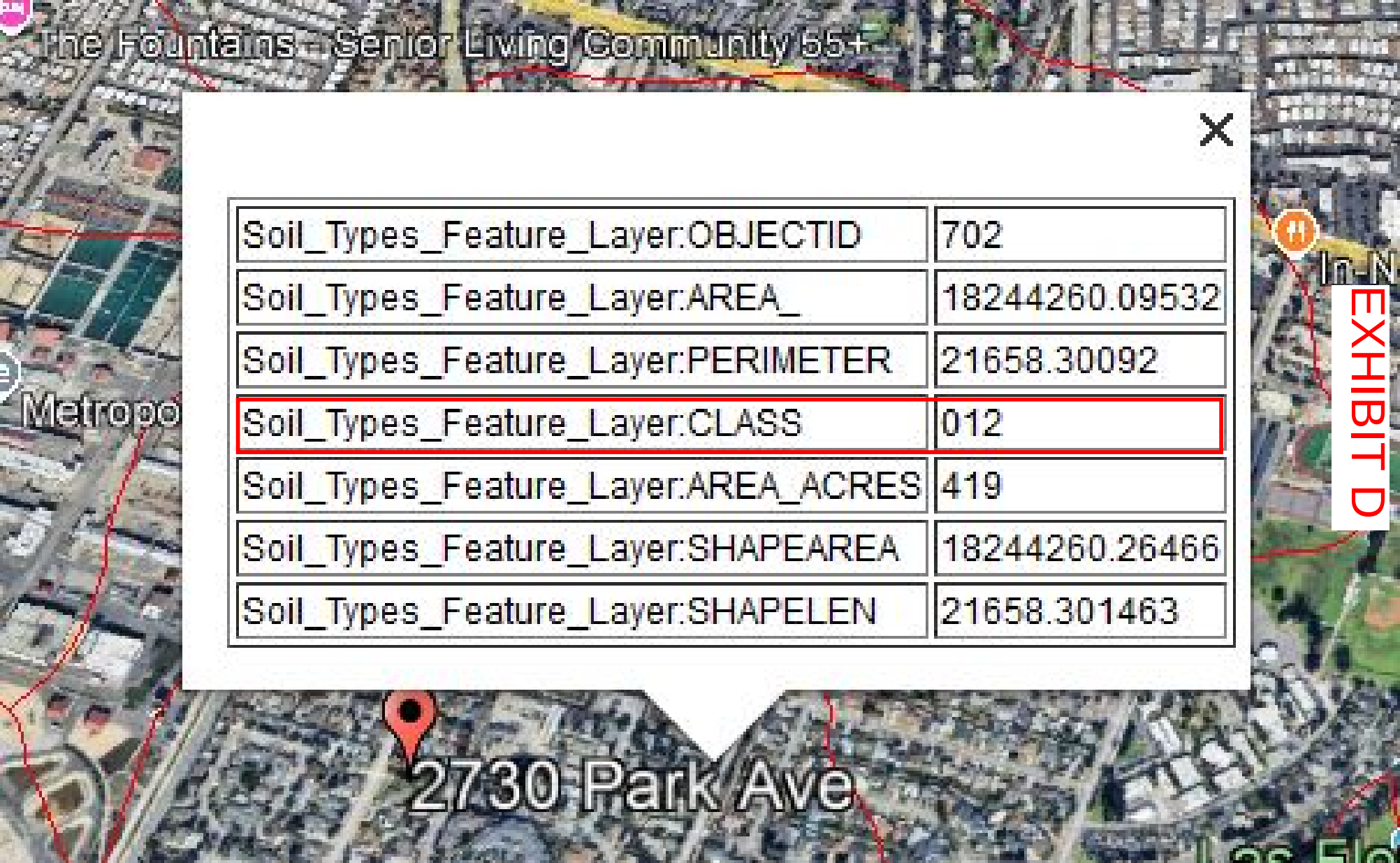
R = required; R^1 = required if outdoor activity area is included in project; R^2 = required for multi-family dwellings

EXHIBIT B

EXHIBIT C

85th Percentile 24-hr Rainfall Isohyetal Map





Soil_Types_Feature_Layer:OBJECTID	702
Soil_Types_Feature_Layer:AREA_	18244260.09532
Soil_Types_Feature_Layer:PERIMETER	21658.30092
Soil_Types_Feature_Layer:CLASS	012
Soil_Types_Feature_Layer:AREA_ACRES	419
Soil_Types_Feature_Layer:SHAPEAREA	18244260.26466
Soil_Types_Feature_Layer:SHAPELEN	21658.301463

EXHIBIT E

Soil Identification Table

Number	Name	Original Name
2	ALTAMONT CLAY LOAM	A
3	CHINO SILT LOAM	CS-1
4	DIABLO CLAY LOAM	DY
5	HANFORD FINE SANDY LOAM	HF
6	HANFORD FINE SANDY LOAM	HF-1
7	HANFORD GRAVELLY SANDY LOAM	HG
8	HANFORD SILT LOAM	HN
9	MONTEZUMA CLAY ADOBE	M
10	OAKLEY FINE SAND	OS
11	PLACENTIA LOAM	PL
12	RAMONA CLAY LOAM	RC- 1
13	RAMONA LOAM	RO
14	RAMONA SANDY LOAM	RS
15	TUJUNGA FINE SANDY LOAM	TF
16	YOLO LOAM	Y
17	YOLO CLAY LOAM	YC
18	YOLO FINE SANDY LOAM	YF
19	YOLO GRAVELLY SANDY LOAM	YG
20	YOLO SANDY LOAM	YS
21	SANTA MONICA MOUNTAINS	SMM-1
22	SANTA MONICA MOUNTAINS	SMM-2
23	SANTA MONICA MOUNTAINS	SMM-3
24	SANTA MONICA MOUNTAINS	SMM-4
25	SANTA MONICA MOUNTAINS	SMM-5
26	SANTA MONICA MOUNTAINS	SMM-6
27	SANTA MONICA MOUNTAINS	SMM-7
28	SANTA MONICA MOUNTAINS	SMM-8
29	SANTA MONICA MOUNTAINS	SMM-9
30	SANTA MONICA MOUNTAINS	SMM-10
31	SANTA MONICA MOUNTAINS	SMM- 11
32	SANTA MONICA MOUNTAINS	SMM-12
33	SANTA MONICA MOUNTAINS	SMM-13
34	SANTA MONICA MOUNTAINS	SMM-14
35	SANTA MONICA MOUNTAINS	SMM-15
36	SANTA MONICA MOUNTAINS	SMM-16
37	SANTA MONICA MOUNTAINS	SMM- 17
38	SANTA MONICA MOUNTAINS	SMM- 18

sediment reduction (e.g., vegetated swales, vegetated filter strips, sedimentation manholes, and proprietary devices).

Setbacks

Infiltration trenches must be sited following the setbacks from the most recent GMED Policy GS 200.1.

Geometry

- Infiltration trenches must be designed and constructed to be at least 24 inches wide and 3 to 5 feet deep.
- The longitudinal slope of the trench should not exceed three percent.
- The filter bed media layers must have the following composition and thickness:
  - Top layer: 2 inches of pea gravel
  - Middle layer: 3 to 5 feet of washed 2- to 6-inch gravel; void spaces should be approximately 30 to 40 percent
  - Bottom layer: 6 inches of sand or geomembrane liner equivalent.

Sizing

Infiltration trenches are sized a simple sizing method where the SWQDv must be completely infiltrated within 96 hours. Infiltration trenches provide stormwater runoff storage in the voids of the rock fill or percolation tank modules.

Step 1: Determine the SWQDv

Infiltration trenches must be designed to capture and retain the SWQDv (see Section 6 for SWQDv calculation procedures).

Step 2: Determine the design infiltration rate

Determine the corrected in-situ infiltration rate (f_{design}) of the native soil using the procedures described in the most recent GMED Policy GS 200.1.

Step 3: Calculate the surface area

Determine the size of the required infiltration surface by assuming the SWQDv will fill the available void spaces of the gravel storage layer. The maximum depth of stormwater runoff that can be infiltrated within the maximum retention time (96 hrs) is calculated using the following equation:

$$d_{max} = \frac{f_{design}}{12} \times t$$

Where:

d_{max} = Maximum depth of water that can be infiltrated within the maximum retention time [ft];
f_{design} = Design infiltration rate [in/hr]; and
t = Maximum retention time (max 96 hrs) [hr].

Select the infiltration trench depth (d_t) such that:

$$d_t \leq \frac{d_{max}}{n_t}$$

Where:

d_t = Depth of infiltration trench [ft];
d_{max} = Maximum depth of water that can be infiltrated within the maximum retention time [ft]; and
n_t = Infiltration trench fill porosity.

Calculate the infiltrating surface area (bottom of the infiltration trench) required:

$$A = \frac{SWQDv}{d_t \times n_t}$$

Where:

A = Surface area of the bottom of the infiltration trench [ft^2];
SWQDv = Stormwater quality design volume [ft^3];
d_t = Depth of infiltration trench fill [ft]; and
n_t = Infiltration trench porosity.

Flow Entrance and Energy Dissipation

Energy dissipation controls, constructed of sound materials such as stones, concrete, or proprietary devices that are rated to withstand the energy of the influent flow, must be installed at the inlet to the infiltration trench. Flow velocity at the inlet must be 4 ft/s or less. Consult with LACDPW for the type and design of energy dissipation structure.

Drainage

The specifications for designing drainage systems for infiltration trenches are presented below:

- The bottom of infiltration trench must be native soil that is over-excavated at least one foot in depth with the soil replaced uniformly without compaction. Amending the excavated soil with two to four inches (~15 to 30 percent) of coarse sand is recommended.

- The use of vertical piping, either for distribution or infiltration enhancement, is prohibited. This application may be classified as a Class V Injection Well per 40 CFR Part 146.5(e)(4).
- The infiltration capacity of the subsurface layers should be sufficient to ensure a maximum detention time of 96 hours. An observation well must be installed to allow observation of detention time.

Hydraulic Restriction Layer

The entire infiltrative area, including the side slopes must lined with a geomembrane liner to prevent soil from migrating into the top layer and reducing the infiltration capacity. The specifications of the geomembrane liner are presented in Table E-5. The entire trench area, including the sides, must be lined with a geomembrane liner prior to placing the media bed. Provide generous overlap at the seams.

Table E-5. Geomembrane Liner Specifications for Infiltration Trenches

Parameter	Test Method	Specifications
Material		Nonwoven geomembrane liner
Unit weight		8 oz/yd^3 (minimum)
Filtration rate		0.08 in/sec (minimum)
Puncture strength	ASTM D-751 (Modified)	125 lbs (minimum)
Mullen burst strength	ASTM D-751	400 lb/in^2 (minimum)
Tensile strength	AST D-1682	300 lbs (minimum)
Equiv. opening size	US Standard Sieve	No. 80 (minimum)

Observation Well

The observation well is a vertical section of perforated PVC pipe, four- to six-inch diameter, installed flush with the top of the infiltration trench on a footplate and with a locking, removable cap. The observation well is needed to monitor the infiltration rate in infiltration trench and is useful for marking the location of the infiltration trench.

Vegetation

- Infiltration trenches must be kept free of vegetation.
- Trees and other large vegetation should be planted away from infiltration trenches such that drip lines do not overhang the infiltration area.

Restricted Construction Materials

Use of pressure-treated wood or galvanized metal at or around an infiltration trench is prohibited.

Overflow Device

An overflow device must be provided in the event that stormwater runoff overtops the infiltration trench or if the infiltration trench becomes clogged. The overflow device must be able to convey stormwater runoff to a downstream conveyance system or other acceptable discharge point.

Maintenance Access

The infiltration trench must be safely accessible during wet and dry weather conditions if it is publicly-maintained. An access road along the entire length of the infiltration trench is required unless the trench is located along an existing road or parking lot that can be safely used for maintenance access. If the infiltration trench becomes plugged and fails, access is needed to excavate the infiltration trench and replace the filter bed media. All dimensions of the infiltration trench should also be increased by two inches to provide a fresh surface for infiltration. To prevent damage and compaction, access must able to accommodate a backhoe working at "arm's length" from the infiltration trench.

Maintenance Requirements

Maintenance and regular inspections are important for proper function of infiltration trenches. The following are general maintenance requirements:

- Conduct regular inspection and routine maintenance for pretreatment devices.
- Inspect infiltration trench and its observation well frequently to ensure that water infiltrates into the subsurface completely within the maximum detention time of 96 hours. If water is present in the observation well more than 96 hours after a major storm, the infiltration trench may be clogged. Maintenance activities triggered by a potentially clogged facility include:
    - Check for debris/sediment accumulation, rake surface and remove sediment (if any), and evaluate potential sources of sediment and vegetative or other debris (i.e., embankment erosion, channel scour, overhanging trees). If suspected upstream sources are outside of the County's jurisdiction, additional pretreatment (i.e., trash racks, vegetated swales) may be necessary.
    - Assess the condition of the top aggregate layer for sediment buildup and crusting. Remove the top layer of pea gravel and replace. If slow draining conditions persist, the entire infiltration trench may need to be excavated and replaced.
- Eliminate standing water to prevent vector breeding.
- Inspect infiltration trenches annually. Remove and dispose of trash and debris as needed, but at least prior to the beginning of the wet season.
- Inspect overflow devices for obstructions or debris, which should be removed immediately. Repair or replace damaged pipes upon discovery.

A summary of potential problems that may need to be addressed by maintenance activities is presented in Table E-6.

The County requires execution of a maintenance agreement to be recorded by the property owner for the on-going maintenance of any privately-maintained stormwater quality control measures. The property owner is responsible for compliance with the maintenance agreement. A sample maintenance agreement is presented in Appendix H.

Table E-6. Infiltration Trench Troubleshooting Summary

Problem	Conditions When Maintenance Is Needed	Maintenance Required
Trash and Debris	Trash and debris > 5 ft^3/1,000 ft^2	Remove and dispose of trash and debris.
Contaminants and Pollution	Any evidence of oil, gasoline, contaminants, or other pollutants	Remove any evidence of visual contamination.
Erosion/Sediment Accumulation	Undercut or eroded areas at inlet structures	Repair eroded areas and re-grade if necessary.
	Accumulation of sediment, debris, and oil/grease in pretreatment devices	Remove sediment, debris, and/or oil/grease.
	Accumulation of sediment, debris, and oil/grease on surface, inlet or overflow structures	Remove sediment, debris, and/or oil/grease.
Water Drainage Rate	Standing water, or by inspection of observation wells	Remove the top layer of the infiltration trench bottom and replace if necessary.

EXHIBIT G-1

Peak Flow Hydrologic Analysis

File location: C:/Users/Cantwell/Desktop/Project - Subarea 1A (before).pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Project
Subarea ID	Subarea 1A (before)
Area (ac)	0.35
Flow Path Length (ft)	208.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	1.0
Percent Impervious	0.42
Soil Type	2
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	1.0
Peak Intensity (in/hr)	0.3357
Undeveloped Runoff Coefficient (Cu)	0.4641
Developed Runoff Coefficient (Cd)	0.6472
Time of Concentration (min)	17.0
Clear Peak Flow Rate (cfs)	0.076
Burned Peak Flow Rate (cfs)	0.076
24-Hr Clear Runoff Volume (ac-ft)	0.0132
24-Hr Clear Runoff Volume (cu-ft)	575.7314

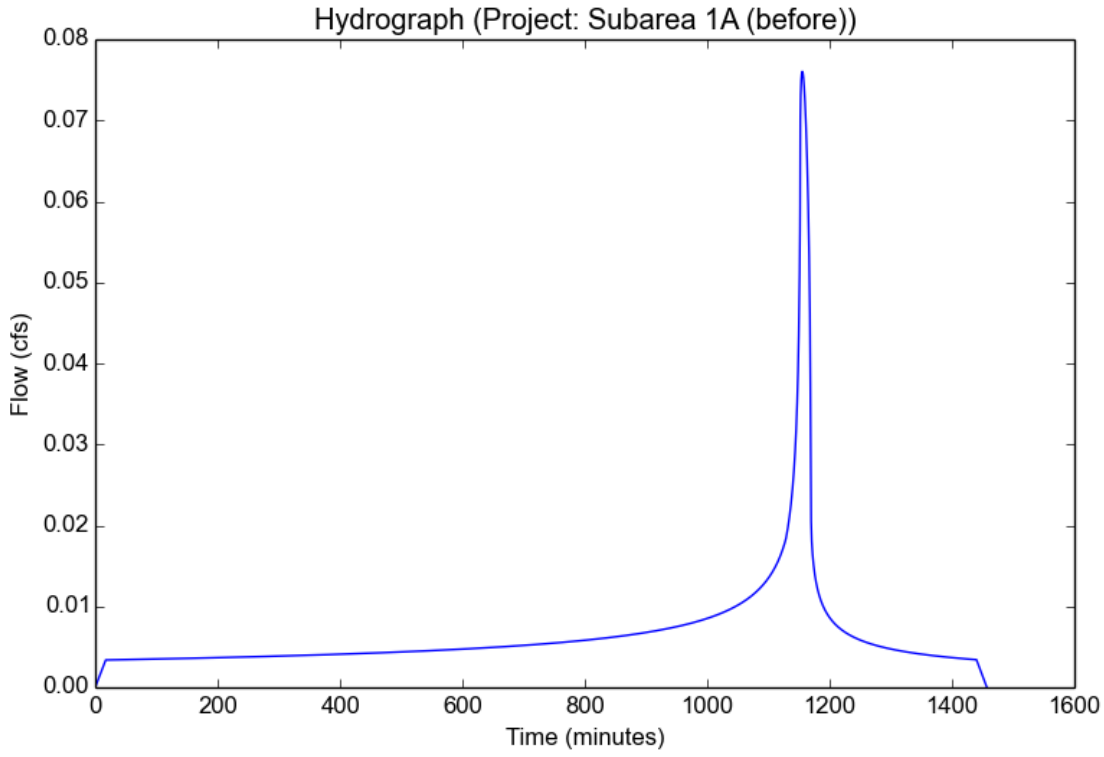


EXHIBIT G-2

Peak Flow Hydrologic Analysis

File location: C:/Users/Cantwell/Desktop/Project - Subarea 1A (after).pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Project
Subarea ID	Subarea 1A (after)
Area (ac)	0.35
Flow Path Length (ft)	146.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	1.0
Percent Impervious	0.61
Soil Type	2
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	1.0
Peak Intensity (in/hr)	0.3954
Undeveloped Runoff Coefficient (Cu)	0.5194
Developed Runoff Coefficient (Cd)	0.7516
Time of Concentration (min)	12.0
Clear Peak Flow Rate (cfs)	0.104
Burned Peak Flow Rate (cfs)	0.104
24-Hr Clear Runoff Volume (ac-ft)	0.0174
24-Hr Clear Runoff Volume (cu-ft)	759.401

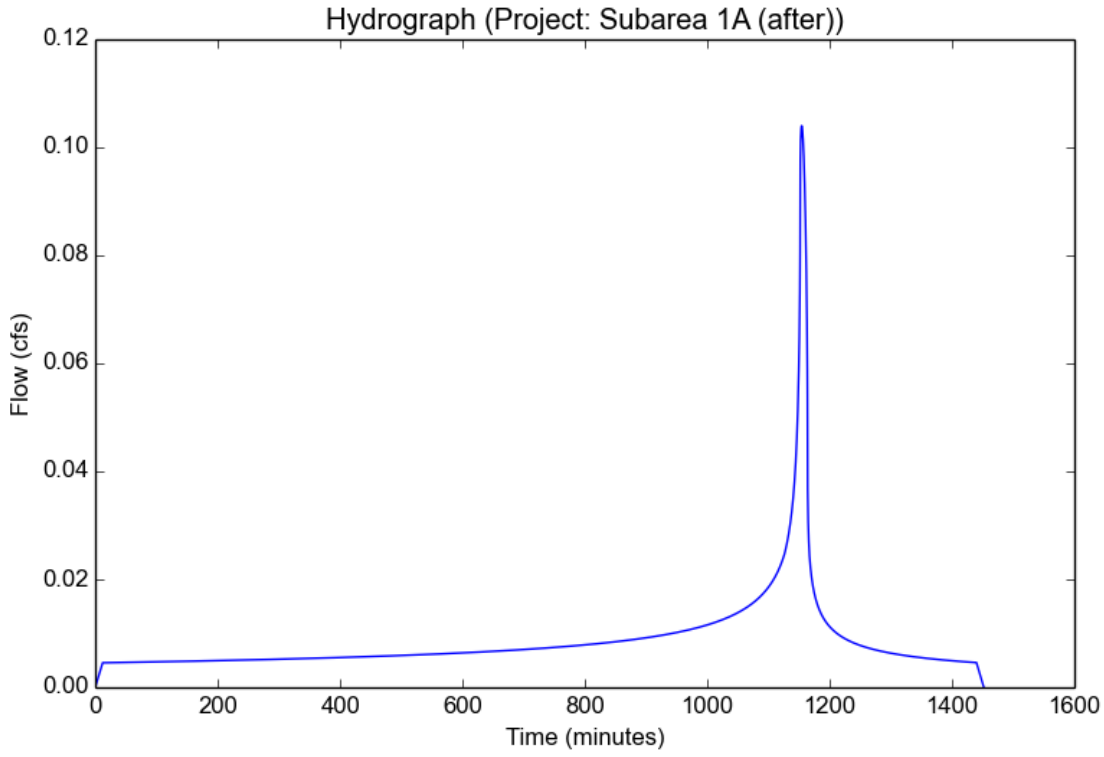


EXHIBIT H-1

Peak Flow Hydrologic Analysis

File location: C:/Users/Cantwell/Desktop/Project - Subarea 1B (before).pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Project
Subarea ID	Subarea 1B (before)
Area (ac)	0.33
Flow Path Length (ft)	170.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	1.0
Percent Impervious	0.68
Soil Type	2
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	1.0
Peak Intensity (in/hr)	0.3677
Undeveloped Runoff Coefficient (Cu)	0.4938
Developed Runoff Coefficient (Cd)	0.77
Time of Concentration (min)	14.0
Clear Peak Flow Rate (cfs)	0.0934
Burned Peak Flow Rate (cfs)	0.0934
24-Hr Clear Runoff Volume (ac-ft)	0.0179
24-Hr Clear Runoff Volume (cu-ft)	779.1261

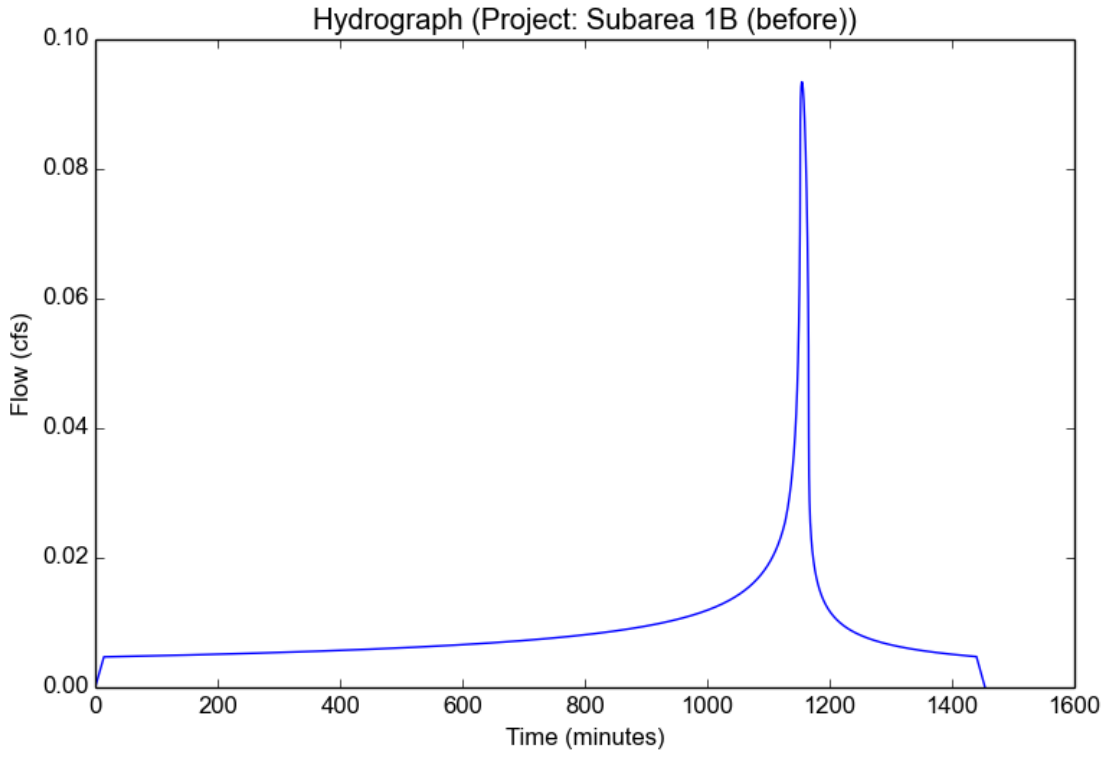


EXHIBIT H-2

Peak Flow Hydrologic Analysis

File location: C:/Users/Cantwell/Desktop/Project - Subarea 1B (after).pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Project
Subarea ID	Subarea 1B (after)
Area (ac)	0.33
Flow Path Length (ft)	181.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	1.0
Percent Impervious	0.59
Soil Type	2
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	1.0
Peak Intensity (in/hr)	0.356
Undeveloped Runoff Coefficient (Cu)	0.4829
Developed Runoff Coefficient (Cd)	0.729
Time of Concentration (min)	15.0
Clear Peak Flow Rate (cfs)	0.0856
Burned Peak Flow Rate (cfs)	0.0856
24-Hr Clear Runoff Volume (ac-ft)	0.016
24-Hr Clear Runoff Volume (cu-ft)	697.3886

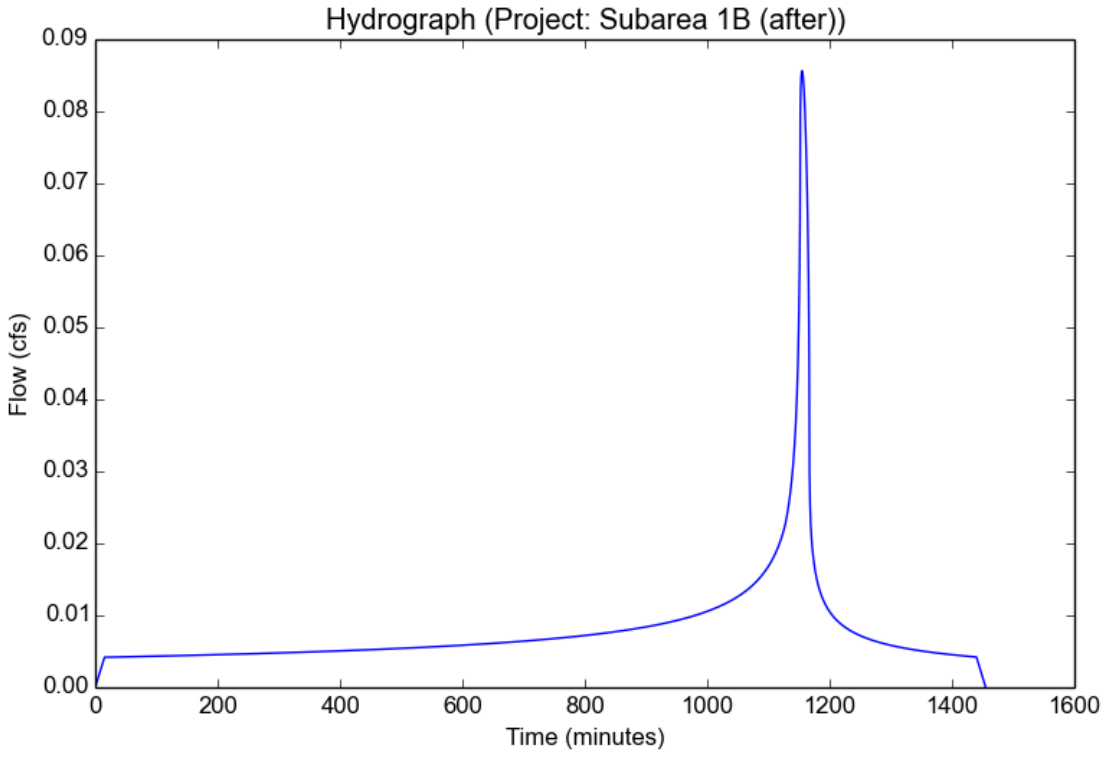


EXHIBIT J

RECORDING REQUESTED BY
AND MAIL TO:

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY DIVISION
900 S. FREMONT AVENUE, 3RD FLOOR
ALHAMBRA, CA 91803-1331

Space above this line is for Recorder's use

COVENANT AND AGREEMENT REGARDING THE MAINTENANCE OF LOW IMPACT DEVELOPMENT (LID) & NATIONAL POLLUTANTS DISCHARGE ELIMINATION SYSTEM (NPDES) BMPs

The undersigned, _____ ("Owner"), hereby certifies that it owns the real property described as follows ("Subject Property"), located in the County of Los Angeles, State of California:

LEGAL DESCRIPTION

ASSESSOR'S ID #_____TRACT NO._____LOT NO._____

ADDRESS: _____

_____

Owner is aware of the requirements of the County of Los Angeles' Green Building Standards Code, Title 31, Section 4.106.4 (LID), and National Pollutant Discharge Elimination System (NPDES) permit. The following post-construction BMP features have been installed on the Subject Property:

- ☐ Porous pavement
- ☐ Cistern/rain barrel
- ☐ Infiltration trench/pit
- ☐ Bioretention or biofiltration
- ☐ Rain garden/planter box
- ☐ Disconnect impervious surfaces
- ☐ Dry Well
- ☐ Storage containers
- ☐ Landscaping and landscape irrigation
- ☐ Green roof
- ☐ Other _____

_____

The location, including GPS x-y coordinates, and type of each post-construction BMP feature installed on the Subject Property is identified on the site diagram attached hereto as Exhibit 1.

Owner hereby covenants and agrees to maintain the above-described post-construction BMP features in a good and operable condition at all times, and in accordance with the LID/NPDES Maintenance Guidelines, attached hereto as Exhibit 2.

Owner further covenants and agrees that the above-described post-construction BMP features shall not be removed from the Subject Property unless and until they have been replaced with other post-construction BMP features in accordance with County of Los Angeles' Green Building Standards Code, Title 31 and NPDES permit.

Owner further covenants and agrees that if Owner hereafter sells the Subject Property, Owner shall provide printed educational materials to the buyer regarding the post-construction BMP features that are located on the Subject Property, including the type(s) and location(s) of all such features, and instructions for properly maintaining all such features.

Owner makes this Covenant and Agreement on behalf of itself and its successors and assigns. This Covenant and Agreement shall run with the Subject Property and shall be binding upon owner, future owners, and their heirs, successors and assignees, and shall continue in effect until the release of this Covenant and Agreement by the County of Los Angeles, in its sole discretion.

Owner(s):

By:_____ Date:_____

By:_____ Date:_____

(PLEASE ATTACH NOTARY)

REFERENCE

PLAN CHECK NO.: _____ DISTRICT OFFICE NO.:_____

ATTACHMENTS

EXHIBIT K

RECORDING REQUEST BY AND MAIL TO:

County of Los Angeles
Department of Public Works

Building and Safety – Drainage and Grading Section
Land Development – Drainage and Grading Section

P.O. Box 1460
Alhambra, California 91802-1460

Space above this line is for Recorder's use

COVENANT FOR MAINTENANCE OF WATER QUALITY (WQ) DEVICES

I (we) _____, hereby certify that I (we) am (are) the legal owner(s) of Tract # _____, and as such owners for the mutual benefit of future purchasers, their heirs, successors, and assigns, do hereby fix the following protective conditions to which their property, or portions thereof, shall be held, sold and/or conveyed.

That owner(s) shall maintain the WQ system shown on attached Exhibit A map and on Grading Plan GPC # _____, on file in the office of the Director of Public Works, in a good and functional condition at least once a year and retain proof of the inspection. The owner(s) shall perform this responsibility, unless the County discharges this obligation through a subsequently recorded written instrument.

The undersigned also covenants and agrees for himself, his heirs, successors, and assigns, to indemnify, defend, and save harmless the County, its agents, officers and employees from and against any and all liability, expenses, including defense costs and legal fees, and claims for damages of any nature whatsoever, including, but not limited to, bodily injury, death, personal injury, or property damage arising from or connected with the construction or maintenance of said work.

Owner(s):

By: _____ Date: _____

By: _____ Date: _____

GENERAL NOTES

1. All grading and consturction shall conform to the California Building Code, latest edition and the State Model Water Efficiency Landscape Ordinance unless specified on these plans.
2. Any modifications of or changes to approved grading plans must be approved by the Building Official.
3. No grading shall be started without first notifying the Building Official. A Pre-grading meeting at the site is required before the start of the grading with the following people present: Owner, grading contractor, design civil engineer, soils engineer, geologist, City grading inpector(s) or their representatives and when required the archeologist or other jurisdictional agencies. Permittee or his agent are responsible for arranging Pre-grade meeting and must notify the Building Official at least two business days prior to the proposed pre-grade meeting.
4. Approval of these plans reflect solely the review of plans in accordance with the California Building Code and does not reflect any position by the City of La Verne regarding the status of any title issues relating to the land on which the improvements may be constructed. Any disputes relatign to the title are solely a private matter not involving the City of La Verne.
5. All grading and construction activities shall comply with the City of La Verne Municipal Code Chapter 8, Section 20.020 D (1) that controls and restricts the use of construction and grading equipment from the hours of 8:00 PM to 7:00 AM and on Sundays and holidays.
6. The location of all utilities is the responsibility of the Permitee.
7. All export of material from the site must go to a permitted site approved by the Building Official or a legal dumpsite. Receipts for acceptance of excess material by a dumpsite are required and must be provided to the Building Official upon request.
8. A copy of the grading permit and approved grading plans must be in the possession of a responsible person and available at the site at alll times.
9. Site boundaries, easements, drainage devices, restricted use areas shall be located per construction staking by Field Engineer or licensed surveyor. Prior to grading, as requested by the Building Official, all property lines, easements and restricted use areas shall be staked.
10. No grading or construction shall occur within the protected zone of any heritage or significant tree as regulated by Chapter 18, Section 78.160 of the City of La Verne Zoning Code.
11. Where a grading permit is issued and the Building Official determines that the grading will not be completed prior to November 1, the owner of the site on which grading is being performed shall, on or before October 1, file or cause to be filed with the Building Official an Erosion and Sediment Control Plan per the City of La Verne Watershed Management Program.
12. Transfer of Responsibility: If the Field Engineer, the Soils Engineer or the Engineering Geologist in writing to accept responsibility withing the area of technical competence for approval upon in writing to accept responsibility withing the area of technical competence for approval upon completion of the work. It shall be the duty of the permitee to notify the Building Official in of record is changed during grading, the work shall be stopped until the replacement has agreed completion of the work. It shall be the duty of the permitee to notify the Building Official in writing of such change prior to the recommencement of such grading.

INSPECTION NOTES

13. The permittee or his agent shall notify the Building Official at least one working day in advance of required inspections at the following stages of work:
    a. Pre-grade - Before the start of any earth disturbing activity or construction.
    b. Initial - When the site has been cleared of vegetation and unapproved fill has been scarified, benched or otherwise prepared for fill. Fill shall not be placed prior to this inspection. Note: Prior to any construction activities including grading, all storm water pollution prevention measures including erosion control devices which contain sediments must be installed.
    c. Rough - When approximate final elevations have been established; drainage terraces, swales and berms installed at the top of the slope and the statements required by this Section have been received.
    d. Final - When grading has been completed; all drainage devices installed; slope planting established; irrigation systems installed and the As-Built plans, required statements and reportshave been submitted and approved.
14. In addition to the inspection required by the Builsing Official for grading, reports and statements shall be submitted to the Building Official in accordance with Appendix J, Section 105 of the California Building Code, latest edition.
15. Unless otherwise directed by the Building Official the Field Engineer for all engineered grading projects shall prepare routine inspecion reports as required under AppendixJ, Section 105 of the California Building Code, latest edition. These reports, known as "Report of Grading Activities" shall be submitted to the Building Official as follows:
    a. Bi-weekly during times whan grading of 400 cubic yards or more per week is occuring on site;
    b. Monthly, at all other times; and
    c. At any other time when requested by the Building Official.

    Such "Report of Grading Activities" shall certify to the Building Official that the Field Engineer has inspected the grading site and related activities and has found them in compliance with the approved grading plans and specifications, the California Building Code, all grading permit conditions and all other applicable ordinances and requirements. This form is available from the City of La Verne Department of Community Development. Failure to provide inspection reports will result in issuance of a "Stop Work Order".
15. All graded sites must have drainage swales, berms and other drainage devices installed prior to rough grading approval per Appendix J, Section 105 of the California Building Code, latest edition.
16. The grading contractor shall submit the statement to the grading inspector as required by Appendix J, Section 105 of the California Building Code, latest edition.
17. Final grading must be approved before occupancy of buildings will be allowed per Appendix J, Section 105 of the California Building Code, latest edition.

DRAINAGE NOTES

18. Roof drainage must be diverted from graded slopes.
19. Provisions shall be made for contributory drainage at all times.
    accordance with the approved plans and specifications and in conformance with the

GENERAL GEOTECHNICAL NOTES

20. All work must be in compliance with the recommendations included in the geotechnical consultant's report(s) and the approved grading plans and specifications.
21. Grading operations must be conducted under periodic inspections by the geotechnical consultants with monthly inspection reports to be submitted the City of La Verne's geotechnical consultant.
22. The Soil Engineer shall provide sufficient inspections during the preparation of the natural ground and the placement and compaction of the fill to be satisfied that the work is being performed in accordance with the plan and applicable Code requirements.
23. Rough grading must be approved by a final engineering geology and soils engineering report. An As-Built Geologic Map must be included in the final geology report. PRovide a final report that verifies work was done in accordance with report recommendations and code provisions. The final report(s) must be submitted to the City's geotechnical consultant for review and approval.
24. Foundation, wall and pool excavations must be inspected and approved by the consulting geologist and soil engineer prior to the placing of steel or concrete.
25. Building pads located in cut/fill transition areas shall be over excavated a minimum of three (3) feet below the proposed bttom of footing.

FILL NOTES

26. All fill shall be compacted to the following relative compaction criteria:
    a. 90 percent of maximum dry density within 40 feet below finish grade.
    b. The relative maximum compaction shall be determined by A.S.T.M. soil compaction test D1557-91 where applicable. Where not applicable a test acceptable to the Building Official shall be used.
27. Field density shall be determined by a method acceptable to the Building Official. However not less than 10% of the required density tests, uniformly distributed, shall be obtained by the Sand Cone Method.
28. Sufficient tests of the fill soils shall be made to determine the relative compaction of the fill in accordance with the following minimum guidelines:
    a. One test for each two-foot vertical lift.
    b. One test for each 1,000 cubic yards of material placed.
    c. One test at the location of the final slope for each building site(lot) in each four-foot vertical lift or or portion thereof.
    d. One test in the vicinity of each building pad for each four-foot vertical lift portion thereof.
29. Sufficient tests of fill soils shall be mad to verify that the soil properties comply with the design requirements as determined by the Soil Engineer including soil types, shear strength parameters and corresponding unit weights in accordance with the following guidelines:
    a. Prior and subsequent to placement of the fill, shear tests shal be taken on each type of soil or soil mixture used for all slopes steeper that three (3) horizontal to one vertical.
    b. Shear test results for the proposed fill material must meet or exceed the design values in the geotechnical report to determine slope stability requirements. Otherwise the slope must be reevaluated using the actual shear test value of the fill material that is in place.
    c. Fill soils shall be free of deleterious material.
30. Fill shall not be placed until stripping of vegetation, removal of unsuitable soils and installation of subdrain (if any) have been inspected and approved by the Soil Engineer. The Building Official may require a "Standard Test Method for moisture, ash, organic matter, peat or other organic soils" ASTM D-2974-87 on any suspect material. Detrimental amounts of organic shall not be permitted in fills. Soil containing small amounts of roots may be allowed provided that the roots are in a quantity and distributed in a manner that will not be detrimental to the future use of the site and the Soils Engineer approves the use of such material.
31. Rock or similar material greater than 12 inches in diameter shall not be placed in the fill unless recommendations for such placement have been submitted by the Soils Engineer and approved in advance by the Building Official. Location, extent and elevation of rock disposal areas must be shown on an "As Built" grading plan.
32. Continuous inspection by the Soils Engineer, or a responsible representative, shall be provided during all fill placement and compaction operations where fills have a depth greater than 30 feet or slope surface steeper than 2:1. (Appendix J, Section 105 of the California Building Code, latest edition).
33. All subdrain outlets are to be surveyed for line and elevation. Subdrain information must be shown on an As Built grading plan.
34. Fill slopes in excess of 2:1 steepness ratio are to be constructed by placement of soil at sufficient distance beyond the proposed finish slope to allow compaction equipment to be operated at the outer limits of the final slope surface. The excess fill is to be removed prior to the completion of rough grading. Other construction procedures may be used when it isdemonstrated to the satisfaction of the Building Official that the angle of slope, construction method and other factors will have equivalent effect. (Appendix J, Section 105 of the California Building Code, latest edition)

PLANTING AND IRRIGATION NOTES

35. The planting and irrigation systems shall be installed as soon as practical after rough grading. Priot to final grading approval all required slope planting must be well established.
36. Landscape irrigation system shall be designed and maintained to prevent spray on structures.
37. Prior to rough grade approval this project requires a landscape permit. Landscape plans in compliance with the "Model Water Efficient Landscape Ordinance" Title 23, Chapter 2.7 of California Code of Regulations be submitted to the City of La Verne Department of Community Development. To obtain a Landscape Permit approved plans and water purveyor acknowledgement must be submitted to the Building Official.

BASIS OF BEARINGS

THE BEARING OF N17°30'00"E FOR THE CENTER LINE OF PARK AVENUE AS SHOWN ON TRACT NO. 17459, M.B. 428, 13–15 WAS USED AS THE BASIS OF BEARINGS FOR THIS PLAN.

NOTE

TOTPGRAPHIC SURVEY WAS CONDUCTED BY T & M SURVEYING (PLS 9309) ON sEPTEMBER 26, 2024.

EXHIBIT L-1

REVISIONS	REFERENCES

RICHARD W. CANTWELL, PE
CONSULTING CIVIL ENGINEER
2334 CLUB VISTA DR.
GLENDORA, CA 91741
(626) 335–3055

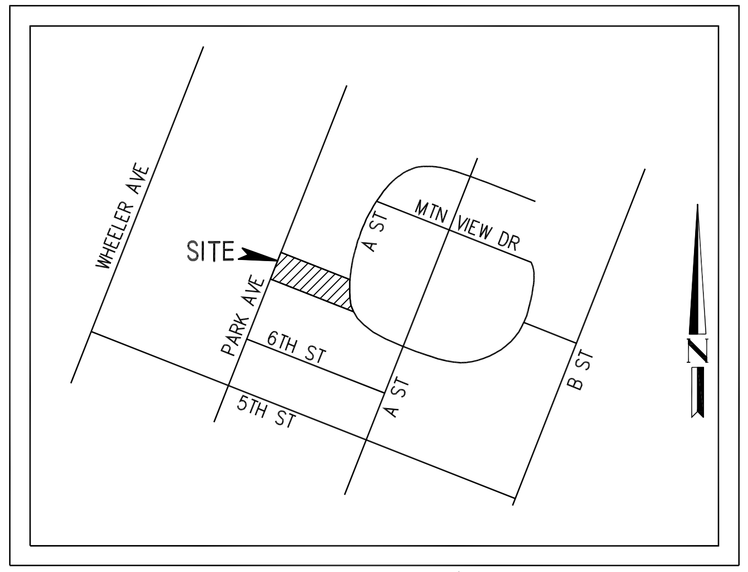
ENGINEERING SCALE:	DATE:
DRAWN: RC	2/28/25
CHECKED:	
RECOMMENDED:	
APPROVED:	

GENERAL GRADING NOTES

Hillcrest Gateway Project
2730, 2712 & 2692 Park Avenue
2675,& 2681 A Street
La Verne, CA. 91750

CONSTRUCTION NOTES

1. Construct 6" PCC curb per City Standard
2. Construct 6" PCC drive approach per City Standard W=16', X=3'
3. Construct 6" porous PCC pavement on 6" crushed aggregate base
4. Construct 4" porous PCC pavement on 4" sand base
5. Install 200 gallon rain barrel at each roof downspout.
6. Construct 4" PCC sidewalk per City Standard
7. Construct 6" PCC pavement on 6" crushed aggregate base



VICINITY MAP
NTS

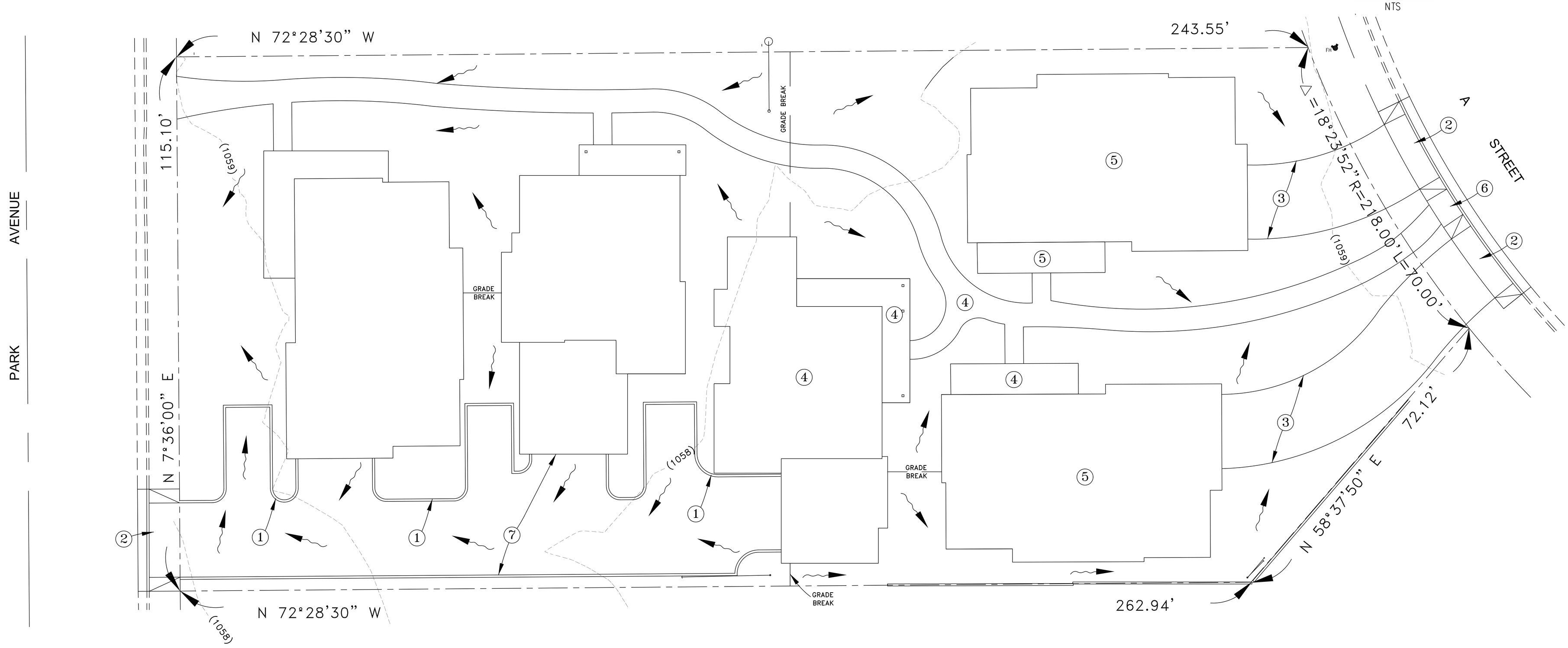


EXHIBIT M-2

REVISIONS	REFERENCES

RICHARD W. CANTWELL, PE
CONSULTING CIVIL ENGINEER
2334 CLUB VISTA DR.
GLENDORA, CA 91741
(626) 335-3055

ENGINEERING SCALE:	1" = 10'
DRAWN:	RC
CHECKED:	
RECOMMENDED:	
APPROVED:	
DATE:	2/28/25

CONCEPTUAL SITE GRADING PLAN

Hillcrest Gateway Project
2692 Park Avenue
La Verne, CA. 91750

LOW IMPACT DEVELOPMENT (LID) STUDY

HILLCREST GATEWAY PROJECT

2712 Park Avenue
La Verne, CA.



OWNER:

Hillcrest
2705 Mountain View Drive
La Verne, CA. 91750

PREPARED BY:

Richard Cantwell, P.E.
2334 Club Vista Drive
Glendora, CA. 91741
(626) 335-3055

I. Introduction

The property owner proposes to redevelop this single family residential parcel with two single story, detached residential units. The project is located in an area of mixed residential uses. The lot currently contains a one story single family residence and detached two car garage.

A. Project Location

The site is located on the East side of Park Avenue between Sixth and Elmcrest Streets. The lot area is 12,777 square feet, and vehicle access is attained from Park Avenue, a public street.

B. Project Description

The developer is proposing to construct a pair of one story single family residences. Each proposed house will be 2,088 square feet in area. Both will have an attached 2 car enclosed garages accessed by a shared concrete driveway.

II. Site Assessment and Design Considerations

A. Designated or Non-Designated Projects

In Section 2.1 of the LID Manual there are 9 bullet points used to determine if a project is a Designated Project. If the project doesn't conform to any of these criteria they are determined to be a Non-Designated Project. Only 2 of these bullet points, however, are relevant to this project.

Bullet Point 1 references properties that are greater in size than one acre (43,560 s.f.). At 12,777 square feet this site is 0.29 acre and thus well below the Designated Project threshold.

Bullet Point 9 refers to “Redevelopment projects, which are developments that result in creation or addition or replacement of 10,000 square feet or more of impervious surface area on a site that was previously developed as a single family home.”

Based upon the foregoing I believe that this proposed development should not be subject to the requirements for a Designated Project. The lot in its entirety is marginally larger than 10,000 square feet threshold and when the landscaping area is deducted falls well below that limit. Therefore this project does qualify as a Non-Designated Project.

B. Small Scale or Large Scale Non-Designated Projects

In Section 3.1 of the LID manual a Small Scale Non-Designated Project must be residential in nature and consist of 4 or fewer units.

Though this site redevelopment is residential in nature it involves the construction of 2 new residences and therefore qualifies as a Small Scale Non-Designated Project.

C. Project Area Sizes

According to Los Angeles County Assessors Map Book 8381, Page 10, Parcel 033 measures 100 feet by 127.77 feet or 12,777 square feet (0.29 acre).

D. Drainage Areas

As presently graded Parcels 1 slopes gently from North to South at a rate of about 1%.

Currently free standing masonry walls separate the site from Hillcrest's own property to the North and East. Therefore no contributory drainage comes from either North or the East. Consequently only stormwater originating on site will be contained and infiltrated.

E. Location of Stormwater Runoff Discharge

The site has historically surface drained Westerly to Park Avenue. As a Small Scale Non-Designated Project storm runoff water will be collected on site and then be infiltrated using both Permeable Pavement without an Underdrain (RET-5) for the driveway and turn around areas as well as an Infiltration Trench (RET-3) located in the landscaped area. Specific details will be incorporated in the final site Grading and Drainage Plan.

F. Land Use Type

The current and future land use designation for this property is PR4.5D (Planned Residential 4.5 DU per acre-Detached). This land use designation acknowledges the type of development anticipated the General Plan authors.

G. Activities Expected On-Site

This proposal is to construct 2 single family residences on this parcel. As mentioned earlier these houses will each be 2,088 square feet, single story with 2 car attached garages.

III. Geotechnical Conditions

A. Topography

This site is relatively flat with surface water directed Westerly to the adjoining Park Avenue. Currently the lot is occupied by a single family residence with detached garage and several outdoor amenities. Based upon the current topography and an examination of the immediate surroundings the only rainfall runoff affecting it emanates only on the site. All offsite drainage is prevented from entering the site by perimeter walls.

B. Soil Type and Geology

The Geotechnical Investigation report prepared by RMA Geoscience (RMA) dated June 12, 2024 identifies top soil consists of 12 to 18 inches of silty fine sand (SM) with traces of gravel and clay. This soil was considered moist to very moist (no doubt due to frequent surface irrigation).

Underlying soil was reported to be “older alluvium …with Silty Sand with gravel and clay and medium to coarse sand with gravel and silt.”

An Infiltration Testing Report prepared by RMA Geoscience and dated June 18, 2024 recommended that a design infiltration rate of 1.0 inches per hour be used for design purposes. This exceeds the minimum acceptable limit of 0.3 inches per hour indicating the on-site soils are suitable for stormwater infiltration.

C. Groundwater

According to RMA's Geotechnical Investigation report no groundwater was encounter in any of the 9 test borings. In their report they indicate the "Depth to historic high groundwater is greater than 100 feet below existing grade according to the Seismic Hazard Zone Report for the area (CDMG, 1998)".

Based upon the location of groundwater it would appear that bedrock is located at a depth greater than 100 feet below the ground surface.

D. Other Geotechnical Issues

Collapsible Soil

Given the soil type described in the RMA's Geotechnical Investigation report there is little or no possibility of collapsible soil existing at this location. To quote the LID Standards Manual collapsible soils are"…sediments that are loosely deposited, separated by coatings or particles of clay or carbonate and subject to saturation." Silty sand and alluvium do not fit this profile.

Expansive Soil

The soil profile for silty sand indicates is not expansive and contains limited amounts of clay. RMA's lab findings verify this conclusion. The Expansion Index test results varied from 0 to 27. Expansion Test value of 0 is considered Very Low (0-20) while 27 is considered to be Low (21-50). Leaning to the conservative RMA has determined that the on-site soil expansion index is considered Low.

Slopes/Landslides

The sites are relatively flat and contain no slopes nor will there be any slopes when site grading is completed. As RMA has reported "According to the California Geological Survey Seismic Hazard Zone Map (1999) "…the site(s) do not lie in a landslide zone."

Faults

Though the three sites are not located within an Alquist-Priolo Earthquake Fault Zone the Cucamonga branch of the Sierra Madre Fault is locate about 6 miles Northeast of the 3 sites. There is a possibility that moderate to intense ground shaking could occur in the future.

Liquefaction

Per RMA's report no groundwater should be expected above a depth of 100 feet. Since high groundwater is not an issue here and the soil is well drained there is little or no chance of liquefaction occurring during a seismic event or infiltration of surface runoff.

IV. Source Control Measures

As shown in Table 5-1 Source Control Measures Selection Matrix (LID Standards Manual, page 5-3) there are various required Source Control Measures for Non-Designated Projects. These are:

- Storm Drain Message and Signage (S-1)
- Landscape Irrigation Practices (S-8)
- Building Materials (S-9)

Storm Drain Message and Signage (S-1)

Since there will be no onsite catch basins serving these projects as all rainfall runoff will be retained and infiltrated on-site then a sign and painted message are impractical.

Landscape Irrigation Practices (S-8)

The project landscape designer will be directed to employ measures that will reduce excessive irrigation runoff including but not limited to using:

Rain triggered shut off devices

Adjust irrigation system design to specific plantings

Include flow reducers or shut off valves to prevent loss due to breakage.

Follow local water conservation methods and techniques.

Building Materials (S-9)

Alternative building materials will be considered by the project architect. These may include the use of properly coated metal flashing, vents, etc.

V. Delta Storm Water Quality Design Volume (△SWQDv)

Section 6 of the LID Standards Manual states that "Current water quality requirements are based on treating a specific volume of storm water runoff from the site (SWQDv)." "…it is expected that pollutant loads….will be reduced in the discharge…".

It is the developer's desire to utilize two previously mentioned retention and infiltration devices to disperse the projected storm water runoff. However to verify the effectiveness of these measures the Los Angeles County Department of Public Works HydroCalc

program will be utilized to determine the anticipated storm water volume.

The storm water volume utilized is established incorporating the following data:

- Site Area = 12,777 sq. ft. = 0.29 acre
- Existing Impervious Area = 6,408 sq. ft.
- Proposed Impervious Area = 7,738 sq. ft.
- Existing Impervious Area percentage = 6,408/12,777 = 50%
- Proposed Impervious percentage = 7,738/12,777 = 61%
- Soil type = 012
- 85^{th} percentile, 24 hour storm total = 1.0 in.
- Flow path (before) = 168 ft.
- Flow path (after) = 211 ft.
- Average slope = 1.0%

$V_u = 546 ft^3$

$V_d = 632 ft^3$

$\triangle SWQDv = V_d - V_u = 632 ft^3 - 546 ft^3 = 86 ft^3$

The onsite drainage system will be designed to collect and infiltrate the $\triangle SWQD_V$ runoff.

VI. Stormwater Quality Control Measure Maintenance

The property owner will be required to execute any applicable Covenants and Agreements for the Maintenance of all BMPs and devices constructed or installed as part of the project (see Exhibits K & L). When those documents are executed they will be filed with the City of La Verne for eventual recording by the County Recorder.

The property owner will also be responsible to maintain any applicable BMPs in an effective and efficient condition and the City shall have all necessary enforcement powers to assure such maintenance is completed.

LIST OF EXHIBITS

A. Los Angeles County Assessor's Parcel Map

B. Los Angeles County Department of Public Works LID Manual Table 5-1

C. Los Angeles County DPW 85th Percentile 24 hour Rainfall Isohyetal Map

D. Los Angeles County DPW Soil Type Map

E. Los Angeles County DPW Soil Identification Table

F. Infiltration Trench (RET-3)

G. Permeable Pavement without an Underdrain (RET-5)

H. Los Angeles County DPW HydroCalc Analysis-Sub Area 1A-before

J. Los Angeles County DPW HydroCalc Analysis-Sub Area 1A-after

K. Covenant and Agreement (sample)

L. Covenant for Maintenance (sample)

M. Conceptual Site Grading Plan

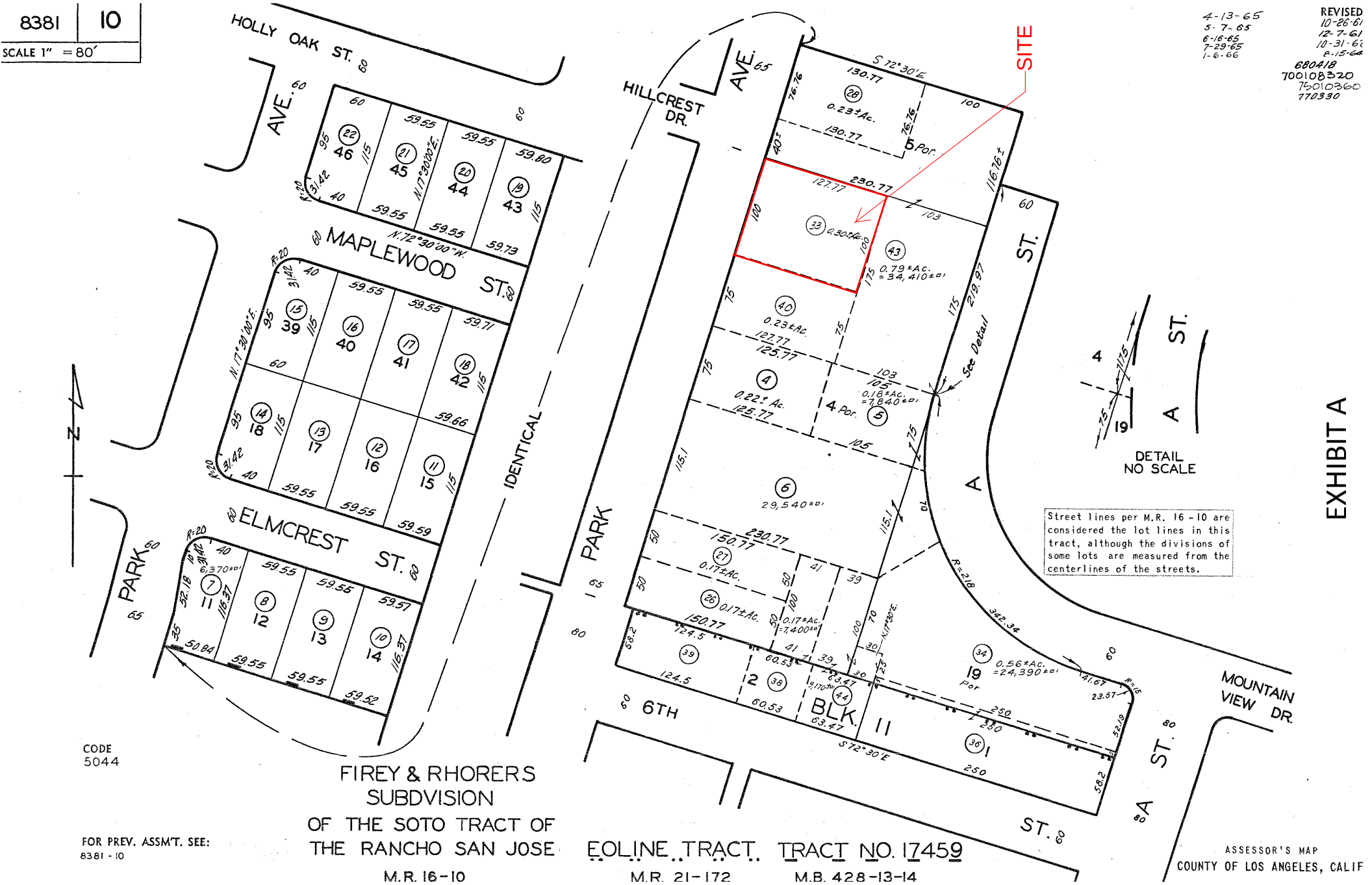

8381 | 10
SCALE 1" = 80'
HOLLY OAK ST.
AVE.
MAPLEWOOD ST.
ELMCREST ST.
PARK
HILLCREST DR.
IDENTICAL
SITE
S 72°30'E
N 17°30'00"E
N 72°30'00"W
130.77
230.77
127.77
125.77
150.77
124.5
60.53
63.47
0.23±Ac.
0.30±Ac.
0.79±Ac. = 34,410±D.
0.22±Ac.
0.18±Ac. = 7,840±D.
29,540±D.
0.17±Ac.
0.17±Ac. = 7,400±D.
0.56±Ac. = 24,390±D.
4 Por.
5 Por.
19 Por.
2 BLK. 11
See Detail
DETAIL NO SCALE
Street lines per M.R. 16 - 10 are considered the lot lines in this tract, although the divisions of some lots are measured from the centerlines of the streets.
EXHIBIT A
4-13-65
5-7-65
6-16-65
7-29-65
1-6-66
REVISED
10-26-61
12-7-61
10-31-61
8-15-64
680418
700108320
750103 60
770390
CODE 5044
FOR PREV. ASSM'T. SEE: 8381 - 10
FIREY & RHORERS SUBDIVISION OF THE SOTO TRACT OF THE RANCHO SAN JOSE
M.R. 16-10
EOLINE TRACT TRACT NO. 17459
M.R. 21-172 M.B. 428-13-14
ASSESSOR'S MAP
COUNTY OF LOS ANGELES, CALIF

Table 5-1. Source Control Measures Selection Matrix (continued)

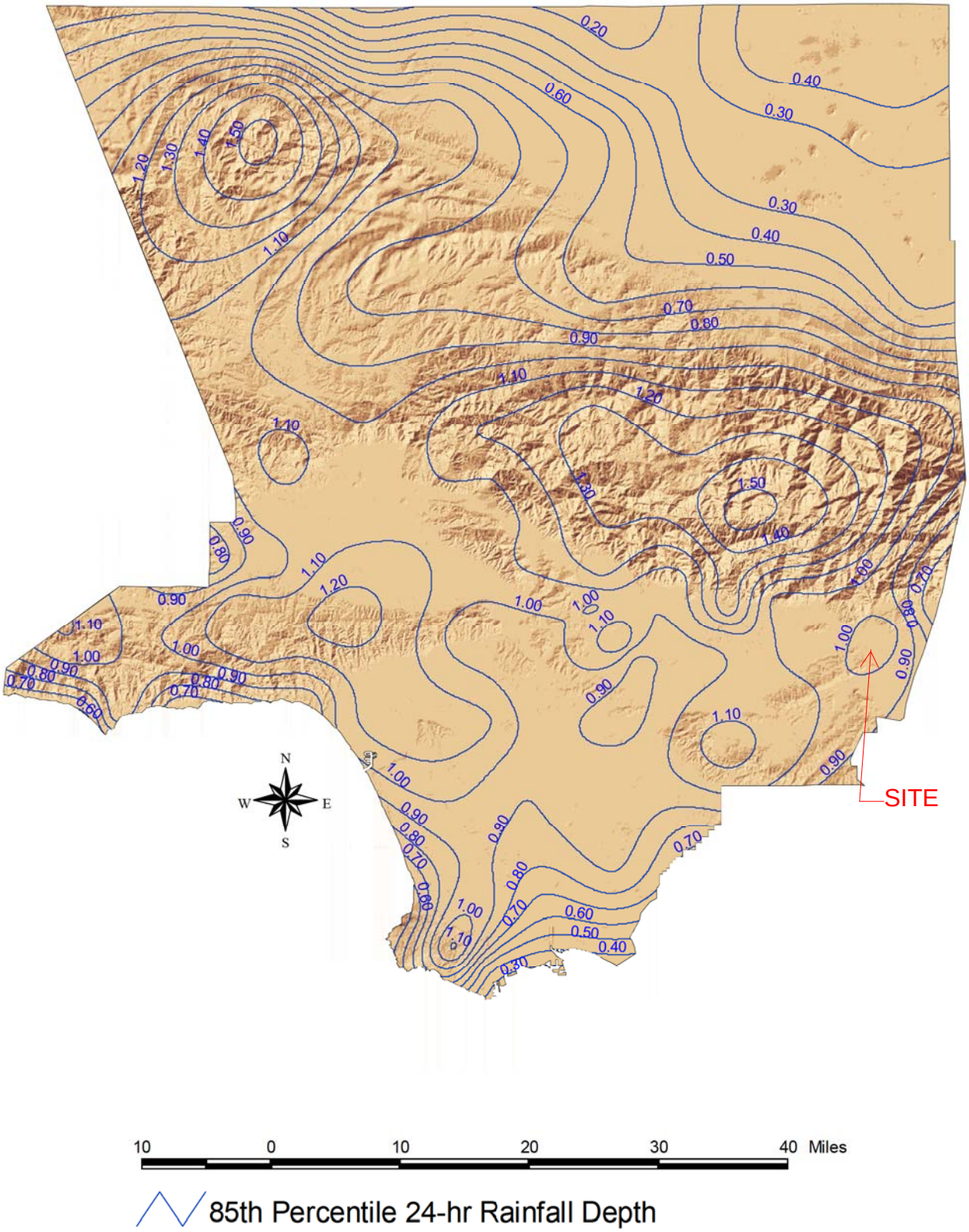
Project Type	Source Control Measure										
	Storm Drain Message and Signage (S-1)	Outdoor Material Storage Area (S-2)	Outdoor Trash Storage/ Waste Handling Area (S-3)	Outdoor Loading/Unloading Dock Area (S-4)	Outdoor Vehicle/Equipment Repair/Maintenance Area (S-5)	Outdoor Vehicle/ Equipment/ Accessory Wash Area (S-6)	Fuel & Maintenance Area (S-7)	Landscape Irrigation Practices (S-8)	Building Materials (S-9)	Animal Care and Handling Facilities (S-10)	Outdoor Horticulture Areas (S-11)
Designated Projects – Redevelopment											
Projects creating or adding ≥5,000 ft^2	R	R^1	R^1	R^1	R^1	R^1	R^1	R	R	R^1	R^1
Projects altering existing impervious surface	R	R^1	R^1	R^1	R^1	R^1	R^1	R	R	R^1	R^1
Non-Designated Projects											
Small-Scale Residential Projects	R	R^1	R^2	–	–	–	–	R	R	–	–
Large-Scale Projects	R	R^1	R^1	R^1	R^1	R^1	R^1	R	R	R^1	R^1

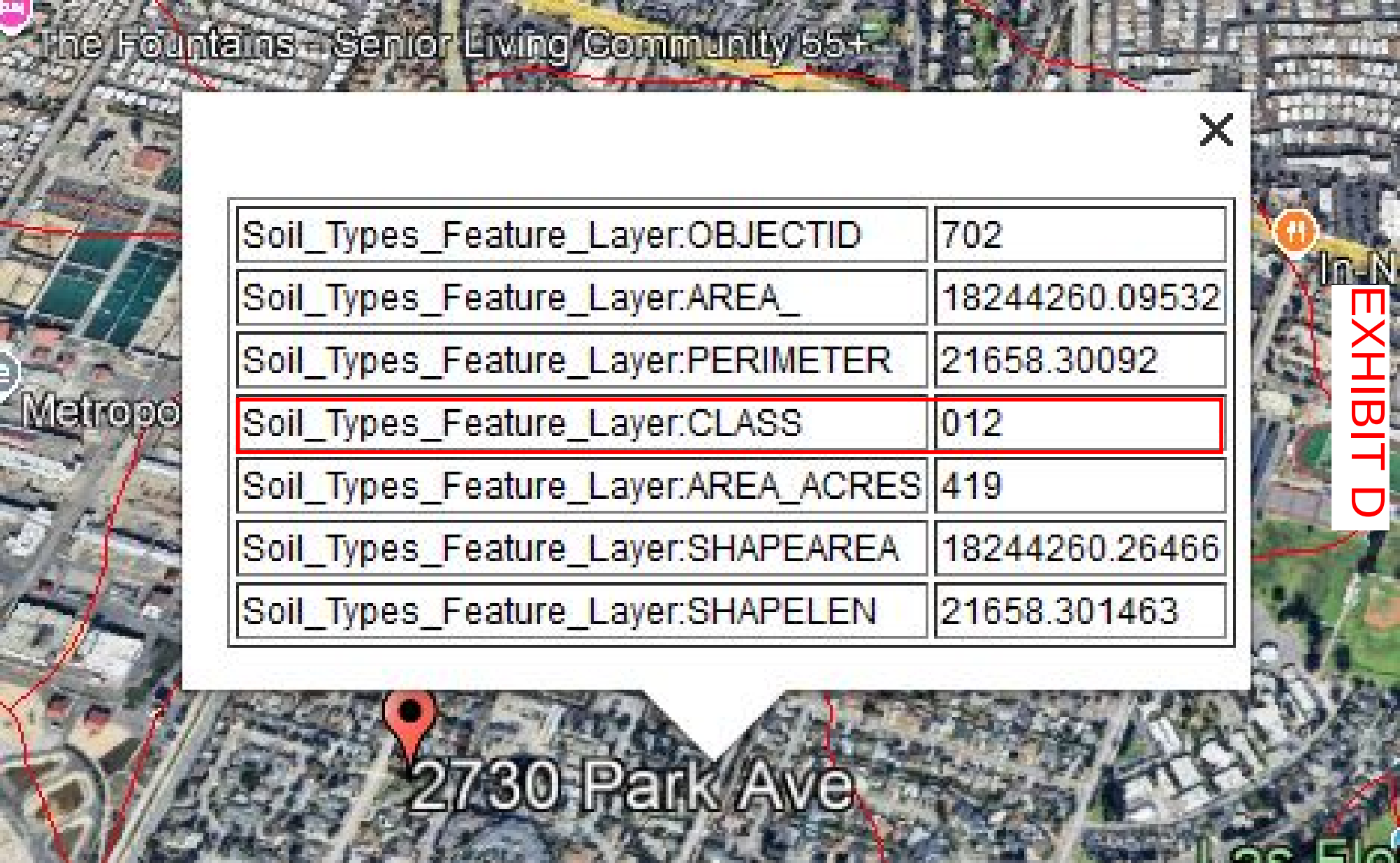
R = required; R^1 = required if outdoor activity area is included in project; R^2 = required for multi-family dwellings

EXHIBIT B

EXHIBIT C

85th Percentile 24-hr Rainfall Isohyetal Map





Soil_Types_Feature_Layer:OBJECTID	702
Soil_Types_Feature_Layer:AREA_	18244260.09532
Soil_Types_Feature_Layer:PERIMETER	21658.30092
Soil_Types_Feature_Layer:CLASS	012
Soil_Types_Feature_Layer:AREA_ACRES	419
Soil_Types_Feature_Layer:SHAPEAREA	18244260.26466
Soil_Types_Feature_Layer:SHAPELEN	21658.301463

EXHIBIT E

Soil Identification Table

Number	Name	Original Name
2	ALTAMONT CLAY LOAM	A
3	CHINO SILT LOAM	CS-1
4	DIABLO CLAY LOAM	DY
5	HANFORD FINE SANDY LOAM	HF
6	HANFORD FINE SANDY LOAM	HF-1
7	HANFORD GRAVELLY SANDY LOAM	HG
8	HANFORD SILT LOAM	HN
9	MONTEZUMA CLAY ADOBE	M
10	OAKLEY FINE SAND	OS
11	PLACENTIA LOAM	PL
12	RAMONA CLAY LOAM	RC- 1
13	RAMONA LOAM	RO
14	RAMONA SANDY LOAM	RS
15	TUJUNGA FINE SANDY LOAM	TF
16	YOLO LOAM	Y
17	YOLO CLAY LOAM	YC
18	YOLO FINE SANDY LOAM	YF
19	YOLO GRAVELLY SANDY LOAM	YG
20	YOLO SANDY LOAM	YS
21	SANTA MONICA MOUNTAINS	SMM-1
22	SANTA MONICA MOUNTAINS	SMM-2
23	SANTA MONICA MOUNTAINS	SMM-3
24	SANTA MONICA MOUNTAINS	SMM-4
25	SANTA MONICA MOUNTAINS	SMM-5
26	SANTA MONICA MOUNTAINS	SMM-6
27	SANTA MONICA MOUNTAINS	SMM-7
28	SANTA MONICA MOUNTAINS	SMM-8
29	SANTA MONICA MOUNTAINS	SMM-9
30	SANTA MONICA MOUNTAINS	SMM-10
31	SANTA MONICA MOUNTAINS	SMM- 11
32	SANTA MONICA MOUNTAINS	SMM-12
33	SANTA MONICA MOUNTAINS	SMM-13
34	SANTA MONICA MOUNTAINS	SMM-14
35	SANTA MONICA MOUNTAINS	SMM-15
36	SANTA MONICA MOUNTAINS	SMM-16
37	SANTA MONICA MOUNTAINS	SMM- 17
38	SANTA MONICA MOUNTAINS	SMM- 18

sediment reduction (e.g., vegetated swales, vegetated filter strips, sedimentation manholes, and proprietary devices).

Setbacks

Infiltration trenches must be sited following the setbacks from the most recent GMED Policy GS 200.1.

Geometry

- Infiltration trenches must be designed and constructed to be at least 24 inches wide and 3 to 5 feet deep.
- The longitudinal slope of the trench should not exceed three percent.
- The filter bed media layers must have the following composition and thickness:
  - Top layer: 2 inches of pea gravel
  - Middle layer: 3 to 5 feet of washed 2- to 6-inch gravel; void spaces should be approximately 30 to 40 percent
  - Bottom layer: 6 inches of sand or geomembrane liner equivalent.

Sizing

Infiltration trenches are sized a simple sizing method where the SWQDv must be completely infiltrated within 96 hours. Infiltration trenches provide stormwater runoff storage in the voids of the rock fill or percolation tank modules.

Step 1: Determine the SWQDv

Infiltration trenches must be designed to capture and retain the SWQDv (see Section 6 for SWQDv calculation procedures).

Step 2: Determine the design infiltration rate

Determine the corrected in-situ infiltration rate (f_{design}) of the native soil using the procedures described in the most recent GMED Policy GS 200.1.

Step 3: Calculate the surface area

Determine the size of the required infiltration surface by assuming the SWQDv will fill the available void spaces of the gravel storage layer. The maximum depth of stormwater runoff that can be infiltrated within the maximum retention time (96 hrs) is calculated using the following equation:

$$d_{max} = \frac{f_{design}}{12} \times t$$

Where:

d_{max} = Maximum depth of water that can be infiltrated within the maximum retention time [ft];
f_{design} = Design infiltration rate [in/hr]; and
t = Maximum retention time (max 96 hrs) [hr].

Select the infiltration trench depth (d_t) such that:

$$d_t \leq \frac{d_{max}}{n_t}$$

Where:

d_t = Depth of infiltration trench [ft];
d_{max} = Maximum depth of water that can be infiltrated within the maximum retention time [ft]; and
n_t = Infiltration trench fill porosity.

Calculate the infiltrating surface area (bottom of the infiltration trench) required:

$$A = \frac{SWQDv}{d_t \times n_t}$$

Where:

A = Surface area of the bottom of the infiltration trench [ft^2];
SWQDv = Stormwater quality design volume [ft^3];
d_t = Depth of infiltration trench fill [ft]; and
n_t = Infiltration trench porosity.

Flow Entrance and Energy Dissipation

Energy dissipation controls, constructed of sound materials such as stones, concrete, or proprietary devices that are rated to withstand the energy of the influent flow, must be installed at the inlet to the infiltration trench. Flow velocity at the inlet must be 4 ft/s or less. Consult with LACDPW for the type and design of energy dissipation structure.

Drainage

The specifications for designing drainage systems for infiltration trenches are presented below:

- The bottom of infiltration trench must be native soil that is over-excavated at least one foot in depth with the soil replaced uniformly without compaction. Amending the excavated soil with two to four inches (~15 to 30 percent) of coarse sand is recommended.

- The use of vertical piping, either for distribution or infiltration enhancement, is prohibited. This application may be classified as a Class V Injection Well per 40 CFR Part 146.5(e)(4).
- The infiltration capacity of the subsurface layers should be sufficient to ensure a maximum detention time of 96 hours. An observation well must be installed to allow observation of detention time.

Hydraulic Restriction Layer

The entire infiltrative area, including the side slopes must lined with a geomembrane liner to prevent soil from migrating into the top layer and reducing the infiltration capacity. The specifications of the geomembrane liner are presented in Table E-5. The entire trench area, including the sides, must be lined with a geomembrane liner prior to placing the media bed. Provide generous overlap at the seams.

Table E-5. Geomembrane Liner Specifications for Infiltration Trenches

Parameter	Test Method	Specifications
Material		Nonwoven geomembrane liner
Unit weight		8 oz/yd^3 (minimum)
Filtration rate		0.08 in/sec (minimum)
Puncture strength	ASTM D-751 (Modified)	125 lbs (minimum)
Mullen burst strength	ASTM D-751	400 lb/in^2 (minimum)
Tensile strength	AST D-1682	300 lbs (minimum)
Equiv. opening size	US Standard Sieve	No. 80 (minimum)

Observation Well

The observation well is a vertical section of perforated PVC pipe, four- to six-inch diameter, installed flush with the top of the infiltration trench on a footplate and with a locking, removable cap. The observation well is needed to monitor the infiltration rate in infiltration trench and is useful for marking the location of the infiltration trench.

Vegetation

- Infiltration trenches must be kept free of vegetation.
- Trees and other large vegetation should be planted away from infiltration trenches such that drip lines do not overhang the infiltration area.

Restricted Construction Materials

Use of pressure-treated wood or galvanized metal at or around an infiltration trench is prohibited.

Overflow Device

An overflow device must be provided in the event that stormwater runoff overtops the infiltration trench or if the infiltration trench becomes clogged. The overflow device must be able to convey stormwater runoff to a downstream conveyance system or other acceptable discharge point.

Maintenance Access

The infiltration trench must be safely accessible during wet and dry weather conditions if it is publicly-maintained. An access road along the entire length of the infiltration trench is required unless the trench is located along an existing road or parking lot that can be safely used for maintenance access. If the infiltration trench becomes plugged and fails, access is needed to excavate the infiltration trench and replace the filter bed media. All dimensions of the infiltration trench should also be increased by two inches to provide a fresh surface for infiltration. To prevent damage and compaction, access must able to accommodate a backhoe working at "arm's length" from the infiltration trench.

Maintenance Requirements

Maintenance and regular inspections are important for proper function of infiltration trenches. The following are general maintenance requirements:

- Conduct regular inspection and routine maintenance for pretreatment devices.
- Inspect infiltration trench and its observation well frequently to ensure that water infiltrates into the subsurface completely within the maximum detention time of 96 hours. If water is present in the observation well more than 96 hours after a major storm, the infiltration trench may be clogged. Maintenance activities triggered by a potentially clogged facility include:
    - Check for debris/sediment accumulation, rake surface and remove sediment (if any), and evaluate potential sources of sediment and vegetative or other debris (i.e., embankment erosion, channel scour, overhanging trees). If suspected upstream sources are outside of the County's jurisdiction, additional pretreatment (i.e., trash racks, vegetated swales) may be necessary.
    - Assess the condition of the top aggregate layer for sediment buildup and crusting. Remove the top layer of pea gravel and replace. If slow draining conditions persist, the entire infiltration trench may need to be excavated and replaced.
- Eliminate standing water to prevent vector breeding.
- Inspect infiltration trenches annually. Remove and dispose of trash and debris as needed, but at least prior to the beginning of the wet season.
- Inspect overflow devices for obstructions or debris, which should be removed immediately. Repair or replace damaged pipes upon discovery.

A summary of potential problems that may need to be addressed by maintenance activities is presented in Table E-6.

The County requires execution of a maintenance agreement to be recorded by the property owner for the on-going maintenance of any privately-maintained stormwater quality control measures. The property owner is responsible for compliance with the maintenance agreement. A sample maintenance agreement is presented in Appendix H.

Table E-6. Infiltration Trench Troubleshooting Summary

Problem	Conditions When Maintenance Is Needed	Maintenance Required
Trash and Debris	Trash and debris > 5 ft^3/1,000 ft^2	Remove and dispose of trash and debris.
Contaminants and Pollution	Any evidence of oil, gasoline, contaminants, or other pollutants	Remove any evidence of visual contamination.
Erosion/Sediment Accumulation	Undercut or eroded areas at inlet structures	Repair eroded areas and re-grade if necessary.
	Accumulation of sediment, debris, and oil/grease in pretreatment devices	Remove sediment, debris, and/or oil/grease.
	Accumulation of sediment, debris, and oil/grease on surface, inlet or overflow structures	Remove sediment, debris, and/or oil/grease.
Water Drainage Rate	Standing water, or by inspection of observation wells	Remove the top layer of the infiltration trench bottom and replace if necessary.

RET-5: Permeable Pavement without an Underdrain

Description



Permeable pavement includes permeable interlocking concrete pavers, pervious concrete, or porous asphalt pavement that is flat in all directions. Permeable pavement can be used to infiltrate stormwater runoff into the porous pavement and sublayers of sand and gravel and subsequently into the underlying soil and groundwater, if present.

Permeable interlocking concrete pavement is comprised of a layer of durable concrete pavers or blocks separated by joints filled with small stones. Pervious concrete is made from carefully controlled amounts of water and cement materials used to create a paste that forms a thick coat around aggregate particles. Unlike conventional concrete, the mixture contains little or no sand, which creates a substantial void content (between 15 and 25 percent). Porous asphalt, or "open-graded" asphalt, pavement contains no fine aggregate particles, which creates void spaces in the pavement and allows water to collect within and drain through the pavement. An alternative approach for permeable pavement is to use stabilized grassy porous pavement, consisting of grass turf reinforced with plastic rings and filter fabric underlain by gravel. Permeable pavement is highly versatile and can be used in place of impermeable asphalt in many situations.

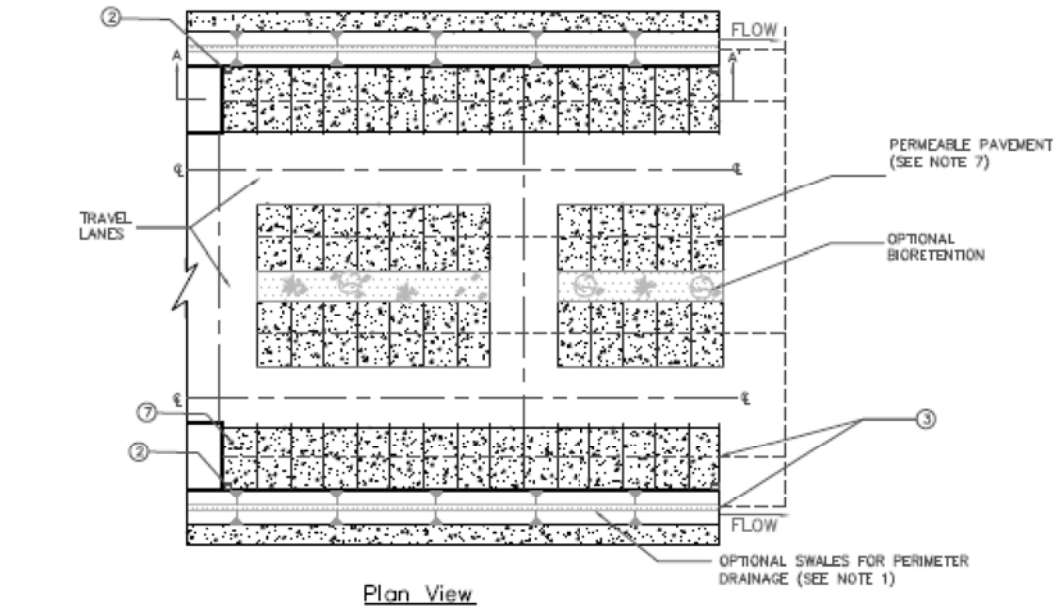
A schematic of a typical permeable pavement system without an underdrain is presented in Figure E-5.

LID Ordinance Requirements

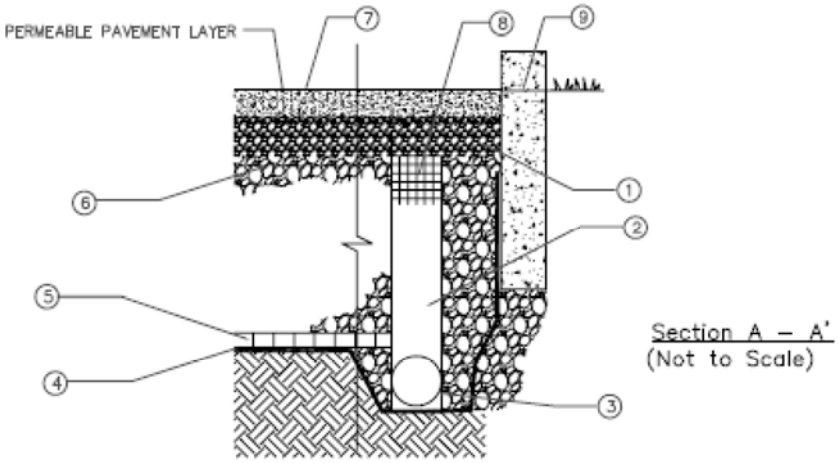
Permeable pavement without an underdrain may be used to comply with the on-site retention requirements of the LID Ordinance for at least its tributary area. The remaining project site SWQDv may need to be routed to other stormwater quality control measures for on-site retention. Permeable pavement without an underdrain will prevent pollutants in the SWQDv from its tributary area from being discharged off-site.

Advantages

- Reduces stormwater runoff volume and peak flows during small storm events
- Can serve functional and aesthetic purposes
- Can reduce heat island effects if light color concrete pavements are used
- Creates dual use for limited space (e.g., parking and stormwater management provided within same space) and can reduce the need and space required for separate stormwater quality control measures



Plan View
(Not to Scale)



Section A – A'
(Not to Scale)

NOTES:

1. BEDDING COURSE SHALL BE 1½" TO 3" MIN THICKNESS (TYP NO. 8 AGGREGATE).
2. OPTIONAL OVERFLOW PIPE(S) SHALL BE PROVIDED IF OVERFLOWS ARE NOT MANAGED VIA PERIMETER DRAINAGE TO SWALES, BIORETENTION OR STORM WATER CONVEYANCE SYSTEM INLETS.
3. CONNECT OUTFALL PIPES TO DOWNSTREAM STORMWATER CONVEYANCE SYSTEM. OUTFALL PIPES SHALL BE SLOPED TOWARDS COLLECTION SYSTEM.
4. SOIL SUBGRADE SHALL HAVE ZERO SLOPE.
5. INSTALL GEOTEXTILE OR CHOKING LAYER ON BOTTOM & SIDES OF OPEN-GRADED BASE FOR FULL AND PARTIAL INFILTRATION, OR AN IMPERMEABLE LINER FOR NO INFILTRATION.
6. OPEN-GRADED BASE. THICKNESS AND GRADATION VARIES WITH DESIGN. TYP. NO. 57 AGGREGATE OR 4" THICK NO. 57 OVER NO. 2 STONE SUBASE. THICKNESS OF SUB-BASE VARIES WITH DESIGN.
7. PERMEABLE PAVEMENT INFILTRATIVE LAYER
8. OPTIONAL RIGID PLASTIC SCREEN FASTENED OVER OVERFLOW INLETS.
9. CURB/EDGE RESTRAINT WITH CUT-OUTS FOR OVERFLOW DRAINAGE TO PERIMETER BMPS, STORMWATER CONVEYANCE SYSTEM INLETS OR OPTIONAL OVERFLOW PIPES.

Figure E-5. Permeable Pavement without an Underdrain Schematic

Disadvantages

- May not be appropriate for industrial sites or locations with contaminated soils or where spills may occur because of the potential threat to groundwater contamination
- Is not appropriate for high turning areas or areas with heavy truck or equipment use
- A sacrificial non-infiltrating area will develop in the transition area between the permeable pavement and natural areas
- Results in an uneven driving surfaces and potential traps for high-heeled shoes
- Requires frequent maintenance to maintain effectiveness due to clogging from sediment if not situated properly
- Has a high cost for restorative maintenance if the system seals with sediment and can no longer function properly as permeable pavement

General Constraints and Implementation Considerations

- Permeable pavement may be used for sidewalks, walkways, and patios.
- Permeable pavement may be used in low vehicle-movement areas. Potential applications may include the following:
    - Low vehicle movement airport zones;
    - Parking aprons and maintenance roads;
    - Crossover/emergency stopping/parking lanes on divided highways;
    - Residential street parking lanes;
    - Residential driveways;
    - Overflow parking; and
    - Emergency vehicle and fire access lanes in apartment/multi-family/complex facilities.
- Permeable pavement must be installed on relatively flat surfaces with slopes less than 10 percent.
- Solid asphalt or concrete pavement for vehicle movement lanes should be used leading up to permeable pavement parking pads.
- Grass may be planted in block voids, but would require irrigation and lawn care.
- If possible, the entire tributary area of the permeable pavement area should be stabilized before construction begins. If this is not possible, all flows should be diverted around the permeable pavement area to protect it from sediment loads during construction.

- The equipment used to construct the permeable pavement should have extra wide low-pressure tires. Construction traffic should not enter the permeable pavement area because it can compact soil, which reduces infiltration capacity.
- Permeable pavement should not be installed during periods of extreme high or low temperatures. The mix should be transported to the project site in clean vehicles with smooth dump beds that have been sprayed with a non-petroleum release agent. The mix should be covered during transit to limit cooling.
- The surface should be compacted when it is cool enough to resist a 9-Mg roller (class equivalent of a 10-ton roller). One or two passes are needed to provide proper compaction. Any additional passes may reduce porosity.
- Vehicular traffic is prohibited until cooling and hardening have taken place, which is no sooner than six hours, but preferably two days.

Design Specifications

Minimum and maximum dimensions and other specifications are product-specific and must comply with manufacturer's recommendations. The following sections provide design specifications for permeable pavement systems without an underdrain.

Geotechnical

Due to the potential to contaminate groundwater, cause slope instability, impact surrounding structures, and potential for insufficient infiltration capacity, an extensive geotechnical site investigation must be conducted during the site planning process to verify site suitability for permeable pavement without an underdrain. All geotechnical investigations must be performed according to the most recent GMED Policy GS 200.1. Soil infiltration rates and the groundwater table depth must be evaluated to ensure that conditions are satisfactory for proper operation of a permeable pavement system. The project applicant must demonstrate through infiltration testing, soil logs, and the written opinion of a licensed civil engineer that sufficiently permeable soils exist on-site to allow the construction of a properly functioning permeable pavement system without an underdrain.

Permeable pavement systems without an underdrain are appropriate for soils with a minimum corrected in-situ infiltration rate of 0.3 in/hr. The geotechnical report must determine if the proposed project site is suitable for a permeable pavement system without an underdrain and must recommend a design infiltration rate (see "Design Infiltration Rate" under the "Sizing" section). The geotechnical investigation should be such that a good understanding is gained as to how the stormwater runoff will move through the soil (horizontally or vertically) and if there are any geological conditions that could inhibit the movement of water.

Setbacks

Permeable pavement must be sited following the setbacks from the most recent GMED Policy GS 200.1.

Sizing

Permeable pavement is sized using a simple sizing method where the SWQDv must be completely infiltrated within 96 hours. Permeable pavement provides stormwater runoff storage in the voids of the sub-base reservoir layer.

Step 1: Determine the SWQDv

Dry wells must be designed to capture and retain the SWQDv (see Section 6 for SWQDv calculation procedures).

Step 2: Determine the design infiltration rate

Determine the corrected in-situ infiltration rate (f_{design}) of the native soil using the procedures described in the most recent GMED Policy GS 200.1.

Step 3: Calculate the surface area

The depth of the sub-base reservoir layer is calculated using the following equation:

$$d_{max} = \frac{\mathrm{f_{design}}}{12} \times t$$

Where:

d_{max} = Maximum depth of sub-base reservoir layer [ft];
f_{design} = Design infiltration rate [in/hr];
t = Maximum retention time (max 96 hrs) [hr]; and

Select the permeable pavement sub-base reservoir layer depth (d_t) such that:

$$d_t \leq \frac{d_{max}}{n_t}$$

Where:

d_t = Depth of permeable pavement sub-base reservoir layer [ft];
d_{max} = Maximum depth of water that can be infiltrated within the maximum retention time [ft]; and
n_t = permeable pavement sub-base reservoir layer porosity.

The required permeable pavement surface area is calculated using the following equation:

$$A_s = \frac{SWQDv}{\mathrm{d_t} \times n_t}$$

Where:

A_s = Permeable pavement surface area [ft^2];
SWQDv = Stormwater quality design volume [ft^3]; and
d_t = Depth of permeable pavement sub-base reservoir layer [ft]; and
n_t = Infiltration trench porosity.

Underlying Base Layers

The cross-section of a permeable pavement typically consists of the four layers discussed below:

Asphalt Layer

The surface asphalt layer consists of an open-graded asphalt mixture with a two- to four-inch depth depending on required bearing strength and permeable pavement design requirements. Permeable pavement contains approximately 16 percent voids, compared to 3 to 5 percent for conventional pavements, to allow quick stormwater runoff infiltration.

The asphalt layer must be laid over the top filter layer in one lift. The laying temperature should be between 240 and 260 degrees Fahrenheit with an ambient temperature above 50 degrees Fahrenheit.

Top Filter Layer

The top filter layer, which stabilizes the asphalt layer, consists of one to two inches of 0.5-inch-diameter crushed stone.

Reservoir Layer

The reservoir layer consists of 1.5- to 3-inch crushed stone. The depth of this layer depends on the desired storage volume, which is a function of the infiltration rate, void spaces, and in colder climates the depth of the frost line, but typically ranges from two to four feet. The reservoir layer must be constructed in lifts and lightly compacted. The base courses should be kept free of all dirt and debris during construction. The reservoir layer should be designed to completely drain in 96 hours.

Bottom Filter Layer

This bottom filter layer, which stabilizes the reservoir layer and is the interface between the reservoir layer and the geomembrane liner covering the underlying soil, consists of a two inch thick layer of 0.5-inch crushed stone.

Hydraulic Restriction Layer

The entire area where permeable pavement will be used must be lined with a geomembrane liner to prevent soil from migrating into the reservoir layer and reducing

storage capacity. The specifications of the geomembrane liner are presented in Table E-9. The entire permeable pavement area, including the sides, must be lined with geomembrane liner prior to placing the aggregate. Provide generous overlap at the seams.

Table E-9. Geomembrane Liner Specifications for Permeable Pavement

Parameter	Test Method	Specifications
Material		Nonwoven geomembrane liner
Unit weight		8 oz/yd^3 (minimum)
Filtration rate		0.08 in/sec (minimum)
Puncture strength	ASTM D-751 (Modified)	125 lbs (minimum)
Mullen burst strength	ASTM D-751	400 lb/in^2 (minimum)
Tensile strength	AST D-1682	300 lbs (minimum)
Equiv. opening size	US Standard Sieve	No. 80 (minimum)

Overflow Device

Provide an overflow device to convey high stormwater runoff flows to another stormwater quality control measure, the storm drain system, or receiving water, as appropriate. Place the overflow device a maximum of two inches above the level of the permeable pavement surface. Ensure that the two inch ponding depth is contained and does not flow out of the area at the ends or the sides.

Maintenance Requirements

Maintenance and regular inspections are important for proper function of permeable pavement without an underdrain. The following are general maintenance requirements:

- Inspect permeable pavement to determine if stormwater runoff is infiltrating properly at least twice during the wet season after significant storms. If infiltration is significantly reduced, remove surface aggregate by vacuuming. Dispose of and replace old aggregate with fresh aggregate as needed.
- Sweep permeable pavement as needed to clean it of leaves, debris, and sediment. Do not overlay permeable pavement with an impermeable surface.
- Prune vegetation and large shrubs/trees that limit access or interfere with permeable pavement operation. Rake and remove fallen leaves and debris from deciduous plant foliage. Remove poisonous, nuisance, dead, or odor-producing vegetation immediately. Mow grass to less than four inches and bag and remove grass clippings.
- Provide irrigation as needed.
- Exercise spill prevention measures when handling substances that can contaminate stormwater runoff. Implement a spill prevention plan at all non-residential sites and in areas where there is likelihood of spills.

- Eliminate standing water to prevent vector breeding.
- Inspect overflow devices for obstructions or debris, which should be removed immediately. Repair or replace damaged pipes upon discovery.
- Provide safe and efficient access to permeable pavement. Egress and ingress routes must be maintained to design standards. Roadways must be maintained to accommodate size and weight of vehicles if applicable.
- Remove obstacles that may prevent maintenance personnel and/or equipment access to the permeable pavement.
- Limit and control application of pesticides (using Integrated Pest Management practices) and fertilizers to reduce potential pollutant runoff.
- Fill and compact holes in the ground located in and around permeable pavement.
- Identify and control sources of erosion damage when native soil is exposed near the overflow device.
- Add gravel or ground cover if erosion occurs due to vehicular or pedestrian traffic.

A summary of potential problems that may need to be addressed by maintenance activities is presented in Table E-10.

The County requires execution of a maintenance agreement to be recorded by the property owner for the on-going maintenance of any privately-maintained stormwater quality control measures. The property owner is responsible for compliance with the maintenance agreement. A sample maintenance agreement is presented in Appendix H.

Table E-10. Permeable Pavement Troubleshooting Summary

Problem	Conditions When Maintenance Is Needed	Maintenance Required
Vegetation	Overgrown vegetation	Mow and trim vegetation.
	Presence of invasive, poisonous, nuisance, or noxious vegetation or weeds	Remove this vegetation.
	Excessive loss of turf or ground cover	Replant and/or reseed as needed.
Trash and Debris	Trash and debris present	Remove and dispose of trash and debris.
Contaminants and Pollution	Any evidence of oil, gasoline, contaminants, or other pollutants	Remove any evidence of visual contamination.
Erosion/Sediment Accumulation	Eroded areas at overflow structures	Fill eroded areas and re-grade if necessary.
	Accumulation of sediment, debris, and oil/grease on surface, inlet or overflow structures	Remove sediment, debris, and/or oil/grease.
Water Drainage Rate	Standing water	Vacuum aggregate to remove sediment. Replace aggregate if necessary.

EXHIBIT H

Peak Flow Hydrologic Analysis

File location: C:/Users/Cantwell/Desktop/2712 Park Ave-before - Subarea 1A.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	2712 Park Ave-before
Subarea ID	Subarea 1A
Area (ac)	0.29
Flow Path Length (ft)	168.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	1.0
Percent Impervious	0.5
Soil Type	12
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	1.0
Peak Intensity (in/hr)	0.3808
Undeveloped Runoff Coefficient (Cu)	0.6598
Developed Runoff Coefficient (Cd)	0.7799
Time of Concentration (min)	13.0
Clear Peak Flow Rate (cfs)	0.0861
Burned Peak Flow Rate (cfs)	0.0861
24-Hr Clear Runoff Volume (ac-ft)	0.0125
24-Hr Clear Runoff Volume (cu-ft)	545.8285

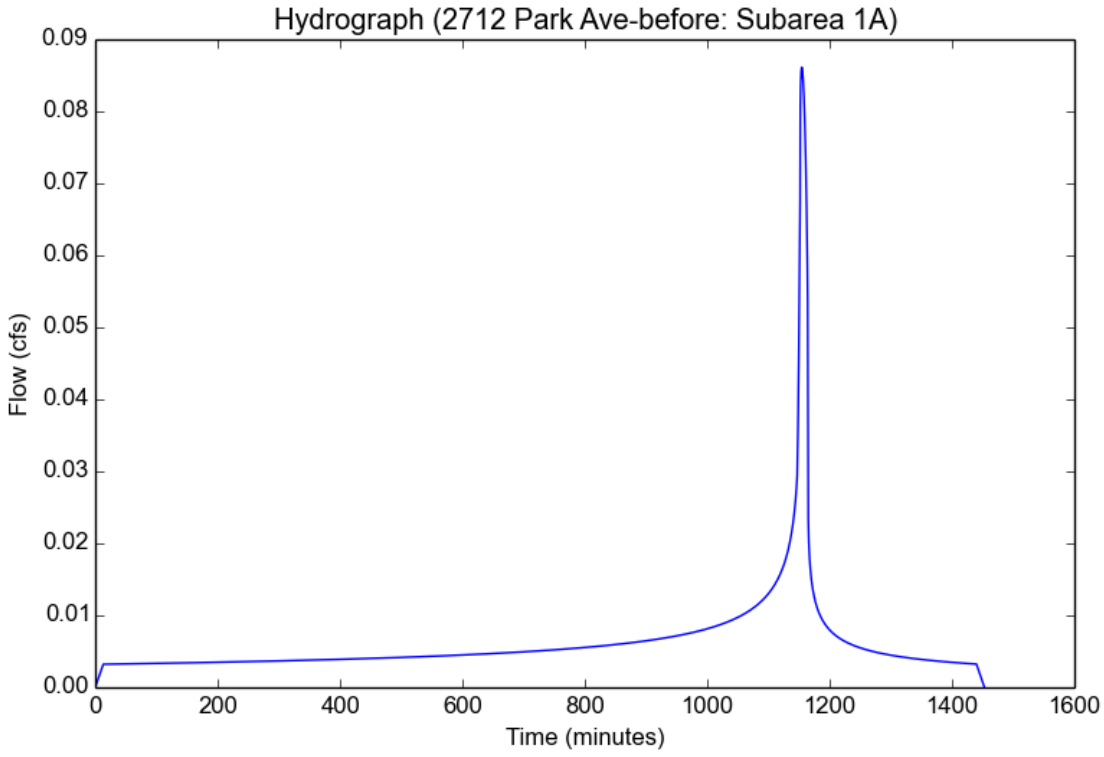


EXHIBIT J

Peak Flow Hydrologic Analysis

File location: C:/Users/Cantwell/Desktop/2712 Park Ave-after - Subarea 1A.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	2712 Park Ave-after
Subarea ID	Subarea 1A
Area (ac)	0.29
Flow Path Length (ft)	211.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	1.0
Percent Impervious	0.61
Soil Type	12
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	1.0
Peak Intensity (in/hr)	0.356
Undeveloped Runoff Coefficient (Cu)	0.6436
Developed Runoff Coefficient (Cd)	0.8
Time of Concentration (min)	15.0
Clear Peak Flow Rate (cfs)	0.0826
Burned Peak Flow Rate (cfs)	0.0826
24-Hr Clear Runoff Volume (ac-ft)	0.0145
24-Hr Clear Runoff Volume (cu-ft)	632.471

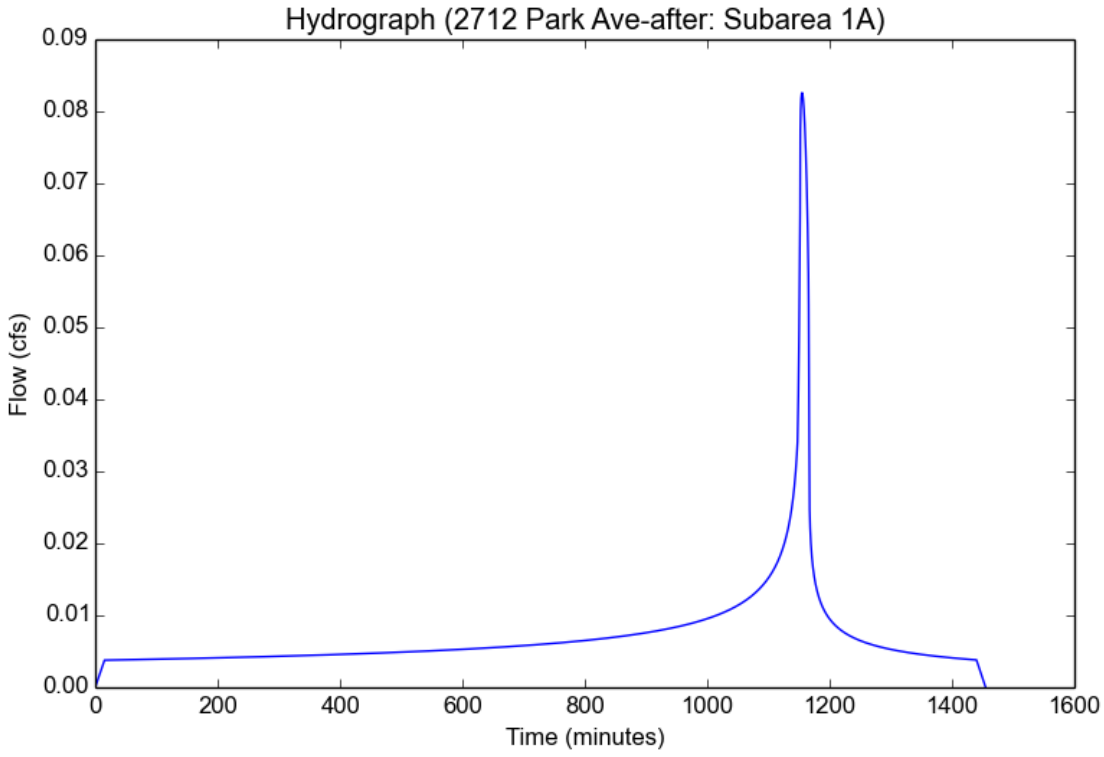


EXHIBIT K

RECORDING REQUESTED BY
AND MAIL TO:

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY DIVISION
900 S. FREMONT AVENUE, 3RD FLOOR
ALHAMBRA, CA 91803-1331

Space above this line is for Recorder's use

COVENANT AND AGREEMENT REGARDING THE MAINTENANCE OF LOW IMPACT DEVELOPMENT (LID) & NATIONAL POLLUTANTS DISCHARGE ELIMINATION SYSTEM (NPDES) BMPs

The undersigned, _____ ("Owner"), hereby certifies that it owns the real property described as follows ("Subject Property"), located in the County of Los Angeles, State of California:

LEGAL DESCRIPTION

ASSESSOR'S ID #_____TRACT NO._____LOT NO._____

ADDRESS: _____

_____

Owner is aware of the requirements of the County of Los Angeles' Green Building Standards Code, Title 31, Section 4.106.4 (LID), and National Pollutant Discharge Elimination System (NPDES) permit. The following post-construction BMP features have been installed on the Subject Property:

- ☐ Porous pavement
- ☐ Cistern/rain barrel
- ☐ Infiltration trench/pit
- ☐ Bioretention or biofiltration
- ☐ Rain garden/planter box
- ☐ Disconnect impervious surfaces
- ☐ Dry Well
- ☐ Storage containers
- ☐ Landscaping and landscape irrigation
- ☐ Green roof
- ☐ Other _____

_____

The location, including GPS x-y coordinates, and type of each post-construction BMP feature installed on the Subject Property is identified on the site diagram attached hereto as Exhibit 1.

Owner hereby covenants and agrees to maintain the above-described post-construction BMP features in a good and operable condition at all times, and in accordance with the LID/NPDES Maintenance Guidelines, attached hereto as Exhibit 2.

Owner further covenants and agrees that the above-described post-construction BMP features shall not be removed from the Subject Property unless and until they have been replaced with other post-construction BMP features in accordance with County of Los Angeles' Green Building Standards Code, Title 31 and NPDES permit.

Owner further covenants and agrees that if Owner hereafter sells the Subject Property, Owner shall provide printed educational materials to the buyer regarding the post-construction BMP features that are located on the Subject Property, including the type(s) and location(s) of all such features, and instructions for properly maintaining all such features.

Owner makes this Covenant and Agreement on behalf of itself and its successors and assigns. This Covenant and Agreement shall run with the Subject Property and shall be binding upon owner, future owners, and their heirs, successors and assignees, and shall continue in effect until the release of this Covenant and Agreement by the County of Los Angeles, in its sole discretion.

Owner(s):

By:_____ Date:_____

By:_____ Date:_____

(PLEASE ATTACH NOTARY)

REFERENCE

PLAN CHECK NO.: _____ DISTRICT OFFICE NO.:_____

ATTACHMENTS

EXHIBIT L

RECORDING REQUEST BY AND MAIL TO:

County of Los Angeles
Department of Public Works

Building and Safety – Drainage and Grading Section
Land Development – Drainage and Grading Section

P.O. Box 1460
Alhambra, California 91802-1460

Space above this line is for Recorder's use

COVENANT FOR MAINTENANCE OF WATER QUALITY (WQ) DEVICES

I (we) _____, hereby certify that I (we) am (are) the legal owner(s) of Tract # _____, and as such owners for the mutual benefit of future purchasers, their heirs, successors, and assigns, do hereby fix the following protective conditions to which their property, or portions thereof, shall be held, sold and/or conveyed.

That owner(s) shall maintain the WQ system shown on attached Exhibit A map and on Grading Plan GPC # _____, on file in the office of the Director of Public Works, in a good and functional condition at least once a year and retain proof of the inspection. The owner(s) shall perform this responsibility, unless the County discharges this obligation through a subsequently recorded written instrument.

The undersigned also covenants and agrees for himself, his heirs, successors, and assigns, to indemnify, defend, and save harmless the County, its agents, officers and employees from and against any and all liability, expenses, including defense costs and legal fees, and claims for damages of any nature whatsoever, including, but not limited to, bodily injury, death, personal injury, or property damage arising from or connected with the construction or maintenance of said work.

Owner(s):

By: _____ Date: _____

By: _____ Date: _____

GENERAL NOTES

1. All grading and consturction shall conform to the California Building Code, latest edition and the State Model Water Efficiency Landscape Ordinance unless specified on these plans.
2. Any modifications of or changes to approved grading plans must be approved by the Building Official.
3. No grading shall be started without first notifying the Building Official. A Pre-grading meeting at the site is required before the start of the grading with the following people present: Owner, grading contractor, design civil engineer, soils engineer, geologist, City grading inpector(s) or their representatives and when required the archeologist or other jurisdictional agencies. Permittee or his agent are responsible for arranging Pre-grade meeting and must notify the Building Official at least two business days prior to the proposed pre-grade meeting.
4. Approval of these plans reflect solely the review of plans in accordance with the California Building Code and does not reflect any position by the City of La Verne regarding the status of any title issues relating to the land on which the improvements may be constructed. Any disputes relatign to the title are solely a private matter not involving the City of La Verne.
5. All grading and construction activities shall comply with the City of La Verne Municipal Code Chapter 8, Section 20.020 D (1) that controls and restricts the use of construction and grading equipment from the hours of 8:00 PM to 7:00 AM and on Sundays and holidays.
6. The location of all utilities is the responsibility of the Permitee.
7. All export of material from the site must go to a permitted site approved by the Building Official or a legal dumpsite. Receipts for acceptance of excess material by a dumpsite are required and must be provided to the Building Official upon request.
8. A copy of the grading permit and approved grading plans must be in the possession of a responsible person and available at the site at alll times.
9. Site boundaries, easements, drainage devices, restricted use areas shall be located per construction staking by Field Engineer or licensed surveyor. Prior to grading, as requested by the Building Official, all property lines, easements and restricted use areas shall be staked.
10. No grading or construction shall occur within the protected zone of any heritage or significant tree as regulated by Chapter 18, Section 78.160 of the City of La Verne Zoning Code.
11. Where a grading permit is issued and the Building Official determines that the grading will not be completed prior to November 1, the owner of the site on which grading is being performed shall, on or before October 1, file or cause to be filed with the Building Official an Erosion and Sediment Control Plan per the City of La Verne Watershed Management Program.
12. Transfer of Responsibility: If the Field Engineer, the Soils Engineer or the Engineering Geologist in writing to accept responsibility withing the area of technical competence for approval upon in writing to accept responsibility withing the area of technical competence for approval upon completion of the work. It shall be the duty of the permitee to notify the Building Official in of record is changed during grading, the work shall be stopped until the replacement has agreed completion of the work. It shall be the duty of the permitee to notify the Building Official in writing of such change prior to the recommencement of such grading.

INSPECTION NOTES

13. The permittee or his agent shall notify the Building Official at least one working day in advance of required inspections at the following stages of work:
    a. Pre-grade - Before the start of any earth disturbing activity or construction.
    b. Initial - When the site has been cleared of vegetation and unapproved fill has been scarified, benched or otherwise prepared for fill. Fill shall not be placed prior to this inspection. Note: Prior to any construction activities including grading, all storm water pollution prevention measures including erosion control devices which contain sediments must be installed.
    c. Rough - When approximate final elevations have been established; drainage terraces, swales and berms installed at the top of the slope and the statements required by this Section have been received.
    d. Final - When grading has been completed; all drainage devices installed; slope planting established; irrigation systems installed and the As-Built plans, required statements and reportshave been submitted and approved.
14. In addition to the inspection required by the Builsing Official for grading, reports and statements shall be submitted to the Building Official in accordance with Appendix J, Section 105 of the California Building Code, latest edition.
15. Unless otherwise directed by the Building Official the Field Engineer for all engineered grading projects shall prepare routine inspecion reports as required under AppendixJ, Section 105 of the California Building Code, latest edition. These reports, known as "Report of Grading Activities" shall be submitted to the Building Official as follows:
    a. Bi-weekly during times whan grading of 400 cubic yards or more per week is occuring on site;
    b. Monthly, at all other times; and
    c. At any other time when requested by the Building Official.

    Such "Report of Grading Activities" shall certify to the Building Official that the Field Engineer has inspected the grading site and related activities and has found them in compliance with the approved grading plans and specifications, the California Building Code, all grading permit conditions and all other applicable ordinances and requirements. This form is available from the City of La Verne Department of Community Development. Failure to provide inspection reports will result in issuance of a "Stop Work Order".
15. All graded sites must have drainage swales, berms and other drainage devices installed prior to rough grading approval per Appendix J, Section 105 of the California Building Code, latest edition.
16. The grading contractor shall submit the statement to the grading inspector as required by Appendix J, Section 105 of the California Building Code, latest edition.
17. Final grading must be approved before occupancy of buildings will be allowed per Appendix J, Section 105 of the California Building Code, latest edition.

DRAINAGE NOTES

18. Roof drainage must be diverted from graded slopes.
19. Provisions shall be made for contributory drainage at all times.
    accordance with the approved plans and specifications and in conformance with the

GENERAL GEOTECHNICAL NOTES

20. All work must be in compliance with the recommendations included in the geotechnical consultant's report(s) and the approved grading plans and specifications.
21. Grading operations must be conducted under periodic inspections by the geotechnical consultants with monthly inspection reports to be submitted the City of La Verne's geotechnical consultant.
22. The Soil Engineer shall provide sufficient inspections during the preparation of the natural ground and the placement and compaction of the fill to be satisfied that the work is being performed in accordance with the plan and applicable Code requirements.
23. Rough grading must be approved by a final engineering geology and soils engineering report. An As-Built Geologic Map must be included in the final geology report. PRovide a final report that verifies work was done in accordance with report recommendations and code provisions. The final report(s) must be submitted to the City's geotechnical consultant for review and approval.
24. Foundation, wall and pool excavations must be inspected and approved by the consulting geologist and soil engineer prior to the placing of steel or concrete.
25. Building pads located in cut/fill transition areas shall be over excavated a minimum of three (3) feet below the proposed bttom of footing.

FILL NOTES

26. All fill shall be compacted to the following relative compaction criteria:
    a. 90 percent of maximum dry density within 40 feet below finish grade.
    b. The relative maximum compaction shall be determined by A.S.T.M. soil compaction test D1557-91 where applicable. Where not applicable a test acceptable to the Building Official shall be used.
27. Field density shall be determined by a method acceptable to the Building Official. However not less than 10% of the required density tests, uniformly distributed, shall be obtained by the Sand Cone Method.
28. Sufficient tests of the fill soils shall be made to determine the relative compaction of the fill in accordance with the following minimum guidelines:
    a. One test for each two-foot vertical lift.
    b. One test for each 1,000 cubic yards of material placed.
    c. One test at the location of the final slope for each building site(lot) in each four-foot vertical lift or or portion thereof.
    d. One test in the vicinity of each building pad for each four-foot vertical lift portion thereof.
29. Sufficient tests of fill soils shall be mad to verify that the soil properties comply with the design requirements as determined by the Soil Engineer including soil types, shear strength parameters and corresponding unit weights in accordance with the following guidelines:
    a. Prior and subsequent to placement of the fill, shear tests shal be taken on each type of soil or soil mixture used for all slopes steeper that three (3) horizontal to one vertical.
    b. Shear test results for the proposed fill material must meet or exceed the design values in the geotechnical report to determine slope stability requirements. Otherwise the slope must be reevaluated using the actual shear test value of the fill material that is in place.
    c. Fill soils shall be free of deleterious material.
30. Fill shall not be placed until stripping of vegetation, removal of unsuitable soils and installation of subdrain (if any) have been inspected and approved by the Soil Engineer. The Building Official may require a "Standard Test Method for moisture, ash, organic matter, peat or other organic soils" ASTM D-2974-87 on any suspect material. Detrimental amounts of organic shall not be permitted in fills. Soil containing small amounts of roots may be allowed provided that the roots are in a quantity and distributed in a manner that will not be detrimental to the future use of the site and the Soils Engineer approves the use of such material.
31. Rock or similar material greater than 12 inches in diameter shall not be placed in the fill unless recommendations for such placement have been submitted by the Soils Engineer and approved in advance by the Building Official. Location, extent and elevation of rock disposal areas must be shown on an "As Built" grading plan.
32. Continuous inspection by the Soils Engineer, or a responsible representative, shall be provided during all fill placement and compaction operations where fills have a depth greater than 30 feet or slope surface steeper than 2:1. (Appendix J, Section 105 of the California Building Code, latest edition).
33. All subdrain outlets are to be surveyed for line and elevation. Subdrain information must be shown on an As Built grading plan.
34. Fill slopes in excess of 2:1 steepness ratio are to be constructed by placement of soil at sufficient distance beyond the proposed finish slope to allow compaction equipment to be operated at the outer limits of the final slope surface. The excess fill is to be removed prior to the completion of rough grading. Other construction procedures may be used when it isdemonstrated to the satisfaction of the Building Official that the angle of slope, construction method and other factors will have equivalent effect. (Appendix J, Section 105 of the California Building Code, latest edition)

PLANTING AND IRRIGATION NOTES

35. The planting and irrigation systems shall be installed as soon as practical after rough grading. Priot to final grading approval all required slope planting must be well established.
36. Landscape irrigation system shall be designed and maintained to prevent spray on structures.
37. Prior to rough grade approval this project requires a landscape permit. Landscape plans in compliance with the "Model Water Efficient Landscape Ordinance" Title 23, Chapter 2.7 of California Code of Regulations be submitted to the City of La Verne Department of Community Development. To obtain a Landscape Permit approved plans and water purveyor acknowledgement must be submitted to the Building Official.

BASIS OF BEARINGS

THE BEARING OF N17°30'00"E FOR THE CENTER LINE OF PARK AVENUE AS SHOWN ON TRACT NO. 17459, M.B. 428, 13-15 WAS USED AS THE BASIS OF BEARINGS FOR THIS PLAN.

REGISTERED PROFESSIONAL ENGINEER
RICHARD W. CANTWELL
C 29011
EXP. 3/31/27
STATE OF CALIFORNIA

NOTE

TOTPGRAPHIC SURVEY WAS CONDUCTED BY T & M SURVEYING (PLS 9309) ON sEPTEMBER 26, 2024.

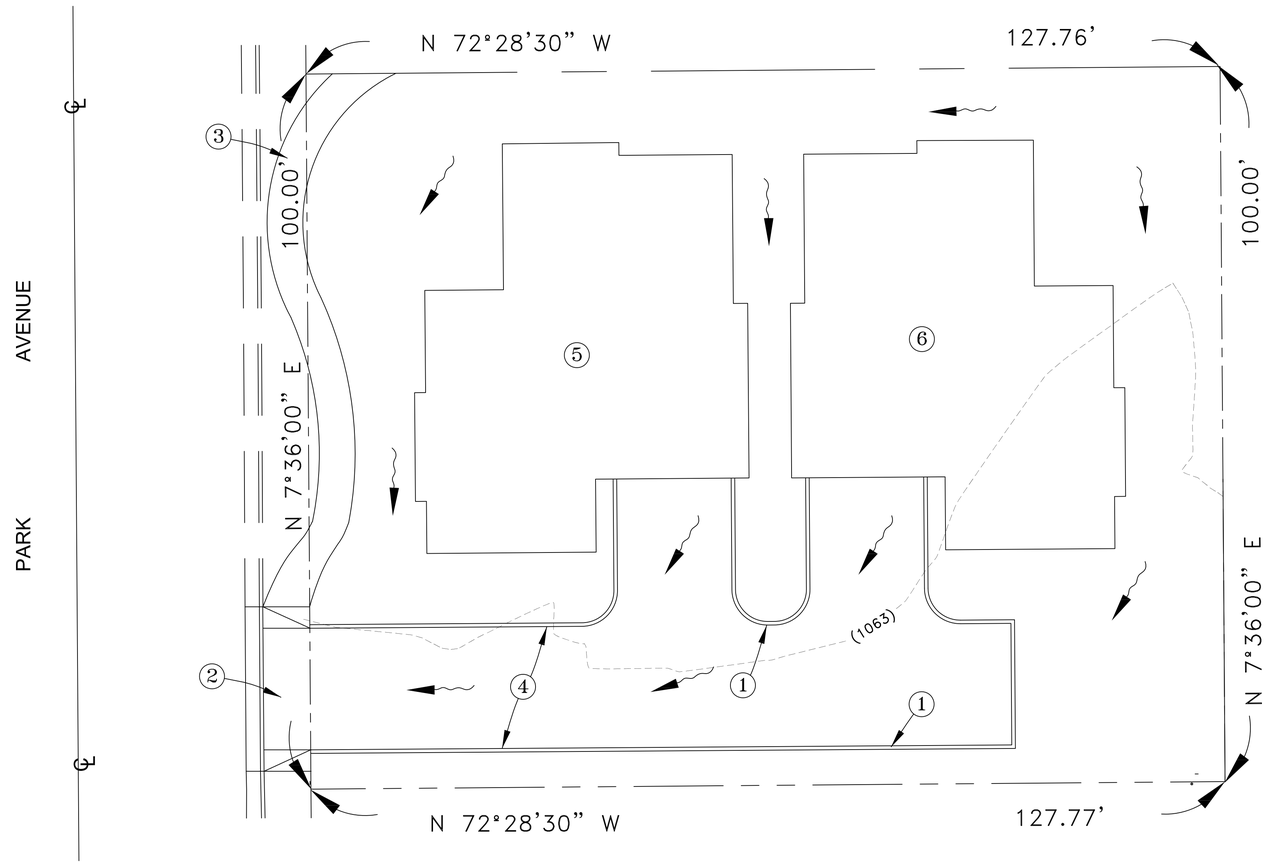
REVISIONS	REFERENCES

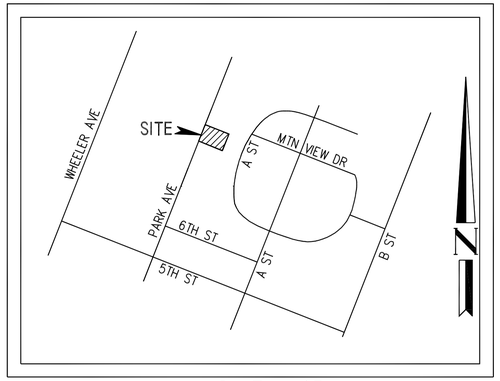
RICHARD W. CANTWELL, PE
CONSULTING CIVIL ENGINEER
2334 CLUB VISTA DR.
GLENDORA, CA 91741
(626) 335-3055

ENGINEERING SCALE:	DATE:
DRAWN: RC	2/28/25
CHECKED:	
RECOMMENDED:	
APPROVED:	

GENERAL GRADING NOTES

Hillcrest Gateway Project
2730, 2712 & 2692 Park Avenue
2675,& 2681 A Street
La Verne, CA. 91750





VICINITY MAP
NTS

N

CONSTRUCTION NOTES

1. Construct 6" PCC curb per City Standard
2. Construct 6" PCC drive approach per City Standard W=17', X=3'
3. Construct 4" PCC meandering sidewalk per City Standard
4. Construct 6" porous PCC pavement on 6" crushed aggregate base
5. Install 200 gallon rain barrel at each roof downspout.

REGISTERED PROFESSIONAL ENGINEER
RICHARD W. CANTWELL
C 29011
EXP. 3/31/27
CIVIL
STATE OF CALIFORNIA

REVISIONS	REFERENCES			
		RICHARD W. CANTWELL, PE CONSULTING CIVIL ENGINEER 2334 CLUB VISTA DR. GLENDORA, CA 91741 (626) 335-3055	ENGINEERING SCALE: 1" = 10' DRAWN: RC CHECKED: RECOMMENDED: APPROVED:	DATE: 2/28/25

CONCEPTUAL SITE GRADING PLAN

Hillcrest Gateway Project
2730 Park Avenue
La Verne, CA. 91750

EXHIBIT K (3)

Noise Measurement Survey – 24 HR

Project Number: 20241974
Project Name: Brethren Hillcrest

Test Personnel: Corey Knips
Equipment: LD 706RC Spark (SN:18571)

Site Number: LT-1 Date: 10/1/2024

Time: From 12:00 p.m. To 12:00 p.m.

Site Location: 2712 Park Avenue. On a pole on the west side of The Hillcrest Mall park. Approximately 50 ft from Park Avenue centerline.

Primary Noise Sources: Very light traffic on Park Avenue. Occasional aircraft noise and occasional and very faint train noise.

Comments:

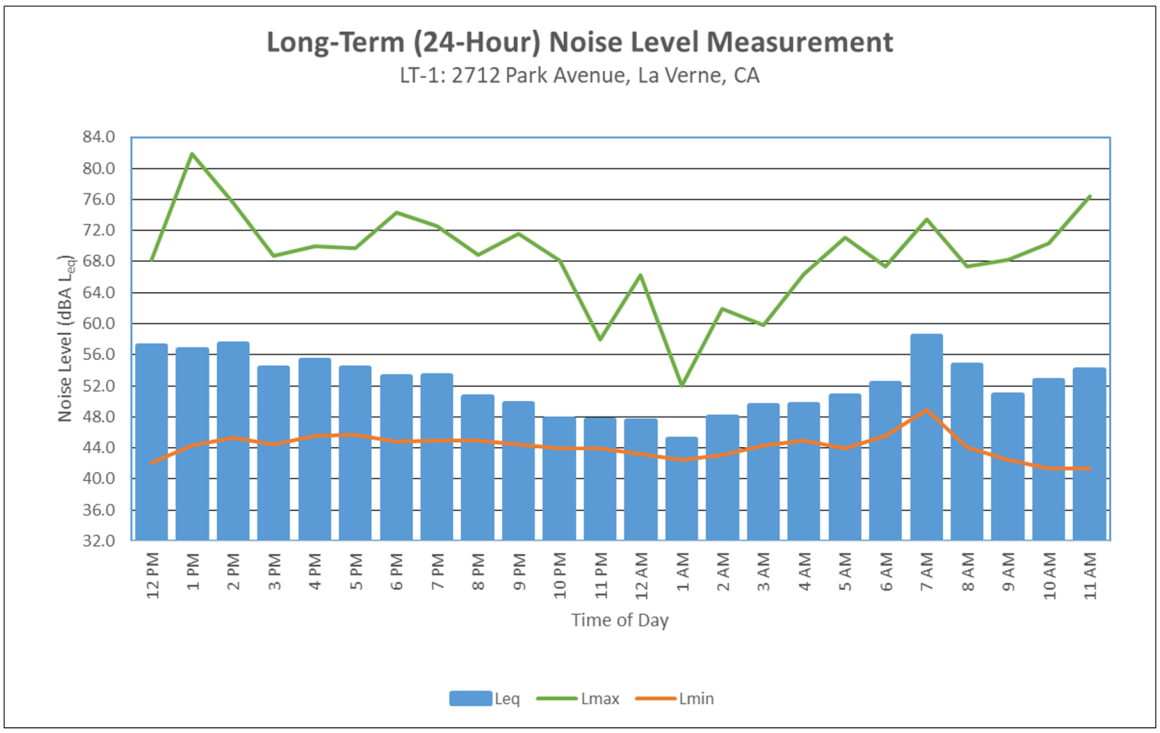
Photo:



Long-Term (24-Hour) Noise Level Measurement Results at LT-1

Start Time	Date	Noise Level (dBA)		
		L_{eq}	L_{max}	L_{min}
12:00 PM	8/1/2024	57.1	68.2	42.1
1:00 PM	8/1/2024	56.7	81.9	44.3
2:00 PM	8/1/2024	57.3	75.5	45.3
3:00 PM	8/1/2024	54.3	68.7	44.5
4:00 PM	8/1/2024	55.3	70.0	45.5
5:00 PM	8/1/2024	54.3	69.7	45.7
6:00 PM	8/1/2024	53.2	74.3	44.8
7:00 PM	8/1/2024	53.3	72.6	44.9
8:00 PM	8/1/2024	50.6	68.8	45.0
9:00 PM	8/1/2024	49.7	71.6	44.4
10:00 PM	8/1/2024	47.7	68.1	44.0
11:00 PM	8/1/2024	47.6	57.9	44.0
12:00 AM	8/2/2024	47.5	66.2	43.2
1:00 AM	8/2/2024	45.1	52.0	42.4
2:00 AM	8/2/2024	48.0	61.9	43.1
3:00 AM	8/2/2024	49.5	59.8	44.3
4:00 AM	8/2/2024	49.6	66.4	44.9
5:00 AM	8/2/2024	50.7	71.1	44.0
6:00 AM	8/2/2024	52.3	67.4	45.5
7:00 AM	8/2/2024	58.4	73.4	48.9
8:00 AM	8/2/2024	54.7	67.4	44.1
9:00 AM	8/2/2024	50.8	68.2	42.5
10:00 AM	8/2/2024	52.7	70.3	41.3
11:00 AM	8/2/2024	54.0	76.4	41.3

Source: Compiled by LSA Associates, Inc. (2024).
dBA = A-weighted decibel
L_{eq} = equivalent continuous sound level
L_{max} = maximum instantaneous noise level
L_{min} = minimum measured sound level



Noise Measurement Survey – 24 HR

Project Number: 20241974
Project Name: Brethren Hillcrest

Test Personnel: Corey Knips
Equipment: LD 706RC Spark (SN:18571)

Site Number: LT-2 Date: 10/1/2024

Time: From 12:00 p.m. To 12:00 p.m.

Site Location: 2747 A Street. On a pole on the east side of The Hillcrest Mall park. Approximately 30 ft from the A Street centerline.

Primary Noise Sources: Very light traffic on A Street. Occasional aircraft noise and occasional and very faint train noise.

Comments:

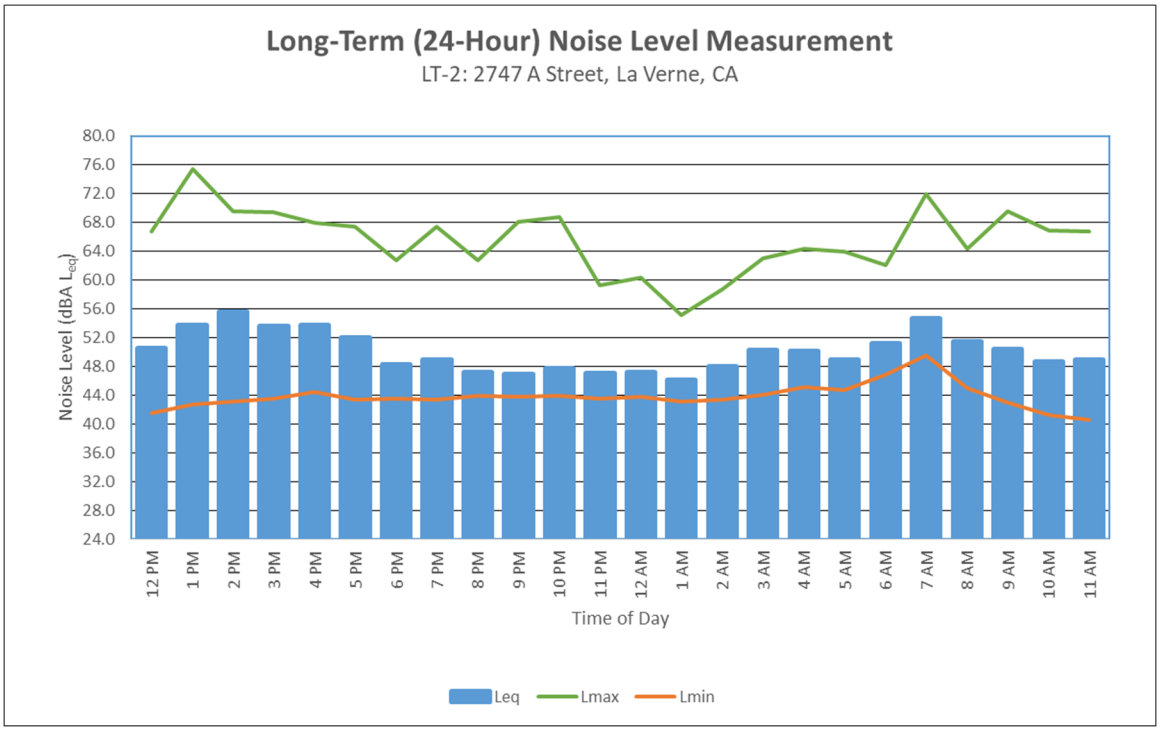
Photo:



Long-Term (24-Hour) Noise Level Measurement Results at LT-2

Start Time	Date	Noise Level (dBA)		
		L_{eq}	L_{max}	L_{min}
12:00 PM	8/1/2024	50.6	66.7	41.5
1:00 PM	8/1/2024	53.8	75.4	42.8
2:00 PM	8/1/2024	55.6	69.5	43.2
3:00 PM	8/1/2024	53.6	69.4	43.5
4:00 PM	8/1/2024	53.8	67.9	44.5
5:00 PM	8/1/2024	52.0	67.4	43.4
6:00 PM	8/1/2024	48.3	62.8	43.5
7:00 PM	8/1/2024	48.9	67.4	43.4
8:00 PM	8/1/2024	47.1	62.7	43.9
9:00 PM	8/1/2024	47.0	68.1	43.8
10:00 PM	8/1/2024	47.7	68.8	44.0
11:00 PM	8/1/2024	47.1	59.3	43.6
12:00 AM	8/2/2024	47.2	60.3	43.8
1:00 AM	8/2/2024	46.1	55.1	43.1
2:00 AM	8/2/2024	48.0	58.7	43.4
3:00 AM	8/2/2024	50.2	63.0	44.1
4:00 AM	8/2/2024	50.1	64.3	45.1
5:00 AM	8/2/2024	48.9	63.9	44.8
6:00 AM	8/2/2024	51.2	62.1	46.9
7:00 AM	8/2/2024	54.7	71.9	49.6
8:00 AM	8/2/2024	51.4	64.3	45.0
9:00 AM	8/2/2024	50.4	69.6	43.0
10:00 AM	8/2/2024	48.7	66.9	41.3
11:00 AM	8/2/2024	48.9	66.8	40.6

Source: Compiled by LSA Associates, Inc. (2024).
dBA = A-weighted decibel
L_{eq} = equivalent continuous sound level
L_{max} = maximum instantaneous noise level
L_{min} = minimum measured sound level



Noise Measurement Survey – 24 HR

Project Number: 20241974
Project Name: Brethren Hillcrest

Test Personnel: Corey Knips
Equipment: LD 706RC Spark (SN:18571)

Site Number: LT-3 Date: 10/1/2024

Time: From 12:00 p.m. To 12:00 p.m.

Site Location: 2713 Park Avenue. On a tree approximately 16 ft from the curb and approximately 36 ft Park Avenue centerline.

Primary Noise Sources: Very light traffic on Park Avenue, occasional aircraft noise, and occasional and very faint train noise.

Comments:

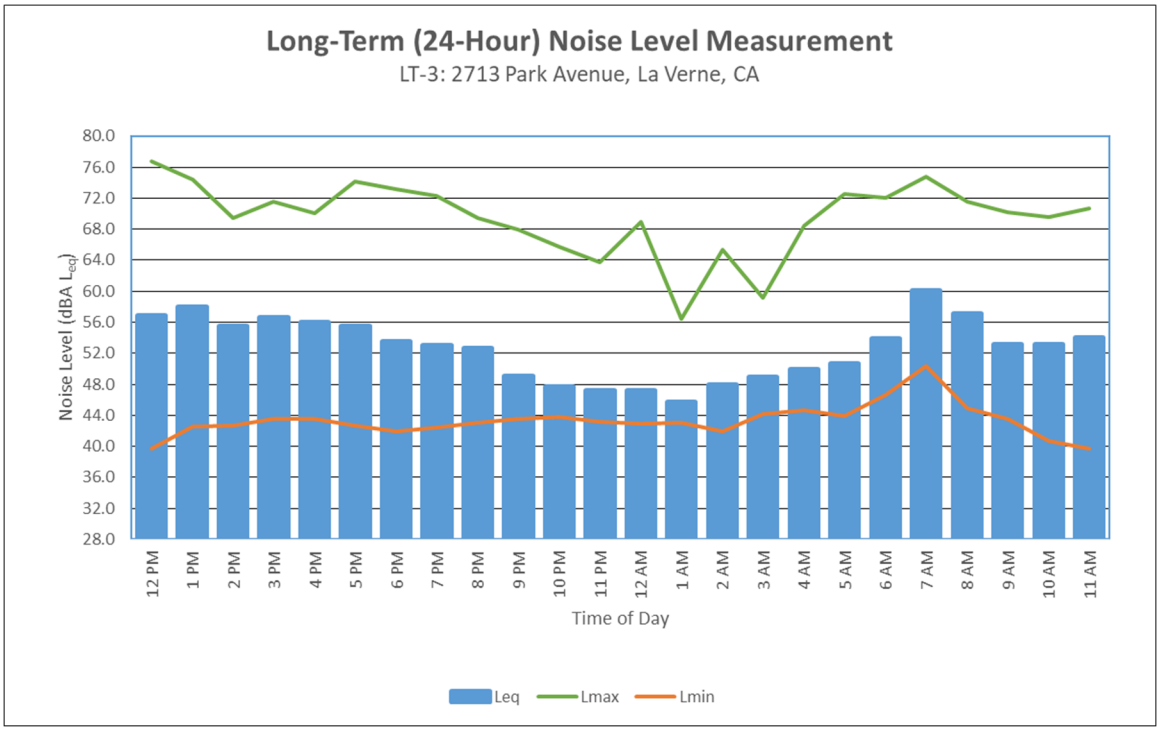
Photo:



Long-Term (24-Hour) Noise Level Measurement Results at LT-3

Start Time	Date	Noise Level (dBA)		
		L_{eq}	L_{max}	L_{min}
12:00 PM	8/1/2024	56.8	76.8	39.7
1:00 PM	8/1/2024	58.0	74.4	42.6
2:00 PM	8/1/2024	55.5	69.5	42.7
3:00 PM	8/1/2024	56.6	71.6	43.5
4:00 PM	8/1/2024	56.0	70.0	43.6
5:00 PM	8/1/2024	55.6	74.2	42.7
6:00 PM	8/1/2024	53.5	73.1	41.9
7:00 PM	8/1/2024	53.1	72.3	42.4
8:00 PM	8/1/2024	52.6	69.4	43.1
9:00 PM	8/1/2024	49.1	68.0	43.5
10:00 PM	8/1/2024	47.7	65.7	43.8
11:00 PM	8/1/2024	47.2	63.7	43.2
12:00 AM	8/2/2024	47.2	68.9	42.9
1:00 AM	8/2/2024	45.7	56.4	43.0
2:00 AM	8/2/2024	48.0	65.4	41.9
3:00 AM	8/2/2024	48.9	59.2	44.1
4:00 AM	8/2/2024	49.9	68.5	44.7
5:00 AM	8/2/2024	50.7	72.5	43.9
6:00 AM	8/2/2024	53.9	72.1	46.6
7:00 AM	8/2/2024	60.1	74.8	50.3
8:00 AM	8/2/2024	57.1	71.6	44.9
9:00 AM	8/2/2024	53.1	70.2	43.6
10:00 AM	8/2/2024	53.1	69.6	40.7
11:00 AM	8/2/2024	54.0	70.7	39.7

Source: Compiled by LSA Associates, Inc. (2024).
dBA = A-weighted decibel
L_{eq} = equivalent continuous sound level
L_{max} = maximum instantaneous noise level
L_{min} = minimum measured sound level



Construction Traffic Noise Calculator

Construction Phase	Start Date	End Date	Offroad Equipment	One Way Trip Per Day			Days per Phase	Total Trips Per Day	Total Equivalent Trips Per Day	Overlap?	Overlap Trips
				Worker	Vendor	Haul					
Demolition	11/3/2025	11/28/2025	6	15.00	0.00	6.90	20	22	326		
Site Preparation	12/1/2025	12/5/2025	7	17.50	0.00	0.00	5	18	18		
Grading	12/6/2025	12/17/2025	6	15.00	0.00	3.50	8	19	173		
Building Construction	12/18/2025	12/30/2026	8	3.24	0.96	0.00	270	4	32	x	32
Paving	12/31/2026	1/25/2027	8	20.00	0.00	0.00	18	20	20		
Architectural Coating	9/1/2026	1/25/2027	1	0.65	0.00	0.00	105	1	1	x	1
Maximum								**22**	**326**		

Speed (mph)	MT Factor	HT Factor
25	16	83.3
30	15	65
35	14	53.3
40	13.2	45
45	12.6	38
50	12	33
55	11.5	29
60	11.1	26
65	10.8	23

Roadway	Speed	Existing Volume	MT Factor	HT Factor	Total Equivalent Vehicles	Noise Increase (dBA)
Wheeler Avenue	40	9,778	13.2	45	326	0.14

Construction Phase	Start Date	End Date	Offroad Equipment	One Way Trip Per Day			Days per Phase	Total Trips Per Day	Total Equivalent Trips Per Day	Overlap?	Overlap Trips
				Worker	Vendor	Haul					
Demolition	11/3/2025	11/28/2025	6	15.00	0.00	6.90	20	22	383		
Site Preparation	12/1/2025	12/5/2025	7	17.50	0.00	0.00	5	18	18		
Grading	12/6/2025	12/17/2025	6	15.00	0.00	3.50	8	19	202		
Building Construction	12/18/2025	12/30/2026	8	3.24	0.96	0.00	270	4	37	x	37
Paving	12/31/2026	1/25/2027	8	20.00	0.00	0.00	18	20	20		
Architectural Coating	9/1/2026	1/25/2027	1	0.65	0.00	0.00	105	1	1	x	1
Maximum								**22**	**383**		

Speed (mph)	MT Factor	HT Factor
25	16	83.3
30	15	65
35	14	53.3
40	13.2	45
45	12.6	38
50	12	33
55	11.5	29
60	11.1	26
65	10.8	23

Roadway	Speed	Existing Volume	MT Factor	HT Factor	Total Equivalent Vehicles	Noise Increase (dBA)
Bonita Avenue	35	11,063	14	53.3	383	0.15
Bonita Avenue	35	12,081	14	53.3	383	0.14

The new degree of comfort.™

Rheem *Classic*® Series Air Conditioners



RA14 Series

Efficiencies up to 14 SEER/11.5 EER
Nominal Sizes 1½ to 5 Ton [5.28 to 17.6 kW]
Cooling Capacities 17.3 to 60.5 kBTU
[5.7 to 17.7 kW]

"Proper sizing and installation of equipment is critical to achieve optimal performance. Split system air conditioners and heat pumps must be matched with appropriate coil components to meet Energy Star. Ask your Contractor for details or visit www.energystar.gov."

- Composite base pan – dampens sound, captures louver panels, eliminates corrosion and reduces number of fasteners needed
- Powder coat paint system – for a long lasting professional finish
- Scroll compressor – uses 70% fewer moving parts for higher efficiency and increased reliability
- Modern cabinet aesthetics – increased curb appeal with visually appealing design
- Curved louver panels – provide ultimate coil protection, enhance cabinet strength, and increased cabinet rigidity
- Optimized fan orifice – optimizes airflow and reduces unit sound
- Rust resistant screws – confirmed through 1500-hour salt spray testing
- PlusOne™ **Expanded Valve Space** – 3"-4"-5" service valve space – provides a minimum working area of 27-square inches for easier access
- PlusOne™ **Triple Service Access** – 15" wide, industry leading corner service access – makes repairs easier and faster. The two fastener removable corner allows optimal access to internal unit components. Individual louver panels come out once fastener is removed, for faster coil cleaning and easier cabinet reassembly
- Diagnostic service window with two-fastener opening – provides access to the high and low pressure.
- External gauge port access – allows easy connection of "low-loss" gauge ports
- Single-row condenser coil – makes unit lighter and allows thorough coil cleaning to maintain "out of the box" performance
- 35% fewer cabinet fasteners and fastener-free base – allow for faster access to internal components and hassle-free panel removal
- Service trays – hold fasteners or caps during service calls
- QR code – provides technical information on demand for faster service calls
- Fan motor harness with extra long wires allows unit top to be removed without disconnecting fan wire.

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Standard Feature Table

STANDARD FEATURES							
Feature	**18**	**24**	**30**	**36**	**42**	**48**	**60**
R-410a Refrigerant	√	√	√	√	√	√	√
Maximum SEER	15.5	15	15.5	15.5	15	15	14
Maximum EER	13	13	13	13	13	13	12
Scroll Compressor	√	√	√	√	√	√	√
Field Installed Filter Drier	√	√	√	√	√	√	√
Front Seating Service Valves	√	√	√	√	√	√	√
Internal Pressure Relief Valve	√	√	√	√	√	√	√
Internal Thermal Overload	√	√	√	√	√	√	√
Long Line capability	√	√	√	√	√	√	√
Low Ambient capability with Kit	√	√	√	√	√	√	√
3-4-5 Expanded Valve Space	√	√	√	√	√	√	√
Composite Basepan	√	√	√	√	√	√	√
2 Screw Control Box Access	√	√	√	√	√	√	√
15" Access to Internal Components	√	√	√	√	√	√	√
Quick release louver panel design	√	√	√	√	√	√	√
No fasteners to remove along bottom	√	√	√	√	√	√	√
Optimized Venturi Airflow	√	√	√	√	√	√	√
Single row condenser coil	√	√	√	√	√	√	√
Powder coated paint	√	√	√	√	√	√	√
Rust resistant screws	√	√	√	√	√	√	√
QR code	√	√	√	√	√	√	√
External gauge ports	√	√	√	√	√	√	√
Service trays	√	√	√	√	√	√	√

√ = Standard

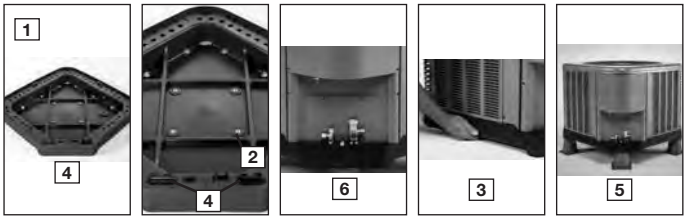
Available SKUs

Available Models	Description
RA1418AJ1NA	*Classic*® Series 1 1/2 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1418AJ1NB	*Classic*® Series 1 1/2 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1424BJ1NA	*Classic*® Series 2 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1424BJ1NB	*Classic*® Series 2 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1430AJ1NA	*Classic*® Series 2 1/2 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1430AJ1NB	*Classic*® Series 2 1/2 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1436AC1NB	*Classic*® Series 3 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1436AD1NB	*Classic*® Series 3 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-460/3/60
RA1436AJ1NA	*Classic*® Series 3 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1436AJ1NB	*Classic*® Series 3 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1442AD1NB	*Classic*® Series 3 1/2 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-460/3/60
RA1442CC1NB	*Classic*® Series 3 1/2 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1442CJ1NA	*Classic*® Series 3 1/2 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1442CJ1NB	*Classic*® Series 3 1/2 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1448AC1NB	*Classic*® Series 4 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1448AD1NB	*Classic*® Series 4 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-460/3/60
RA1448AJ1NA	*Classic*® Series 4 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1448AJ1NB	*Classic*® Series 4 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1460AD1NB	*Classic*® Series 5 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-460/3/60
RA1460BC1NB	*Classic*® Series 5 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1460BJ1NA	*Classic*® Series 5 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1460BJ1NB	*Classic*® Series 5 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1460CC1NB	*Classic*® Series 5 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1460CD1NB	*Classic*® Series 5 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-460/3/60
RA1460CJ1NA	*Classic*® Series 5 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1460CJ1NB	*Classic*® Series 5 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60

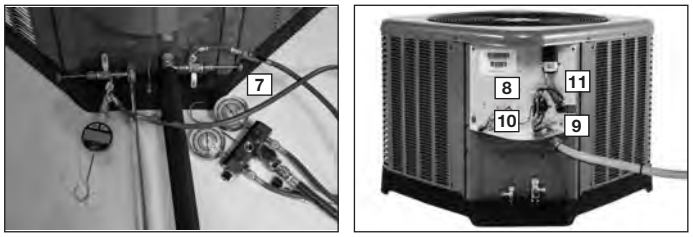
Introduction to RA14 Air Conditioner

The RA14 is our 14 SEER air conditioner and is part of the Rheem air conditioner product line that extends from 13 to 20 SEER. This highly featured and reliable air conditioner is designed for years of reliable, efficient operation when matched with Rheem indoor aluminum evaporator coils and furnaces or air handler units with aluminum evaporators.

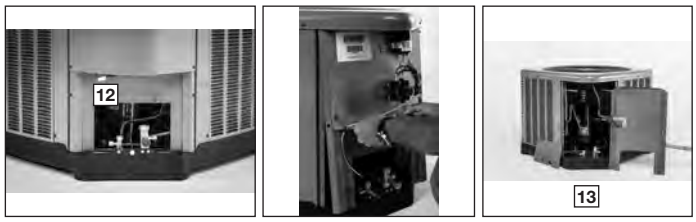
Our unique composite base (1) reduces sound emission, eliminates rattles, significantly reduces fasteners, eliminates corrosion and has integrated brass compressor attachment inserts (2). Furthermore it has incorporated into the design, water management features, means for hand placement (3) for unit maneuvering, screw trays (4) and inserts for lifting off unit pad. (5)



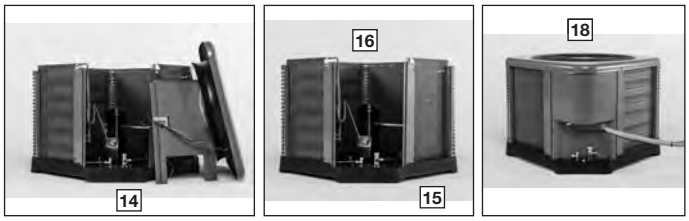
Service Valves (6) are rigidly mounted in the composite base with 3" between suction and discharge valves, 4" clearance below service valves and a minimum of 5" above the service valves, creating industry leading installation ease. The minimum 27 square-inches around the service valves allows ample room to remove service valve schrader prior to brazing, plenty of clearance for easy brazing of the suction and discharge lines to service valve outlets, easy access and hookup of low loss refrigerant gauges (7), and access to the service valve caps for opening. For applications with long-line lengths up to 250 feet total equivalent length, up to 200 feet condenser above evaporator, or up to 80 feet evaporator above condenser, the long-line instructions in the installation manual should be followed.



Controls are accessed from the corner of the unit by removing only two fasteners from the control access cover, revealing the industry's largest 15" wide and 14" tall control area (8). With all this room in the control area the high voltage electrical whip (9) can easily be inserted through the right size opening in the bottom of the control area. Routing it leads directly to contractor lugs for connection. The low voltage control wires (10) are easily connected to units low voltage wiring. If contactor or capacitor (11) needs to be replaced there is more than adequate space to make the repair. Furthermore, if high pressure and low pressure model was not purchased but is desired to be installed in the field, the service window (12) can be removed by removing two screws, to access the high and low side schrader fittings for easy field installation. The entire corner can be removed providing ultimate access to install the high and low pressure switch. (13)



If in the rare event, greater access is needed to internal components, such as the compressor, the entire corner of the unit can be removed along with the top cover assembly to have unprecedented access to interior of the unit (14). Extra wire length is incorporated into each outdoor fan and compressor so top cover and control panel can be positioned next to the unit. With minimal effort the plug can be removed from the compressor and the outdoor fan wires can be removed from the capacitor to allow even more uncluttered access to the interior of the unit (15). Outdoor coil heights range from as short as 22" to 32", aiding access to the compressor. Disassembly to this degree and complete reassembly only takes a first time service technician less than 10 minutes. (15)



All units utilize strong formed louver panels which provide industry leading coil protection. Louver removal for coil cleaning is accomplished by removing one screw and lifting the panel out of the composite base pan. (17) All RA14 units utilize single row coils (16) making cleaning easy and complete, restoring the performance of the air conditioner back to out of the box performance levels year after year.

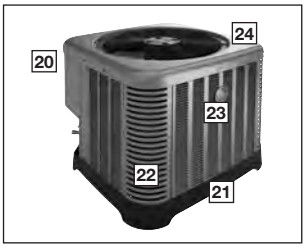


The outdoor fan motor has sleeve bearings and is inherently protected. The motor is totally enclosed for maximum protection from weather, dust and corrosion. Access to the outdoor fan is made by removing four fasteners from the fan grille. The outdoor fan can be removed from the fan grille by removing 4 fasteners in the rare case outdoor fan motor fails.

Each cabinet has optimized composite (19) fan orifice assuring efficient and quiet airflow.



The entire cabinet has powder post paint (20) achieving 1000 hour salt spray rating, allowing the cabinet to retain its aesthetics throughout its life.



Scroll compressors with standard internal pressure relief and internal thermal overload are used on all capacities assuring longevity of high efficient and quiet operation for the life of the product.

Each unit is shipped with filter drier for field installation and will trap any moisture or dirt that could contaminate the refrigerant system.



All cabinets have industry leading structural strength due to the composite base pan (21), interlocking corner post (22), formed curved louver panels (23) and drawn top cover (24) making it the most durable cabinet on the market today.

Each RA14 capacity has undergone rigorous psychometric testing to assure performance ratings of capacity, SEER and EER per AHRI Standard 210/240 rating conditions. Also each unit bears the UL mark and each unit is certified to UL 1995 safety standards.

Each unit has undergone specific strain and modal testing to assure tubing (25) is outside the units natural frequency and that the suction and discharge lines connected to the compressor withstand any starting, steady state operation or shut down forces imposed by the compressor.

All units have been sound tested in sound chamber to AHRI 270 rating conditions, and A-weighted Sound Power Level tables produced, assuring units have acceptable noise qualities (see page 9). Each unit has been ran in cooling operation at 95°F and 82°F and sound ratings for the RA14 range from as low as 74 dBA to 77 dBA.

All units have been ship tested to assure units meet stringent “over the road” shipping conditions.

As manufactured all units in the RA14 family have cooling capability to 55 °F. Addition of low ambient control will allow the unit to operate down to 0°F. Factory testing is performed on each unit. All component parts meet well defined specification and continually go through receiving inspections. Each component installed on a unit is scanned, assuring correct component utilization for a given unit capacity and voltage. All condenser coils are leak tested with pressurization test to 550#’s and once installed and assembled, each units’ complete refrigerant system is helium leak tested. All units are fully charged from the factory for up to 15 feet of piping. All units are factory run tested. The RA14 has a 10-year conditional compressor and parts warranty (registration required).

Optional Accessories
(Refer to accessory chart for model #)

Compressor Crankcase Heater
Protects against refrigerant migration that can occur during low ambient operation

Compressor Sound Cover
- Reinforced vinyl compressor cover containing a 1½ inch thick batt of fiberglass insulation
- Open edges are sealed with a one-inch wide hook and loop fastening tape

Compressor Hard Start Kit
- Single-phase units are equipped with a PSC compressor motor, this type of motor normally does not need a potential relay and start capacitor
- Kit may be required to increase the compressor starting torque, in conditions such as low voltage

Low Ambient Kit
- Air conditioners operate satisfactorily in the cooling mode down to 55°F outdoor air temperature without any additional controls
- This Kit can be added in the field enabling unit to operate properly down to 0° in the cooling mode
- Crankcase heater and freezestat should be installed on compressors equipped with a low ambient kit

3"/6"/12"
- Gray high density polyethylene feet are available to raise unit off of mounting surface away from moisture

Low Pressure
- Can be added in field enabling the unit to shut off compressor on loss of charge

NOTE: Unit can be purchased with high and low pressure installed at factory. (Refer to SKU list)

High Pressure
- Can be added in field enabling unit to shut off compressor if unit loses outdoor fan operation.

NOTE: Unit can be purchased with high and low pressure installed at factory. (Refer to SKU list)

Decorative Top
- Can be installed on fan grille

Air Conditioners*

R	A	14	24	A	J	1	N	A	*
Brand	**Product Category**	**SEER**	**Capacity BTU/HR**	**Major Series***	**Voltage**	**Type**	**Controls**	**Minor Series****	**Option Code**
Rheem	A - Air Conditioners	14 - 14 SEER	18 - 18,000 [5.28 kW] 24 - 24,000 [7.03 kW] 30 - 30,000 [8.79 kW] 36 - 36,000 [10.55 kW] 42 - 42,000 [12.31 kW] 48 - 48,000 [14.07 kW] 60 - 60,000 [17.58 kW]	A - 1st Design B - 2nd Design	J - 1ph, 208-230/60 C - 3ph, 208-230/60 D - 3ph, 460/60	1 - Single-stage	N - Non-Communicating	A - 1st Design B - 2nd Design	N/A

*See page 3 for available SKU's.

Heat Pumps (For Reference)**

R	P	14	24	A	J	1	N	A	*
Brand	**Product Category**	**SEER**	**Capacity BTU/HR**	**Major Series***	**Voltage**	**Type**	**Controls**	**Minor Series****	**Option Code**
Rheem	P - Heat Pump	13 - 13 SEER 14 - 14 SEER 16 - 16 SEER 17 - 17 SEER 20 - 20 SEER	18 - 18,000 [5.28 kW] 24 - 24,000 [7.03 kW] 30 - 30,000 [8.79 kW] 36 - 36,000 [10.55 kW] 42 - 42,000 [12.31 kW] 48 - 48,000 [14.07 kW] 60 - 60,000 [17.58 kW]	A - 1st Design	J - 1ph, 208-230/60 C - 3ph, 208-230/60 D - 3ph, 460/60	1 - Single-stage 2 - Two-stage V - Inverter P - Piston	C - Communicating N - Non-Communicating	A - 1st Design	N/A

Furnace Coils (For Reference)**

R	C	F	24	17	S	T	A	M	C	A	*
Brand	**Product Category**	**Type**	**Capacity BTU/HR**	**Width**	**Efficiency**	**Metering Device**	**Major Series***	**Orientation**	**Casing**	**Minor Series****	**Option Code**
Rheem	C - Evap Coil	F - Furn Coil H - Air-Handler Coil	24 - 24,000 [7.03 kW] 36 - 36,000 [10.55 kW] 48 - 48,000 [14.07 kW] 60 - 60,000 [17.58 kW]	14 - 14" 17 - 17.5" 21 - 21" 24 - 24.5"	S- Standard Eff. M- Mid Eff. H- High Eff.	T-TXV E-EEV P-Piston	A - 1st Design	M - Multipoise V - Vertical only/ convertible H - Ded. Horizontal only	C - Cased U - Uncased	A - 1st Design	N/A

**Model number ID's are for reference only. Available SKU's are listed on the standard features/available SKU page of model spec sheets.

[ ] Designates Metric Conversions

90%+ AFUE Gas Furnaces (For Reference)**

R	96	V	A	70	2	3	17	M	S	A
Brand	**Series**	**Motor**	**Major Rev**	**Input BTU/HR**	**Stages**	**Air Flow**	**Cabinet Width**	**Configuration**	**Nox**	**Minor Rev**
Rheem	90 - 90 AFUE 92 - 92 AFUE 95 - 95 AFUE 96 - 96 AFUE 97 - 97 AFUE	V - Variable speed T - Constant Torque (X-13) P - PSC	A - 1st Design	040 - 42,000 [12.31 kW] 060 - 56,000 [16.41 kW] 070 - 70,000 [20.51 kW] 085 - 84,000 [24.62 kW] 100 - 98,000 [28.72 kW] 115 - 112,000 [32.82 kW]	1 - Single-stage 2 - Two-stage M - Modulating	3 - up to 3 ton 5 - 3 1/2 up to 5 ton	14 - 14" 17 - 17.5" 21 - 21" 24 - 24.5"	M - Multi	X - Low Nox S - Standard	A - 1st Design

80% AFUE Gas Furnaces (For Reference)**

R	80	2	V	A	075	3	17	M	S	A
Brand	**Series**	**Stages**	**Motor**	**Major Rev**	**Input BTU/HR**	**Air Flow**	**Cabinet Width**	**Configuration**	**Nox**	**Minor Rev**
Rheem	80 - 80+ AFUE	1 - Single-stage 2 - Two-stage	V - Variable speed T - Constant Torque (X-13) P - PSC premium S - PSC standard	A - 1st Design	050 - 50,000 [15 kW] 075 - 75,000 [22 kW] 100 - 100,000 [29 kW] 125 - 125,000 [37 kW] 150 - 150,000 [44 kW]	3 - up to 3 ton 4 - 2 1/2 to 4 ton 5 - 3 1/2 up to 5 ton	14 - 14" 17 - 17.5" 21 - 21" 24 - 24.5"	M - Multi D - Down Z - Down & zero clearance down flow	X - Low Nox S - Standard	A - 1st Design

Air Handlers (For Reference)**

R	H	1	T	36	17	S	T	A	N	A	A	000	*
Brand	**Product Category**	**Stages of Airflow**	**Motor Type**	**Capacity BTU/HR**	**Width**	**Coil Size**	**Metering Device**	**Major Series***	**Controls**	**Voltage**	**Minor Series****	**Factory Heat Cap**	**Option Code**
Rheem	H - Air Handler	1 - Single-Stage 2 - Two-Stage M - Modulating	V - Variable Speed T - Constant Torque P - PSC	24 - 24,000 [7.03 kW] 36 - 36,000 [10.55 kW] 48 - 48,000 [14.07 kW] 60 - 60,000 [17.58 kW]	14 - 14" 17 - 17.5" 21 - 21" 24 - 24.5"	S - Standard Eff. M - Mid Eff. H - High Eff.	T - TEV E - EEV P - Piston	A - 1st Design	C -Communicating N -Non-comm	A - 1ph, 115/60 J - 1ph, 208-240/60 D - 3ph, 480/60	A - 1st Design	00 - no factory heat with option code	*TBD

**Model number ID's are for reference only. Available SKU's are listed on the standard features/available SKU page of model spec sheets.

[ ] Designates Metric Conversions

Physical Data

PHYSICAL DATA							
Model No.	**RA1418**	**RA1424**	**RA1430**	**RA1436**	**RA1442**	**RA1448**	**RA1460**
Nominal Tonnage	1.5	2.0	2.5	3.0	3.5	4.0	5.0
Valve Connections							
Liquid Line O.D. – in.	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Suction Line O.D. – in.	3/4	3/4	3/4	3/4	7/8	7/8	7/8
Refrigerant (R410A) furnished oz.[1]	68	80	87	106	134	129	201
Compressor Type	Scroll						
Outdoor Coil							
Net face area – Outer Coil	9.1	11.1	12.1	14.8	17.3	18.9	32.3
Net face area – Inner Coil	—	—	—	—	—	—	—
Tube diameter – in.	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Number of rows	1	1	1	1	1	1	1
Fins per inch	22	22	22	22	22	22	22
Outdoor Fan							
Diameter – in.	20	20	20	24	24	26	26
Number of blades	2	2	2	3	3	2	3
Motor hp	1/10	1/8	1/8	1/6	1/5	1/5	1/3
CFM	2225	2295	2605	3105	4105	4264	4775
RPM	1075	1121	1075	850	833	820	795
watts	130	138	142	173	236	236	239
Shipping weight – lbs.	143	148	158	178	207	232	247
Operating weight – lbs.	122	141	151	171	200	221	240

Electrical Data

Line Voltage Data (Volts-Phase-Hz)	**208/230-1-60**	**208/230-1-60**	**208/230-1-60**	**208/230-1-60**	**208/230-1-60**	**208/230-1-60**	**208/230-1-60**
Maximum overcurrent protection (amps)[2]	20	25	25	30	35	45	50
Minimum circuit ampacity[3]	13	15	17	19	23	27	34
Compressor							
Rated load amps	9.7	10.9	12.8	14.1	16.7	19.9	23.7
Locked rotor amps	48	62.9	64	77	109	109	152.5
Condenser Fan Motor							
Full load amps	0.6	0.8	0.8	0.8	1.2	1.2	3.5
Locked rotor amps	1.1	1.5	1.4	1.5	2.0	2.3	-
Line Voltage Data (Volts-Phase-Hz)	—	—	—	**208/230-3-60**	**208/230-3-61**	**208/230-3-62**	**208/230-3-63**
Maximum overcurrent protection (amps)[2]	—	—	—	20	25	30	35
Minimum circuit ampacity[3]	—	—	—	13	16	18	24
Compressor							
Rated load amps	—	—	—	9	11.2	13.1	15.9
Locked rotor amps	—	—	—	71	84	83.1	110
Condenser Fan Motor							
Full load amps	—	—	—	0.8	1.2	1.2	3.5
Locked rotor amps	—	—	—	1.5	3.0	2.3	-
Line Voltage Data (Volts-Phase-Hz)	—	—	—	**480-3-60**	**480-3-60 RA1442AD**	**480-3-60**	**480-3-60 RA1460AD**
Maximum overcurrent protection (amps)[2]	—	—	—	15	—	15	15
[3]Minimum circuit ampacity	—	—	—	8	—	9	10
Compressor							
Rated load amps	—	—	—	5.6	—	6.1	7.1
Locked rotor amps	—	—	—	38	—	41	52
Condenser Fan Motor							
Full load amps	—	—	—	0.5	—	0.6	0.5
Locked rotor amps	—	—	—	1.1	—	1.6	1.4

[1]Refrigerant charge sufficient for 15 ft. length of refrigerant lines. For longer line set requirements see the installation instructions for information about set length and additional refrigerant charge required.
[2]HACR type circuit breaker of fuse.
[3]Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements.

Accessories

Model No.		RA1418	RA1424	RA1430	RA1436	RA1442	RA1448	RA1460
Compressor crankcase heater*		44-17402-44	44-17402-44	44-17402-44	44-17402-44	44-17402-45	44-17402-45	44-17402-45
Low ambient control		RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08
Compressor sound cover		68-23427-26	68-23427-26	68-23427-26	68-23427-26	68-23427-25	68-23427-25	68-23427-25
Compressor hard start kit		SK-A1	SK-A1	SK-A1	SK-A1	SK-A1	SK-A1	SK-A1
Compressor time delay		RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01
Low pressure control		RXAC-A07	RXAC-A07	RXAC-A07	RXAC-A07	RXAC-A07	RXAC-A07	RXAC-A07
High pressure control		RXAB-A07	RXAB-A07	RXAB-A07	RXAB-A07	RXAB-A07	RXAB-A07	RXAB-A07
Liquid Line Solenoid (24 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD3T3TVLC	200RD3T3TVLC
	Solenoid Coil	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V
Liquid Line Solenoid (120/240 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD3T3TVLC	200RD3T3TVLC
	Solenoid Coil	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V
Classic Top Cap w/Label		91-101123-21	91-101123-21	91-101123-21	91-101123-21	91-101123-21	91-101123-21	91-101123-21

*Crankcase Heater recommended with Low Ambient Kit.

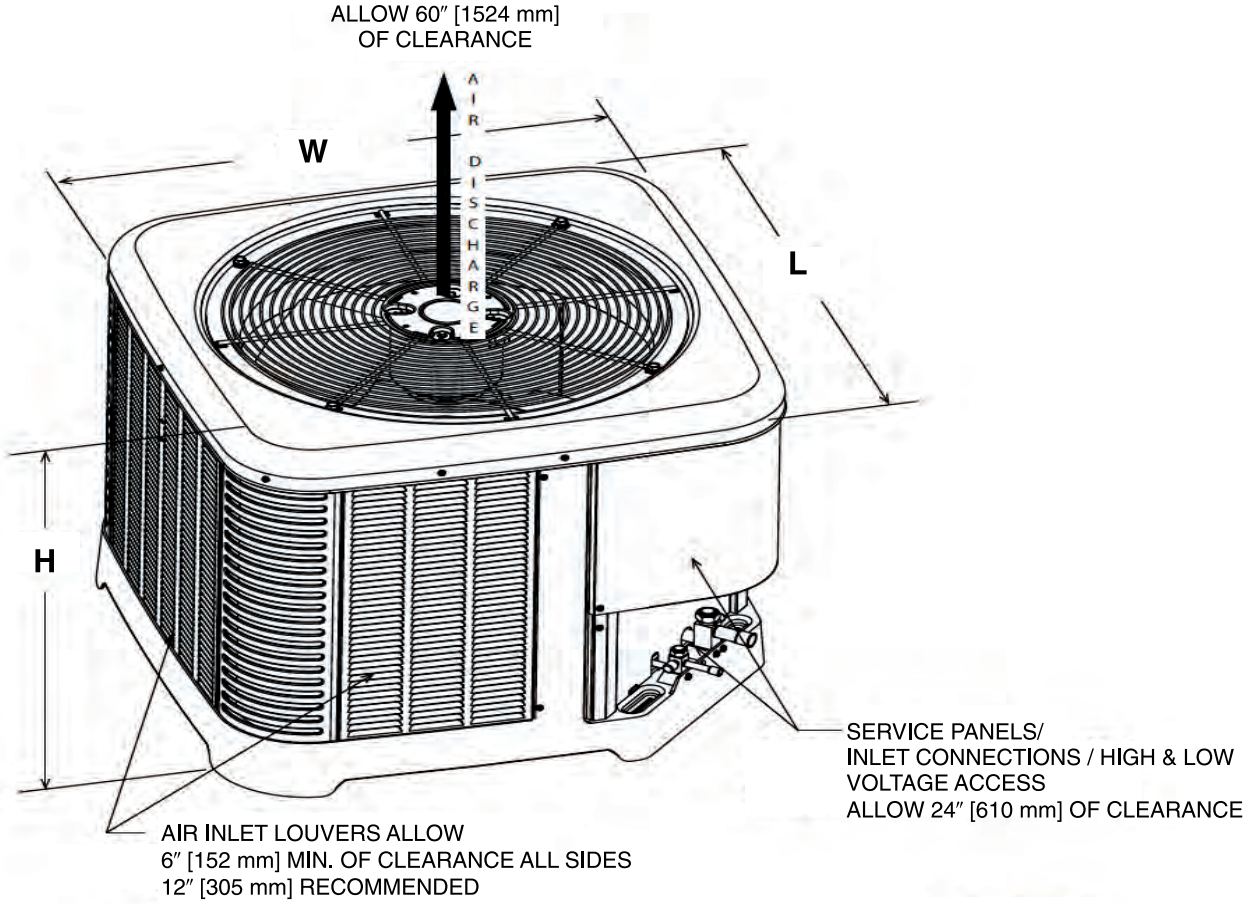
Weighted Sound Power Level (dBA)

A-WEIGHTED SOUND POWER LEVEL (dBA)								
Unit Size - Voltage, Series	Standard Rating (dBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
RA1418	76.0	51.4	59.6	65.2	65.9	64.3	58.5	53.7
RA1424	75.0	50.0	59.5	63.2	64.4	61.4	56.8	52.6
RA1430	74.0	48.8	57.5	63.5	64	61.9	56.1	51
RA1436	76.0	52.2	61.3	65.4	65.3	62.4	57.3	53.1
RA1442	73.0	51.5	54.7	63.5	63.3	59.4	54.9	48.4
RA1448	76.0	52.3	59.1	66.7	65.7	62.4	59.3	55.9
RA1460	74.6	50.1	55.1	65.6	64.8	63.2	57.4	56.4

NOTE: Tested in accordance with AHRI Standard 270-08 (not listed in AHRI)

Unit Dimensions

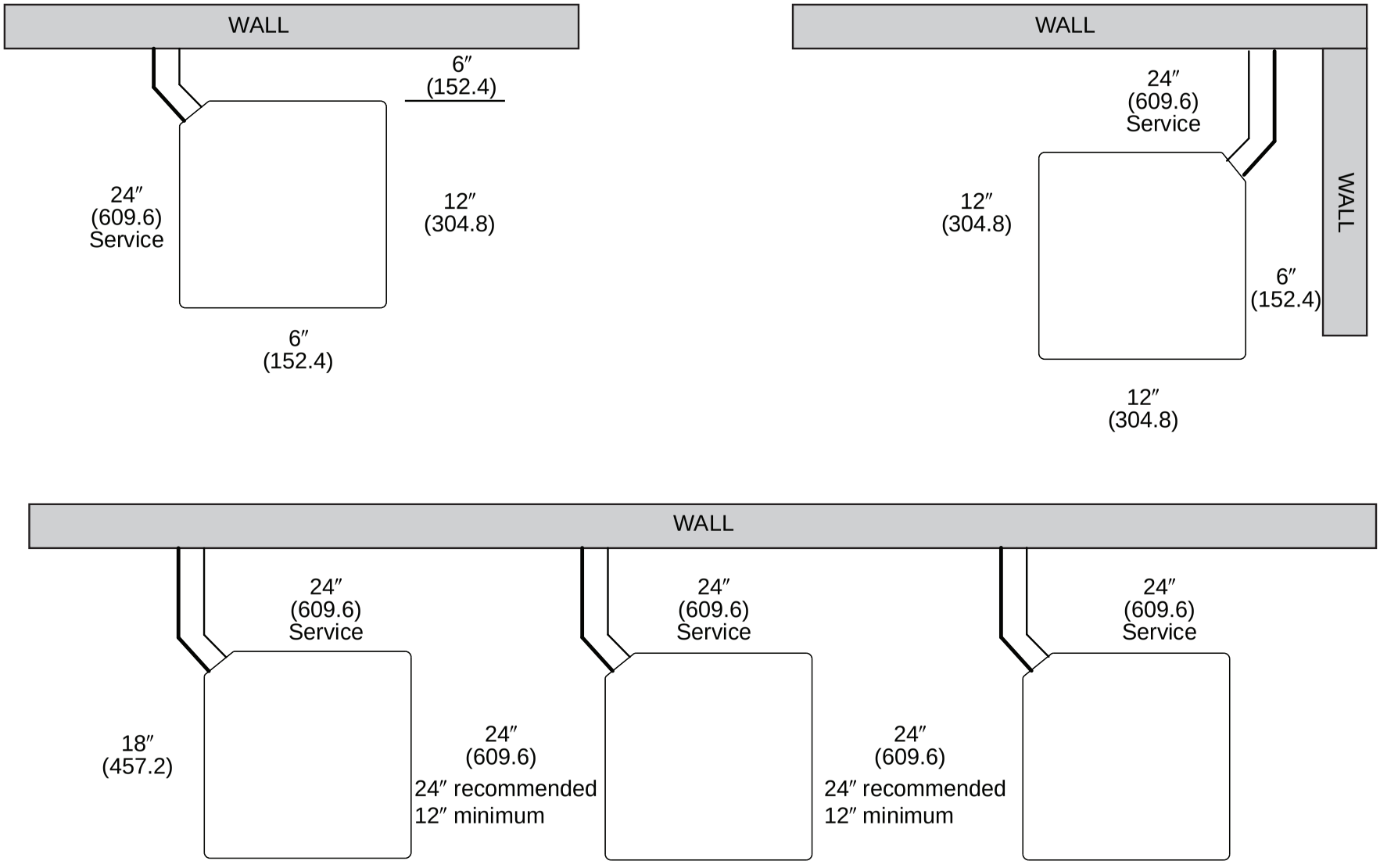
MODEL NO.	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
RA1418	25	635	29.75	755	29.75	755	26.75	679	32.38	822	32.38	822
RA1424	25	635	29.75	755	29.75	755	26.75	679	32.38	822	32.38	822
RA1430	27	685	29.75	755	29.75	755	28.75	730	32.38	822	32.38	822
RA1436	27	685	33.75	857	33.75	857	28.75	730	36.38	924	36.38	924
RA1442	35	889	33.75	857	33.75	857	36.75	933	36.38	924	36.38	924
RA1448	31	787	35.75	908	35.75	908	32.75	832	38.38	975	38.38	975
RA1460	51	1295	35.75	908	35.75	908	51.38	1305	38.38	975	38.38	975



[ ] Designates Metric Conversions

ST-A1226-02-00

CLEARANCES



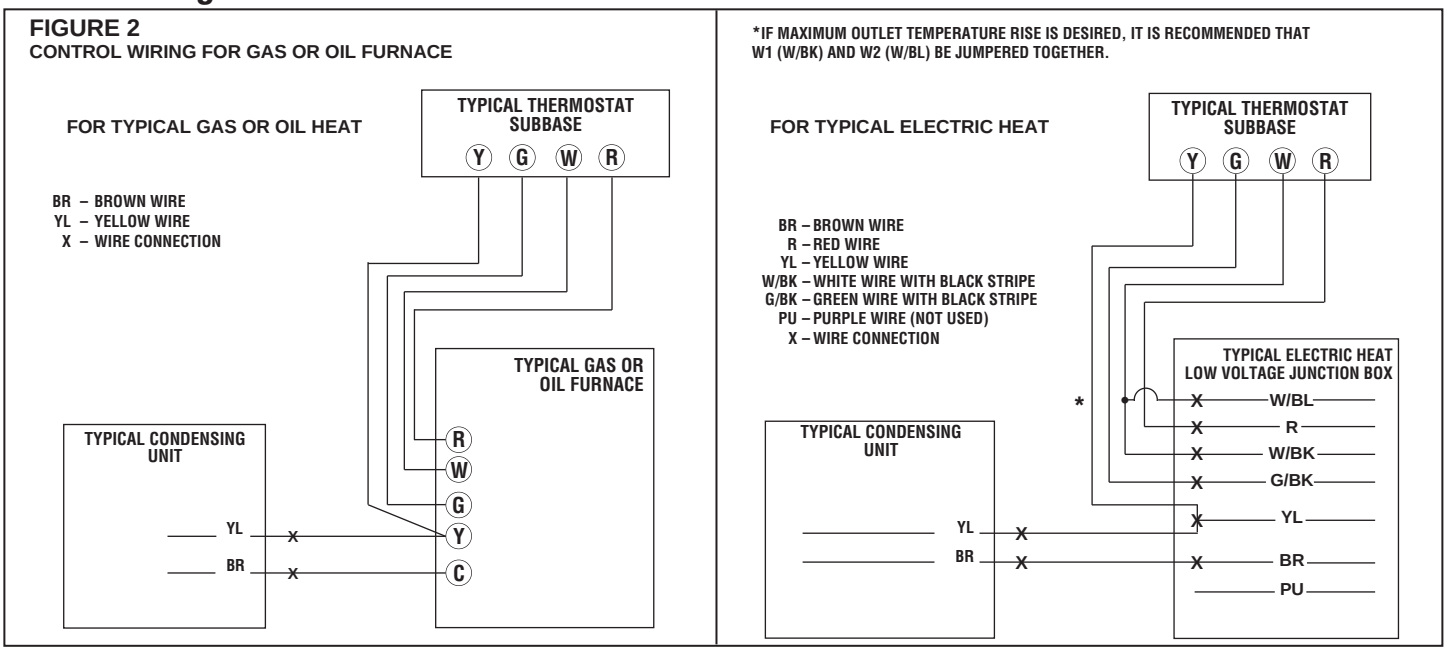
NOTE: NUMBERS IN () = mm

IMPORTANT: When installing multiple units in an alcove, roof well or partially enclosed area, ensure there is adequate ventillation to prevent re-circulation of discharge air.

ST-A1225-01-00

Control Wiring

FIGURE 2
CONTROL WIRING FOR GAS OR OIL FURNACE



Application Guidelines

1. Intended for outdoor installation with free air inlet and outlet. Outdoor fan external static pressure available is less than 0.01 -in. wc.
2. Minimum outdoor operation air temperature for cooling mode without low-ambient operation accessory is 55°F (12.8°C).
3. Maximum outdoor operating air temperature is 125°F (51.7°C).
4. For reliable operation, unit should be level in all horizontal planes.
5. Use only copper wire for electric connections at unit. Aluminum and clad aluminum are not acceptable for the type of connector provided.
6. Do not apply capillary tube indoor coils to these units.
7. Factory – supplied filter drier must be installed.

Refrigerant Line Size Information

13 - 16 SEER Single-Stage Air-Conditioners																
Unit Size	Allowable Liquid Line Size	Allowable Suction Line Size	Apply Long Line Guidelines if Linear Line Length Exceeds Those Shown Below (Feet)				Equivalent Length (Feet)									
							< 25	26-50	51-75	76-100	101-125	126-150	151-175	176-200	201-225	226-250
			(-)A13	(-)A14 A/B	(-)A14 W	(-)A16	Maximum Vertical Rise (Outdoor Unit Below Indoor Unit) * / Capacity Multiplier									
1.5 Ton **SEE NOTE 3	1/4"	5/8"	N/R	N/R	N/R	N/R	25 / 1.00	50 / 0.99	62 / 0.98	43 / 0.98	24 / 0.97	5 / 0.97	N/R	N/R	N/R	N/R
	5/16"	5/8"	N/R	223	198	188	25 / 1.00	50 / 0.99	75 / 0.98	98 / 0.98	93 / 0.97	88 / 0.97	83 / 0.96	78 / 0.96	73 / 0.95	68 / 0.94
	3/8"	5/8"	178	148	132	125	25 / 1.00	50 / 0.99	75 / 0.98	100 / 0.98	100 / 0.97	100 / 0.97	100 / 0.96	100 / 0.96	100 / 0.95	100 / 0.94
	1/4"	3/4"**	N/R	N/R	N/R	N/R	25 / 1.00	50 / 1.00	62 / 0.99	43 / 0.99	24 / 0.99	5 / 0.99	N/R	N/R	N/R	N/R
	5/16"	3/4"**	N/R	223	198	188	25 / 1.00	50 / 1.00	75 / 0.99	98 / 0.99	93 / 0.99	88 / 0.99	83 / 0.99	78 / 0.98	73 / 0.98	68 / 0.98
	3/8"	3/4"**	178	148	132	125	25 / 1.00	50 / 1.00	75 / 1.00	100 / 0.99	100 / 0.99	100 / 0.99	100 / 0.99	100 / 0.98	100 / 0.98	100 / 0.98
2 Ton	1/4"	5/8"	N/R	N/R	N/R	N/R	25 / 0.99	50 / 0.98	21 / 0.97	N/R	N/R	N/R	N/R	N/R	N/R	N/R
	5/16"	5/8"	243	193	175	175	25 / 0.99	50 / 0.98	75 / 0.97	87 / 0.96	77 / 0.95	69 / 0.94	61 / 0.93	53 / 0.92	45 / 0.91	37 / 0.90
	3/8"	5/8"	162	128	117	117	25 / 0.99	50 / 0.98	75 / 0.97	100 / 0.96	100 / 0.95	100 / 0.94	98 / 0.93	95 / 0.92	92 / 0.91	89 / 0.90
	1/4"	3/4"	N/R	N/R	N/R	N/R	25 /1.00	50 / 1.00	21 / 0.99	N/R	N/R	N/R	N/R	N/R	N/R	N/R
	5/16"	3/4"	243	193	175	175	25 /1.00	50 / 1.00	75 / 0.99	87 / 0.99	77 / 0.98	69 / 0.98	61 / 0.98	53 / 0.97	45 / 0.97	37 / 0.96
	3/8"	3/4"	162	128	117	117	25 / 1.00	50 / 1.00	75 / 0.99	100 / 0.99	100 / 0.98	100 / 0.98	98 / 0.98	95 / 0.97	93 / 0.97	90 / 0.96
2.5 Ton	5/16"	5/8"	N/R	N/R	110	110	25 / 0.99	50 / 0.98	75 / 0.96	70 / 0.94	59 / 0.93	48 / 0.91	36 / 0.90	N/R	N/R	N/R
	3/8"	5/8"	142	117	73	73	25 / 0.99	50 / 0.98	75 / 0.96	100 / 0.94	98 / 0.93	94 / 0.91	90 / 0.90	N/R	N/R	N/R
	5/16"	3/4"	213	175	110	110	25 / 1.00	50 / 0.99	75 / 0.99	70 / 0.98	59 / 0.98	48 / 0.97	36 / 0.96	25 / 0.96	13 / 0.95	N/R
	3/8"	3/4"	142	117	73	73	25 / 1.00	50 / 0.99	75 / 0.99	100 / 0.98	98 / 0.98	94 / 0.97	90 / 0.96	86 / 0.96	82 / 0.95	78 / 0.95
3 Ton	5/16"	5/8"	N/R	N/R	N/R	N/R	25 / 0.99	50 / 0.97	66 / 0.94	49 / 0.92	32 / 0.90	N/R	N/R	N/R	N/R	N/R
	3/8"	5/8"	108	85	90	82	25 / 0.99	50 / 0.97	75 / 0.94	95 / 0.92	89 / 0.90	N/R	N/R	N/R	N/R	N/R
	5/16"	3/4"	N/R	128	135	123	25 / 1.00	50 / 0.99	66 / 0.98	49 / 0.98	32 / 0.97	15 / 0.96	N/R	N/R	N/R	N/R
	3/8"	3/4"	108	85	90	82	25 / 1.00	50 / 0.99	75 / 0.98	95 / 0.98	89 / 0.97	84 / 0.96	78 / 0.95	72 / 0.94	67 / 0.93	61 / 0.93
	1/2"	3/4"	54	43	45	41	25 / 1.00	50 / 0.99	75 / 0.98	100 / 0.98	100 / 0.97	100 / 0.96	100 / 0.95	100 / 0.94	100 / 0.93	100 / 0.93
	5/16"	7/8"	N/R	128	135	123	25 / 1.00	50 / 1.00	66 / 1.00	49 / 0.99	32 / 0.99	15 / 0.99	N/R	N/R	N/R	N/R
	3/8"	7/8"	108	85	90	82	25 / 1.00	50 / 1.00	75 / 1.00	95 / 0.99	89 / 0.99	84 / 0.99	78 / 0.98	72 / 0.98	67 / 0.98	61 / 0.97
	1/2"	7/8"	54	43	45	41	25 / 1.00	50 / 1.00	75 / 1.00	100 / 0.99	100 / 0.99	100 / 0.99	100 / 0.98	100 / 0.98	100 / 0.98	100 / 0.97
3.5 Ton	3/8"	3/4"	150	102	75	75	25 / 0.99	50 / 0.98	75 / 0.97	88 / 0.96	80 / 0.95	72 / 0.94	65 / 0.92	57 / 0.91	49 / 0.90	N/R
	1/2"	3/4"	75	51	38	38	25 / 0.99	50 / 0.98	75 / 0.97	100 / 0.96	100 / 0.95	100 / 0.94	100 / 0.92	100 / 0.91	100 / 0.90	N/R
	3/8"	7/8"	150	102	75	75	25 / 1.00	50 / 1.00	75 / 0.99	88 / 0.99	80 / 0.99	72 / 0.98	65 / 0.97	57 / 0.97	49 / 0.96	42 / 0.96
	1/2"	7/8"	75	51	38	38	25 / 1.00	50 / 1.00	75 / 0.99	100 / 0.99	100 / 0.99	100 / 0.98	100 / 0.97	100 / 0.97	100 / 0.96	100 / 0.96

NOTES:
1. Do not exceed 200 ft linear line length.
2. *Do not exceed 100 ft vertical separation if outdoor unit is above indoor unit.
3. **3/4" suction line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor to assure proper oil return.
4. Always use the smallest liquid line allowable to minimize refrigerant charge.
5. Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
6. Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

NOTE: Values based on 105°F liquid temperature and 45°F evaporator temperature in cooling mode depending on size

Refrigerant Line Size Information (con't.)

13 - 16 SEER Single-Stage Air-Conditioners																
Unit Size	Allowable Liquid Line Size	Allowable Suction Line Size	Apply Long Line Guidelines if Linear Line Length Exceeds Those Shown Below (Feet)				Equivalent Length (Feet)									
							< 25	26-50	51-75	76-100	101-125	126-150	151-175	176-200	201-225	226-250
			(-)A13	(-)A14 A/B	(-)A14 W	(-)A16	Maximum Vertical Rise (Outdoor Unit Below Indoor Unit) * / Capacity Multiplier									
4 Ton	3/8"	3/4"	148	110	N/R	35	25 / 0.99	50 / 0.98	75 / 0.96	77 / 0.95	67 / 0.93	57 / 0.92	46 / 0.91	N/R	N/R	N/R
	1/2"	3/4"	74	55	N/R	18	25 / 0.99	50 / 0.98	75 / 0.96	100 / 0.95	100 / 0.93	100 / 0.92	100 / 0.91	N/R	N/R	N/R
	3/8"	7/8"	148	110	N/R	35	25 / 1.00	50 / 0.99	75 / 0.99	77 / 0.98	67 / 0.97	57 / 0.97	46 / 0.96	36 / 0.96	26 / 0.95	15 / 0.95
	1/2"	7/8"	74	55	N/R	18	25 / 1.00	50 / 0.99	75 / 0.99	100 / 0.98	100 / 0.97	100 / 0.97	100 / 0.96	100 / 0.96	99 / 0.95	97 / 0.95
5 Ton	3/8"	3/4"	78	0	N/R	0	25 / 0.99	50 / 0.97	75 / 0.94	61 / 0.92	46 / 0.90	N/R	N/R	N/R	N/R	N/R
	1/2"	3/4"	39	0	N/R	0	25 / 0.99	50 / 0.97	75 / 0.94	100 / 0.92	100 / 0.90	N/R	N/R	N/R	N/R	N/R
	3/8"	7/8"	78	0	N/R	0	25 / 1.00	50 / 0.99	75 / 0.98	61 / 0.97	46 / 0.96	32 / 0.95	18 / 0.94	N/R	N/R	N/R
	1/2"	7/8"	39	0	N/R	0	25 / 1.00	50 / 0.99	75 / 0.98	100 / 0.97	100 /0.96	100 / 0.95	97 / 0.94	95 / 0.94	92 / 0.93	89 / 0.92
	3/8"	1-1/8"	78	0	N/R	0	25 / 1.01	50 / 1.01	75 / 1.00	61 / 1.00	46 / 0.99	32 / 0.99	18 / 0.99	N/R	N/R	N/R
	1/2"	1-1/8"	39	0	N/R	0	25 / 1.01	50 / 1.01	75 / 1.00	100 /1.00	100 / 0.99	100 / 0.99	97 / 0.99	95 / 0.99	92 / 0.99	89 / 0.98

NOTES:
1. Do not exceed 200 ft linear line length.
2. *Do not exceed 100 ft vertical separation if outdoor unit is above indoor unit.
3. **3/4" suction line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor to assure proper oil return.
4. Always use the smallest liquid line allowable to minimize refrigerant charge.
5. Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
6. Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

NOTE: Values based on 105°F liquid temperature and 45°F evaporator temperature in cooling mode depending on size

Refrigerant Line Size Information (con't.)

13 - 16 SEER Single-Stage Air-Conditioners																
Unit Size	Allowable Liquid Line Size mm [in.]	Allowable Suction Line Size mm [in.]	Apply Long Line Guidelines if Linear Line Length Exceeds Those Shown Below (Feet)				Equivalent Length (Meters)									
							< 8	8-15	16-23	24-30	31-38	39-46	47-53	54-61	62-69	70-76
			(-)A13	(-)A14 A/B	(-)A14 W	(-)A16	Maximum Vertical Rise (Outdoor Unit Below Indoor Unit) * / Capacity Multiplier									
5.3 KW [1.5 Ton] **SEE NOTE 3	6.35 [1/4]	15.88 [5/8]	N/R	N/R	N/R	N/R	8 / 1.00	15 / 0.99	19 / 0.98	13 / 0.98	7 / 0.97	2 / 0.97	N/R	N/R	N/R	N/R
	7.94 [5/16]	15.88 [5/8]	N/R	68	60	57	8 / 1.00	15 / 0.99	23 / 0.98	30 / 0.98	28 / 0.97	27 / 0.97	25 / 0.96	24 / 0.96	22 / 0.95	21 / 0.94
	9.53 [3/8]	15.88 [5/8]	54	45	40	38	8 / 1.00	15 / 0.99	23 / 0.98	30 / 0.98	30 / 0.97	30 / 0.97	30 / 0.96	30 / 0.96	30 / 0.95	30 / 0.94
	6.35 [1/4]	19.05 [3/4]**	N/R	N/R	N/R	N/R	8 / 1.00	15 / 1.00	19 / 0.99	13 / 0.99	7 / 0.99	2 / 0.99	N/R	N/R	N/R	N/R
	7.94 [5/16]	19.05 [3/4]**	N/R	68	60	57	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	28 / 0.99	27 / 0.99	25 / 0.99	24 / 0.98	22 / 0.98	21 / 0.98
	9.53 [3/8]	19.05 [3/4]**	54	45	40	38	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	30 / 0.99	30 / 0.99	30 / 0.99	30 / 0.98	30 / 0.98	30 / 0.98
7.0 KW [2 Ton]	6.35 [1/4]	15.88 [5/8]	N/R	N/R	N/R	N/R	8 / 0.99	15 / 0.98	6 / 0.97	N/R	N/R	N/R	N/R	N/R	N/R	N/R
	7.94 [5/16]	15.88 [5/8]	74	59	53	53	8 / 0.99	15 / 0.98	23 / 0.97	27 / 0.96	23 / 0.95	21 / 0.94	19 / 0.93	16 / 0.92	14 / 0.91	11 / 0.90
	9.53 [3/8]	15.88 [5/8]	49	39	36	36	8 / 0.99	15 / 0.98	23 / 0.97	30 / 0.96	30 / 0.95	30 / 0.94	30 / 0.93	29 / 0.92	28 / 0.91	27 / 0.90
	6.35 [1/4]	19.05 [3/4]	N/R	N/R	N/R	N/R	8 / 1.00	15 / 1.00	6 / 0.99	N/R	N/R	N/R	N/R	N/R	N/R	N/R
	7.94 [5/16]	19.05 [3/4]	74	59	53	53	8 / 1.00	15 / 1.00	23 / 0.99	27 / 0.99	23 / 0.98	21 / 0.98	19 / 0.98	16 / 0.97	14 / 0.97	11 / 0.96
	9.53 [3/8]	19.05 [3/4]	49	39	36	36	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	30 / 0.98	30 / 0.98	30 / 0.98	29 / 0.97	28 / 0.97	27 / 0.96
8.8 KW [2.5 Ton]	7.94 [5/16]	15.88 [5/8]	N/R	N/R	34	34	8 / 0.99	15 / 0.98	23 / 0.96	21 / 0.94	18 / 0.93	15 / 0.91	11 / 0.90	N/R	N/R	N/R
	9.53 [3/8]	15.88 [5/8]	43	36	22	22	8 / 0.99	15 / 0.98	23 / 0.96	30 / 0.94	30 / 0.93	29 / 0.91	27 / 0.90	N/R	N/R	N/R
	7.94 [5/16]	19.05 [3/4]	65	53	34	34	8 / 1.00	15 / 0.99	23 / 0.99	21 / 0.98	18 / 0.98	15 / 0.97	11 / 0.96	8 / 0.96	4 / 0.95	N/R
	9.53 [3/8]	19.05 [3/4]	43	36	22	22	8 / 1.00	15 / 0.99	23 / 0.99	30 / 0.98	30 / 0.98	29 / 0.97	27 / 0.96	26 / 0.96	25 / 0.95	24 / 0.95
10.6 KW [3 Ton]	7.94 [5/16]	15.88 [5/8]	N/R	N/R	N/R	N/R	8 / 0.99	15 / 0.97	20 / 0.94	15 / 0.92	10 / 0.90	N/R	N/R	N/R	N/R	N/R
	9.53 [3/8]	15.88 [5/8]	33	26	27	25	8 / 0.99	15 / 0.97	23 / 0.94	29 / 0.92	27 / 0.90	N/R	N/R	N/R	N/R	N/R
	7.94 [5/16]	19.05 [3/4]	N/R	39	41	37	8 / 1.00	15 / 0.99	20 / 0.98	15 / 0.98	10 / 0.97	5 / 0.96	N/R	N/R	N/R	N/R
	9.53 [3/8]	19.05 [3/4]	33	26	27	25	8 / 1.00	15 / 0.99	23 / 0.98	29 / 0.98	27 / 0.97	26 / 0.96	24 / 0.95	22 / 0.94	20 / 0.93	19 / 0.93
	12.70 [1/2]	19.05 [3/4]	17	13	14	12	8 / 1.00	15 / 0.99	23 / 0.98	30 / 0.98	30 / 0.97	30 / 0.96	30 / 0.95	30 / 0.94	30 / 0.93	30 / 0.93
	7.94 [5/16]	22.23 [7/8]	N/R	39	41	37	8 / 1.00	15 / 1.00	20 / 1.00	15 / 0.99	10 / 0.99	5 / 0.99	N/R	N/R	N/R	N/R
	9.53 [3/8]	22.23 [7/8]	33	26	27	25	8 / 1.00	15 / 1.00	23 / 1.00	29 / 0.99	27 / 0.99	26 / 0.99	24 / 0.98	22 / 0.98	20 / 0.98	19 / 0.97
	12.70 [1/2]	22.23 [7/8]	17	13	14	12	8 / 1.00	15 / 1.00	23 / 1.00	30 / 0.99	30 / 0.99	30 / 0.99	30 / 0.98	30 / 0.98	30 / 0.98	30 / 0.97
12.3 KW [3.5 Ton]	9.53 [3/8]	19.05 [3/4]	46	31	23	23	8 / 0.99	15 / 0.98	23 / 0.97	27 / 0.96	24 / 0.95	22 / 0.94	20 / 0.92	17 / 0.91	15 / 0.90	N/R
	12.70 [1/2]	19.05 [3/4]	23	15	11	11	8 / 0.99	15 / 0.98	23 / 0.97	30 / 0.96	30 / 0.95	30 / 0.94	30 / 0.92	30 / 0.91	30 / 0.90	N/R
	9.53 [3/8]	22.23 [7/8]	46	31	23	23	8 / 1.00	15 / 1.00	23 / 0.99	27 / 0.99	24 / 0.99	22 / 0.98	20 / 0.97	17 / 0.97	15 / 0.96	13 / 0.96
	12.70 [1/2]	22.23 [7/8]	23	15	11	11	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	30 / 0.99	30 / 0.98	30 / 0.97	30 / 0.97	30 / 0.96	30 / 0.96

NOTES:
1. Do not exceed 61 meters linear line length.
2. *Do not exceed 30 meters vertical separation if outdoor unit is above indoor unit.
3. **19.05 mm [3/4 in.] suction line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor to assure proper oil return.
4. Always use the smallest liquid line allowable to minimize refrigerant charge.
5. Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
6. Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

[ ] Designates Metric Conversions

Refrigerant Line Size Information (con't.)

13 - 16 SEER Single-Stage Air-Conditioners																
Unit Size	Allowable Liquid Line Size	Allowable Suction Line Size	Apply Long Line Guidelines if Linear Line Length Exceeds Those Shown Below (Feet)				Equivalent Length (Meters)									
							< 8	8-15	16-23	24-30	31-38	39-46	47-53	54-61	62-69	70-76
			(-)A13	(-)A14 A/B	(-)A14 W	(-)A16	Maximum Vertical Rise (Outdoor Unit Below Indoor Unit) * / Capacity Multiplier									
14.1 KW [4 Ton]	9.53 [3/8]	19.05 [3/4]	45	34	N/R	11	8 / 0.99	15 / 0.98	23 / 0.96	24 / 0.95	20 / 0.93	17 / 0.92	14 / 0.91	NR	NR	NR
	12.7 [1/2]	19.05 [3/4]	23	17	N/R	5	8 / 0.99	15 / 0.98	23 / 0.96	30 / 0.95	30 / 0.93	30 / 0.92	30 / 0.91	NR	NR	NR
	9.53 [3/8]	22.23 [7/8]	45	34	N/R	11	8 / 1.00	15 / 0.99	23 / 0.99	24 / 0.98	20 / 0.97	17 / 0.97	14 / 0.96	11 / 0.96	8 / 0.95	5 / 0.95
	12.7 [1/2]	22.23 [7/8]	23	17	N/R	5	8 / 1.00	15 / 0.99	23 / 0.99	30 / 0.98	30 / 0.97	30 / 0.97	30 / 0.96	30 / 0.96	30 / 0.95	30 / 0.95
17.6 KW [5 Ton]	9.53 [3/8]	19.05 [3/4]	24	17	N/R	0	8 / 0.99	15 / 0.97	23 / 0.94	19 / 0.92	14 / 0.90	NR	NR	NR	NR	NR
	12.7 [1/2]	19.05 [3/4]	12	8	N/R	0	8 / 0.99	15 / 0.97	23 / 0.94	30 / 0.92	30 / 0.90	NR	NR	NR	NR	NR
	9.53 [3/8]	22.23 [7/8]	24	17	N/R	0	8 / 1.00	15 / 0.99	23 / 0.98	19 / 0.97	14 / 0.96	10 / 0.95	5 / 0.94	NR	NR	NR
	12.7 [1/2]	22.23 [7/8]	12	8	N/R	0	8 / 1.00	15 / 0.99	23 / 0.98	30 / 0.97	30 /0.96	30 / 0.95	30 / 0.94	29 / 0.94	28 / 0.93	27 / 0.92
	9.53 [3/8]	28.58 [1-1/8]	24	17	N/R	0	8 / 1.01	15 / 1.01	23 / 1.00	19 / 1.00	14 / 0.99	10 / 0.99	5 / 0.99	NR	NR	NR
	12.7 [1/2]	28.58 [1-1/8]	12	8	N/R	0	8 / 1.01	15 / 1.01	23 / 1.00	30 / 1.00	30 / 0.99	30 / 0.99	30 / 0.99	29 / 0.99	28 / 0.99	27 / 0.98

NOTES:

1. Do not exceed 61 meters linear line length.
2. *Do not exceed 30 meters vertical separation if outdoor unit is above indoor unit.
3. **19.05 mm [3/4 in.] suction line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor to assure proper oil return.
4. Always use the smallest liquid line allowable to minimize refrigerant charge.
5. Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
6. Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

[ ] Designates Metric Conversions

Performance Data @ AHRI Standard Conditions – Cooling

Tested Combination							
Outdoor Unit	**Indoor Coil**	**Total Capacity BTU/H [kW]**	**Net Sensible BTU/H [kW]**	**Net Latent BTU/H [kW]**	**SEER**	**EER**	**Indoor CFM [L/s]**
RA1418AJ1	RCF2417STA+RXMD-C04	17800 [5.2]	12100 [3.5]	5700 [1.7]	14.00	11.50	600 [283.2]
RA1424BJ1	RCF2417STA+RXMD-C04	23200 [6.8]	17500 [5.2]	5700 [1.7]	14.00	11.50	800 [376.0]
RA1430AJ1	RCF3617STA+RXMD-C04	28800 [8.4]	19500 [5.7]	9300 [2.7]	14.00	11.50	1000 [471.9]
RA1436AJ1	RCF3617STA+RXMD-C04	34200 [10.0]	23200 [6.8]	11000 [3.2]	14.00	11.50	1050 [495.5]
RA1436AC1	RCF3617STA+RXMD-C04	34200 [10.0]	23200 [6.8]	11000 [3.2]	14.00	11.50	1050 [495.5]
RA1436AD1	RCF3617STA+RXMD-C04	34200 [10.0]	23200 [6.8]	11000 [3.2]	14.00	11.50	1050 [495.5]
RA1442CJ1	RCF4821STA+RXMD-C04	39500 [11.6]	28900 [8.5]	10600 [3.1]	14.00	11.50	1350 [634.5]
RA1442CC1	RCF4821STA+RXMD-C04	39500 [11.6]	28900 [8.5]	10600 [3.1]	14.00	11.50	1350 [634.5]
RA1448AJ1	RCF4821STA+RXMD-C04	46000 [13.5]	31200 [9.1]	14800 [4.3]	14.00	11.70	1450 [684.3]
RA1448AC1	RCF4821STA+RXMD-C04	46000 [13.5]	31200 [9.1]	14800 [4.3]	14.00	11.70	1450 [684.3]
RA1448AD1	RCF4821STA+RXMD-C04	46000 [13.5]	31200 [9.1]	14800 [4.3]	14.00	11.70	1450 [684.3]
RA1460BJ1	RCF6024STA+RXMD-C04	55500 [16.3]	38100 [11.2]	17400 [5.1]	14.00	11.70	1525 [716.8]
RA1460AD1	RCF6024STA+RXMD-C04	55500 [16.3]	38100 [11.2]	17400 [5.1]	14.00	11.70	1525 [716.8]
RA1460BC1	RCF6024STA+RXMD-C04	55500 [16.3]	38100 [11.2]	17400 [5.1]	14.00	11.70	1525 [716.8]

Note: Additional ratings and system match ups can be accessed on MyRheem.com at: https://my.rheem.com/static/private/ahriresidential.html
Additional ratings and system match ups and downloadable ratings certificates can be accessed from the AHRI website: www.ahridirectory.org

[ ] Designates Metric Conversions

GUIDE SPECIFICATIONS

General

System Description

Outdoor-mounted, air-cooled, split-system air conditioner composite base pan unit suitable for ground or rooftop installation. Unit consists of a hermetic compressor, an air-cooled coil, propeller-type condenser fan, suction and legend line service valve, and a control box. Unit will discharge supply air upward as shown on contract drawings. Unit will be used in a refrigeration circuit to match up to a coil unit.

Quality Assurance

- — Unit will be rated in accordance with the latest edition of AHRI Standard 210.
- — Unit will be certified for capacity and efficiency, and listed in the latest AHRI directory.
- — Unit construction will comply with latest edition of ANSI/ASHRAE and with NEC.
- — Unit will be constructed in accordance with UL standards and will carry the UL label of approval. Unit will have c-UL-us approval.
- — Unit cabinet will be capable of withstanding ASTM B117 1000-hr salt spray test.
- — Air-cooled condenser coils will be leak tested at 150 psig and pressure tested at 550 psig.
- — Unit constructed in ISO9001 approved facility.

Delivery, Storage, and Handling

- — Unit will be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

Warranty (for inclusion by specifying engineer) — U.S. and Canada only.

Products

Equipment

Factory assembled, single piece, air-cooled air conditioner unit. Contained within the unit enclosure is all factory wiring, piping, controls, compressor, refrigerant charge R-410A, and special features required prior to field start-up.

Unit Cabinet

- — Unit cabinet will be constructed of galvanized steel, bonderized, and coated with a powder coat paint.
- — All units constructed with louver coil protection and corner post. Louver can be removed by removing one fastener per louver panel.

AIR-COOLED, SPLIT-SYSTEM AIR CONDITIONER
RA14
1-1/2 TO 5 NOMINAL TONS

Fans

- — Condenser fan will be direct-drive propeller type, discharging air upward.
- — Condenser fan motors will be totally enclosed, 1-phase type with class B insulation and permanently lubricated bearings. Shafts will be corrosion resistant.
- — Fan blades will be statically and dynamically balanced.
- — Condenser fan openings will be equipped with coated steel wire safety guards.

Compressor

- — Compressor will be hermetically sealed.
- — Compressor will be mounted on rubber vibration isolators.

Condenser Coil

- — Condenser coil will be air cooled.
- — Coil will be constructed of aluminum fins mechanically bonded to copper tubes.

Refrigeration Components

- — Refrigeration circuit components will include liquid-line shutoff valve with sweat connections, vapor-line shutoff valve with sweat connections, system charge of R-410A refrigerant, and compressor oil.
- — Unit will be equipped with filter drier for R-410A refrigerant for field installation.

Operating Characteristics

- — The capacity of the unit will meet or exceed _____ Btuh at a suction temperature of _____ °F/°C. The power consumption at full load will not exceed _____ kW.
- — Combination of the unit and the evaporator or fan coil unit will have a total net cooling capacity of _____ Btuh or greater at conditions of _____ CFM entering air temperature at the evaporator at _____ °F/°C wet bulb and _____ °F/°C dry bulb, and air entering the unit at _____ °F/°C.
- — The system will have a SEER of _____ Btuh/watt or greater at DOE conditions.

Electrical Requirements

- — Nominal unit electrical characteristics will be _____ v, single phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of _____ v to _____ v.
- — Nominal unit electrical characteristics will be _____ v, three phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of _____ v to _____ v.
- — Unit electrical power will be single point connection.
- — Control circuit will be 24v.

Special Features

- — Refer to section of this literature identifying accessories and descriptions for specific features and available enhancements.

GENERAL TERMS OF LIMITED WARRANTY*

Rheem will furnish a replacement for any part of this product which fails in normal use and service within the applicable period stated, in accordance with the terms of the limited warranty.

***For complete details of the Limited and Conditional Warranties, including applicable terms and conditions, contact your local contractor or the Manufacturer for a copy of the product warranty certificate.**

Conditional Parts
(Registration Required) .....Ten (10) Years

In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice.

Rheem Heating, Cooling & Water Heating • 5600 Old Greenwood Road
Fort Smith, Arkansas 72908 • www.rheem.com

Rheem Canada Ltd./Ltée • 125 Edgeware Road, Unit 1
Brampton, Ontario • L6Y 0P5

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CARLSBAD
CLOVIS
IRVINE
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

October 29, 2025

Candice Bowcock, Principal Planner
Community Development Department; City of La Verne
3660 "D" Street
La Verne, CA 91750

Subject: Brethren Hillcrest Gateway Project Trip Generation and Vehicle Miles Traveled Analysis Memorandum (LSA Project No. 20241974)

Dear Candice:

LSA Associates, Inc. (LSA) has prepared this Trip Generation and Vehicle Miles Traveled (VMT) Analysis memorandum (Memo) for the proposed Brethren Hillcrest Gateway Project (project) in City of La Verne (City), California. The proposed project includes ten units of continuing care retirement facilities. In detail, the project involves demolition of four residential homes which are not currently part of the Hillcrest Master Plan community and construction of seven single-family homes in their place, to be added to Neighborhood 5 of the Hillcrest Master Plan community with common area landscaping on 1.19 acres encompassing the North and South Gateway Sites. The project also includes renovation of three existing single-family residential units that would be incorporated into the Hillcrest Master Plan community.

The four residential units to be demolished include two single family homes (2692 Park Avenue and 2677 A Street) within the South Gateway, and two single family homes (2730 Park Avenue and 2712 Park Avenue) within the North Gateway. The seven residential units to be constructed include three single-family homes within the South Gateway and four single-family homes within the North Gateway. The three single-family residential units to be renovated are located at 2675, 2681 and 2683 A Street. Upon completion of the project, the North and South Gateway Sites would contain 10 dwelling units operating within a continuing care retirement community. The project would require a General Plan Amendment, Zone Change and Master Plan Amendment. Figure 1 (all figures and tables attached) illustrates the regional and project location. Figures 2a and 2b illustrate the conceptual site plans for the project's southern and northern parcels.

The objectives of this Memo are as follows:

- To estimate the trip generation for the proposed project and determine whether a detailed Level of Services (LOS) analysis will be required for the project; and
- To determine whether a detailed VMT analysis will be required for the proposed project.

TRIP GENERATION ANALYSIS

The City uses the *City of La Verne Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service* (TS Guidelines), dated August 2020 for traffic analysis purposes. According to the City's TS Guidelines, a detailed LOS analysis may not be required if the project is estimated to generate less than 100 peak hour trips overall and add fewer than 51 peak hour trips to any single intersection.

The trip generation for the proposed use utilized rates for Land Use 255 - "Continuing Care Retirement Community" from the Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 12th Edition, Setting/Location - "General Urban/Suburban." Table A summarizes the trip generation for the proposed project. The proposed project is anticipated to generate 2 trips in the a.m. peak hour, 2 trips in the p.m. peak hour, and 25 daily trips.

According to the City's TS Guidelines, an LOS analysis may not be required if the project generates fewer than 100 peak hour trips overall and adds fewer than 51 trips to any intersection during either the a.m. or p.m. peak hours. Since the proposed project is expected to generate below both the 51 peak hour trip threshold to any intersection and less than the 100 overall peak hour trip threshold, a detailed LOS analysis is not required for this project.

VEHICLE MILES TRAVELED ANALYSIS

On December 28, 2018, the California Office of Administrative Law cleared the revised California Environmental Quality Act (CEQA) Guidelines for use. Among the changes to the guidelines was the removal of vehicle delay and level of service as the sole basis of determining CEQA impacts. With the implementation of the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on VMT.

The proposed project is a continuing care retirement community which typically caters to the necessity and well-being of seniors and is expected to generate nominal traffic and VMT. As shown in Table A, the project is estimated to generate only 25 daily trips. It should be noted that ultimately, the project would result in a net increase in three units only. As such, this estimate provides a conservative estimate for project traffic and VMT.

Additionally, the project also proposes transportation services designed to cater to this continuing care retirement community. As such, the project would provide an on-call pick-up service that transports residents to the dining hall and other amenities via electric motorized cart. Additionally, a private bus service would provide transportation to local services such as banks, doctors' offices, pharmacies, grocery/retail, churches, the Metro Gold Line and Metrolink stations and regional bus stations. Also, the project is less than a quarter mile from Foothill Transit Bus Route 492 stops, that connects the cities of Montclair, Irwindale, El Monte, and points in-between with La Verne. The weekday peak period frequency/headway of this route is 20 minutes. Therefore, project patrons will have direct access to local transit options.

Overall, the project caters to the necessity and wellbeing of the residents and the community, provides ridesharing, and is expected to result in nominal amount of single occupancy vehicle travel. As such, the proposed project addresses several key issues and implements policies of SCAG's 2024-2050 RTP/SCS that reduce VMT and associated GHG emissions without generating a substantial increase in daily vehicle trips. Therefore, the project is anticipated to have a less than significant VMT impact.

If you have any questions, please do not hesitate to contact me at (951) 781-9310 or Ambarish.Mukherjee@lsa.net.

Sincerely,

LSA

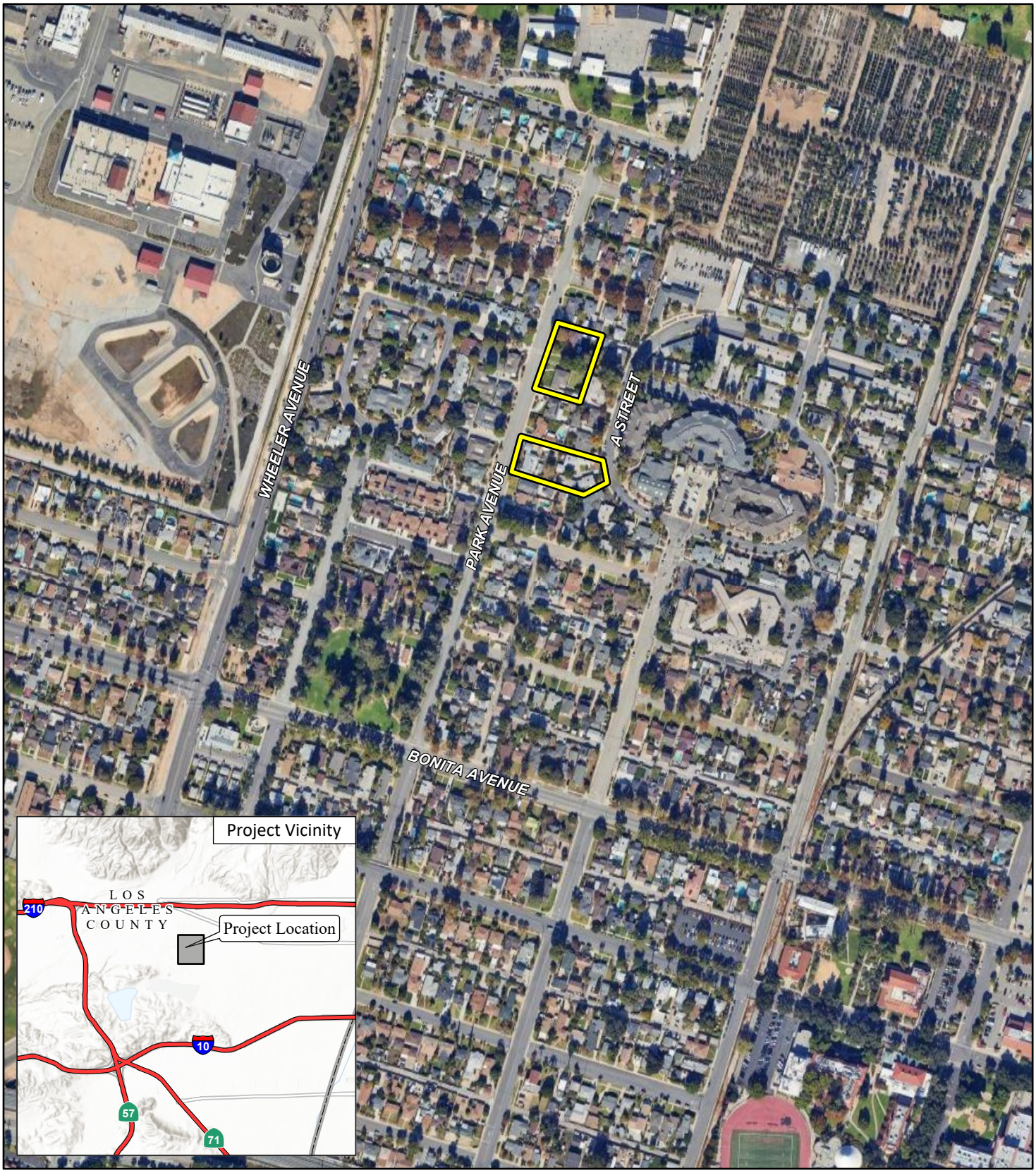


Ambarish Mukherjee, AICP, PE
Principal

Attachments:

Figure 1: Regional and Project Location
Figure 2a: Conceptual Site Plan- South Gateway
Figure 2b: Conceptual Site Plan- North Gateway
Table A: Project Trip Generation

FIGURES



LSA

Project Location

FIGURE 1

N

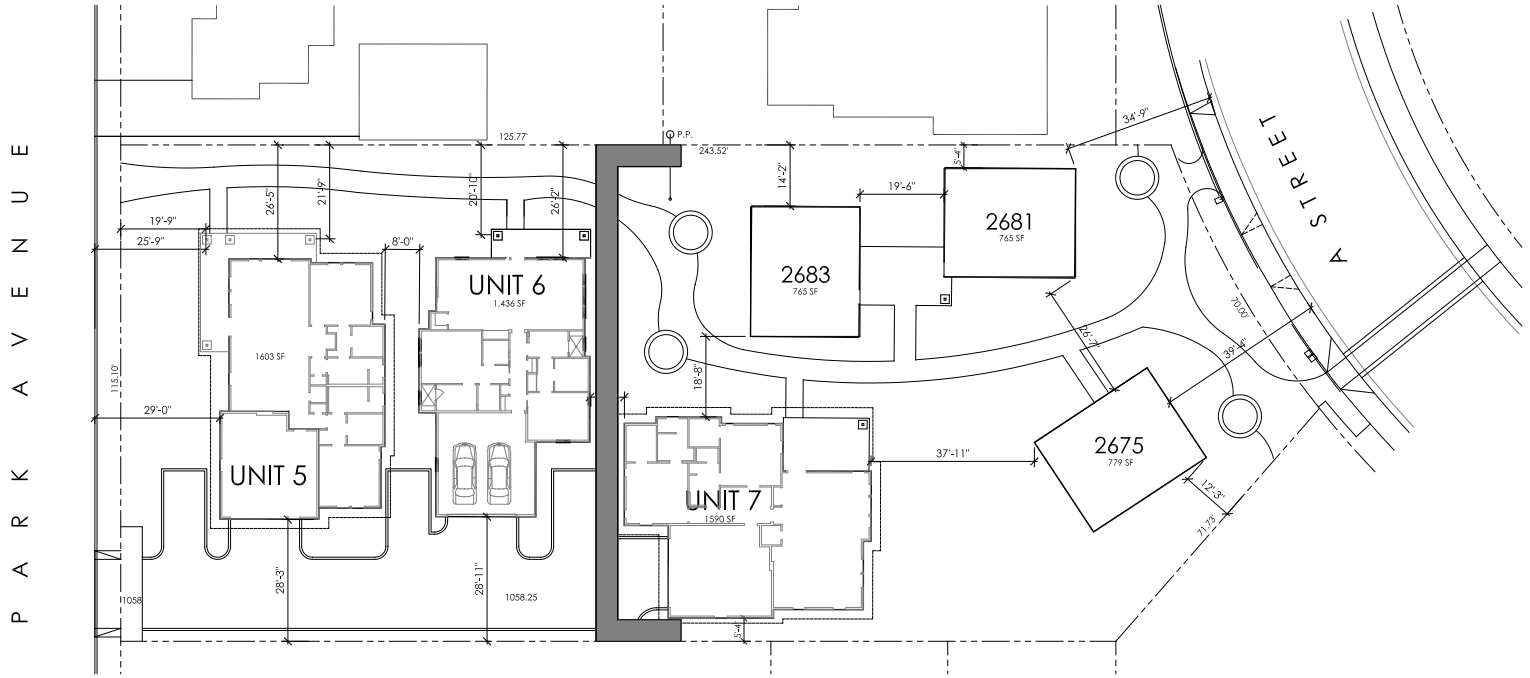
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FEET

SOURCE: ESRI Streetmap 2021, Google Maps Satellite, 2024

Brethren Hillcrest Gateway Project
Trip Generation and VMT Analysis Memorandum
Regional and Project Location

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LSA

FIGURE 2a

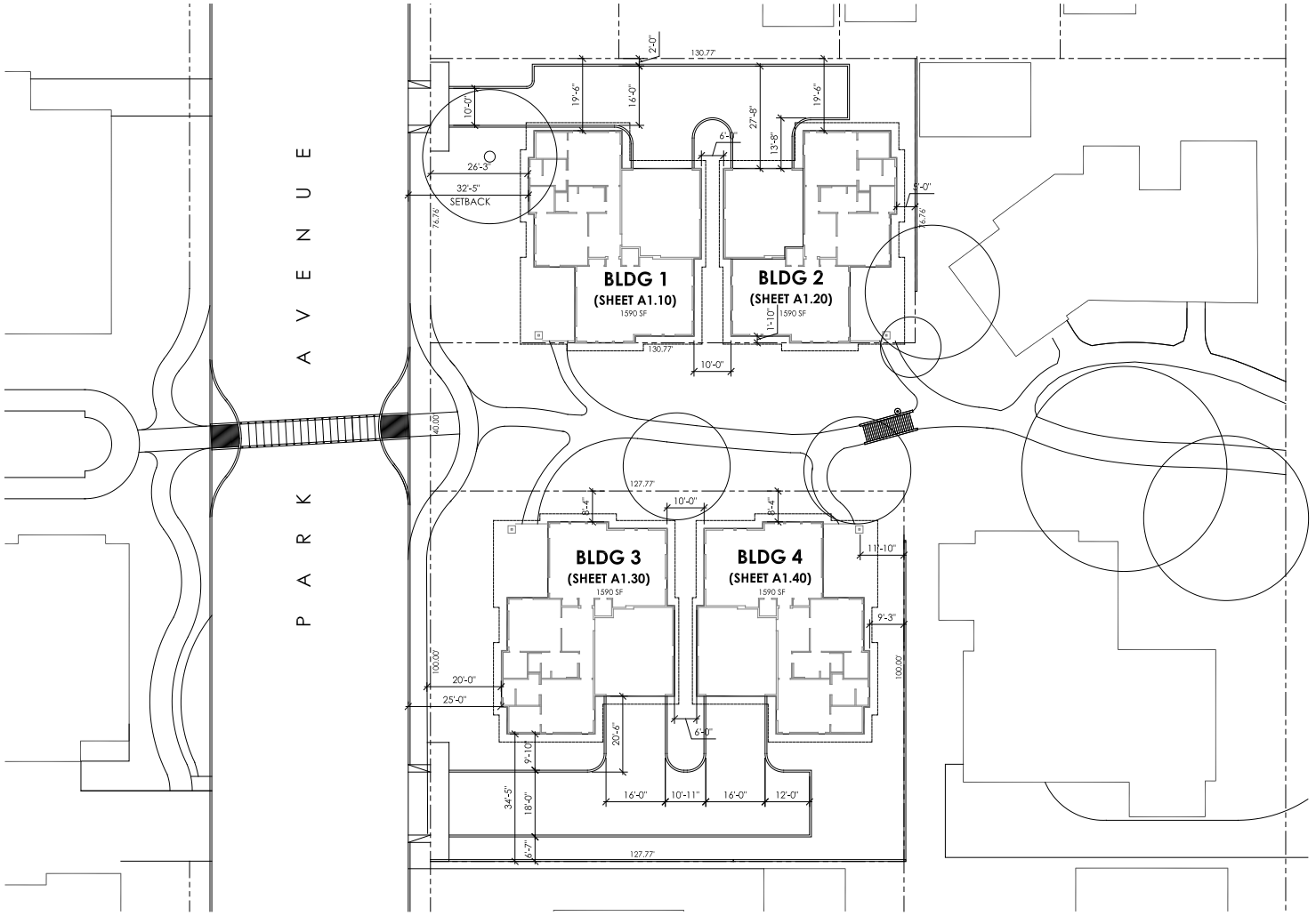
0 25 50
FEET

SOURCE: CEDG Architects

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Brethren Hillcrest Gateway Project

Proposed Conceptual Site Plan - South Gateway



LSA

FIGURE 2b

0 25 50
FEET

SOURCE: CEDG Architects

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Brethren Hillcrest Gateway Project

Proposed Conceptual Site Plan - North Gateway

TABLES

LSA

Table A - Project Trip Generation

Land Use	Units	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
Continuing Care Retirement Community	10 DU							
Trips/Unit[1]		0.10	0.06	0.16	0.07	0.12	0.19	2.52
Trip Generation		1	1	2	1	1	2	25
Project Trip Generation		**1**	**1**	**2**	**1**	**1**	**2**	**25**

Notes:

DU = Dwelling Unit

[1] Rates based on Land Use 255 - "Continuing Care Retirement Community" from the Institute of Transportation Engineers (ITE)*Trip Generation Manual*, 12th Edition, Setting/Location - "General Urban/Suburban."

MITIGATION MONITORING AND REPORTING PROGRAM
BRETHREN HILLCREST GATEWAY PROJECT

This Mitigation Monitoring and Reporting Program has been prepared for use in implementing mitigation for the:

Brethren Hillcrest Gateway Project
Case Nos. 88-25GPA, 27-25ZC, 26-25MPA, 25-25PM, 103-25PM, and 24-25PPR

The program has been prepared in compliance with State law and the Mitigated Negative Declaration (MND) prepared for the project by the City of La Verne (City).

The California Environmental Quality Act (CEQA) requires adoption of a reporting or monitoring program for those measures placed on a project to mitigate or avoid significant effects on the environment (Public Resource Code Section 21081.6). The law states the reporting or monitoring program shall be designed to ensure compliance during project implementation.

The monitoring program contains the following elements:

1) The mitigation measures are recorded with the action and procedure necessary to ensure compliance. In some instances, one action may be used to verify implementation of several mitigation measures.

2) A procedure for compliance and verification has been outlined for each action necessary. This procedure designates who will take action, what action will be taken and when, and to whom and when compliance will be reported.

3) The program has been designed to be flexible. As monitoring progresses, changes to compliance procedures may be necessary based upon recommendations by those responsible for the program. As changes are made, new monitoring compliance procedures and records will be developed and incorporated into the program.

This Mitigation Monitoring and Reporting Program includes mitigation identified in the MND.

MITIGATION MONITORING AND RESPONSIBILITIES

As the Lead Agency, the City is responsible for ensuring full compliance with the mitigation measures adopted for the proposed project. The City will monitor and report on all mitigation activities. Mitigation measures will be implemented at different stages of development throughout the project site. In this regard, the responsibilities for implementation have been assigned to the Applicant, Contractor, or a combination thereof. If during the course of project implementation, any of the mitigation measures identified herein cannot be successfully implemented, the City shall be immediately informed, and the City will then inform any affected responsible agencies. The City, in conjunction with any affected responsible agencies, will then determine if modification to the project is required and/or whether alternative mitigation is appropriate.

REGULATORY COMPLIANCE MEASURES

Regulatory Compliance Measures are presented in instances where the proposed project would not create a significant impact but would be required to adhere to regulatory requirements in order to ensure impacts do not become significant. Regulatory Compliance Measures outline compliance with various federal, State, and/or local acts, laws, rules, regulations, municipal codes, etc.

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MITIGATION MONITORING AND REPORTING PROGRAM CHECKLIST

Project Name: Brethren Hillcrest Gateway Project **Applicant: Brethren Hillcrest Homes**
Date: November 1, 2025

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
Biological Resources					
MITIGATION MEASURE BIO-1: Vegetation removal shall be conducted outside of the nesting season (February 1, or January 1 for raptors, through September 15). If avoidance of the nesting season is not feasible, then a qualified biologist hired by the project Applicant and approved by the City of La Verne's Community Development Director or designee shall conduct a nesting bird survey within three days prior to any disturbance of the site, including demolition activities, tree removal, and/or grading. If a special-status species is located during the survey, consultation with the local California Department of Fish and Wildlife (CDFW) representative shall occur to determine what avoidance actions are required. The qualified biologist shall instruct construction personnel on the sensitivity of the area. If an active avian nest is identified, the biologist shall be present to delineate the boundaries of a 100-foot exclusionary buffer area and monitor the active nest to ensure that nesting behavior is not adversely affected by construction activities. Construction activities must occur outside of the exclusionary buffer around the active nest. For listed and raptor species, this buffer may be expanded to up to 500 feet from the active nest at the discretion of the qualified biologist in consultation with the City Community Development Director or designee and CDFW.	Community Development Director or designee	Prior to the issuance of demolition and grading permits; during demolition and grading activities; upon completion of construction monitoring	Evidence to the City: 1) the required pre-construction surveys have been completed 2) consultation (as applicable) with the California Department of Fish and Wildlife has occurred 3) the establishment and maintenance (as applicable) of appropriate buffer(s) 4) final report of findings submitted to the Community Development Director or designee		Withhold demolition and/or grading permit, and/or issuance of a stop work order

Project Name: Brethren Hillcrest Gateway Project **Applicant: Brethren Hillcrest Homes**
Date: November 1, 2025

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
The biologist shall have the authority to temporarily halt construction if it occurs within an established avian buffer or if new nesting activity occurs and a new buffer is required. Encroachment into buffers around active nests shall be conducted only at the discretion of the biologist. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, construction activities within the buffer area may occur or resume. Upon completion of construction monitoring, the biologist shall prepare a report of findings documenting the results of the recommended protective measures described above to document compliance with applicable State and federal laws pertaining to the protection of nesting birds. This measure shall be implemented to the satisfaction of the City Community Development Director or designee.					
CULTURAL RESOURCES					
MITIGATION MEASURE CUL-1: Prior to the issuance of a demolition permit for the structures located at 2712 Park Avenue, the project Applicant shall submit to the City for review and approval, information related to the provision of a commemorative plaque to be constructed at this address for this property. This information shall describe the type, style, location, and content of the plaque. The plaque shall be mounted permanently near the sidewalk or other location on the property where it is easy for the public to see and read and shall include a depiction of the residence and a summary about Ollie Riley inventing and manufacturing the Chrondek timer in the kitchen and garage of the property in 1953-1954. The plaque shall also indicate that additional information can be	Community Development Director or designee	Prior to the issuance of demolition permit and building permit	Evidence to the City: information describing the type, style, location, and content of the commemorative plaque is included on all construction plans, pages, and sheets		Withhold demolition permit or building permit

Project Name: Brethren Hillcrest Gateway Project **Applicant: Brethren Hillcrest Homes**
Date: November 1, 2025

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
found at the City Clerk's office. Prior to the issuance of building permits, the project Applicant shall submit evidence to the City that the commemorative plaque, as reviewed and approved by the City, has been incorporated into the project design. This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director, or designee.					
MITIGATION MEASURE CUL-2: Prior to the issuance of a demolition permit for the structures located at 2712 Park Avenue, the project Applicant shall submit evidence to the City that the California Department of Parks and Recreation (DPR) forms 523A (Primary Record), 523B (Building, Structure, and Object Record), 523L (Continuation Sheet), and 523J (Location Map) for 2712 Park Avenue have been offered and/or provided to the La Verne Public Library (local history collection). In addition, this documentation shall be offered to the La Verne Historical Society, Pomona Public Library, Pomona Historical Society, the National Hot Rod Association (NHRA) Motorsports Museum, and/or similar groups and institutions identified by the City. This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director, or designee.	Community Development Director or designee	Prior to the issuance of demolition permit	Evidence to the City: California Department of Parks and Recreation 523 Forms 523A (Primary Record), 523B (Building, Structure, and Object Record), 523L (Continuation Sheet), and 523J (Location Map) have been offered to the La Verne Public Library and similar institutions/groups by the City		Withhold demolition permit
MITIGATION MEASURE CUL-3: In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior	Community Development Director or designee	During grading and construction activities	Evidence to the City: a qualified archaeologist has been retained to assess discovery, and		Issuance of a stop work order

Project Name: Brethren Hillcrest Gateway Project **Applicant: Brethren Hillcrest Homes**
Date: November 1, 2025

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed within MM TCR-1, regarding any pre-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment. This measure shall be implemented to the satisfaction of the City of La Verne's Community Development Director or designee.			coordination with the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) regarding the nature of the find		
MITIGATION MEASURE CUL-4: If significant pre-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to YSMN for review and comment, as detailed within MM TCR-1. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly. This measure shall be implemented to the satisfaction of the City of La Verne's Community Development Director or designee.	Community Development Director or designee	During grading and construction activities	Evidence to the City: 1) preparation of a Monitoring and Treatment Plan, provided to YSMN for review and comment 2) a qualified archaeologist has been retained to monitor the remainder of the project		Issuance of stop work order
MITIGATION MEASURE CUL-5: 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 enforced for the duration of the project. This measure shall be implemented to	Community Development Director or designee	During grading and construction activities	Evidence to the City: Coordination with the County Coroner as necessary		Issuance of stop work order

Project Name: Brethren Hillcrest Gateway Project **Applicant: Brethren Hillcrest Homes**
Date: November 1, 2025

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
the satisfaction of the City of La Verne's Community Development Director or designee.					
GEOLOGY AND SOILS					
MITIGATION MEASURE GEO-1: Prior to issuance of grading permits, the City shall verify that the following note is included on all grading plans: "If any suspected paleontological resources (fossils) are discovered during ground-disturbing activities, the construction supervisor shall halt work within a 60-foot radius around the find and establish an exclusionary buffer. Construction personnel shall not collect or move any suspected paleontological materials or further disturb any soils within the exclusionary buffer, but construction activity may continue unimpeded on other portions of the project sites. Construction activity shall not resume within the exclusionary buffer until a qualified paleontologist (defined as an individual with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least one year) can assess the significance of the find. If the paleontologist determines the find is not a paleontological resource, no further evaluation shall be required within the exclusionary buffer, and construction activity shall be allowed to resume therein. However, if the paleontologist determines the find is a paleontological resource, construction activity shall not resume within the exclusionary buffer, and **Mitigation Measure GEO-2** shall apply." This measure shall be implemented to the	Community Development Director or designee	Prior to issuance of grading permits	Evidence to the City: grading plans include instructions in the event a paleontological resource is detected		Withhold grading permit

Project Name: Brethren Hillcrest Gateway Project **Applicant: Brethren Hillcrest Homes**
Date: November 1, 2025

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
satisfaction of the City of La Verne's Community Development Director or designee.					
MITIGATION MEASURE GEO-2: If the qualified paleontologist determines paleontological resources are encountered on the project sites, the paleontologist shall prepare a Paleontological Resource Impact Mitigation Plan to be implemented during the balance of ground-disturbing activities. Implementation of the Paleontological Resource Impact Mitigation Plan shall include (but not be limited to) the following: • Review of project-specific geotechnical report data, with particular regard to location and depth of earthmoving and the rock unit(s) encountered; • Development of a formal agreement between the project proponent and the San Bernardino County Museum, Natural History Museum of Los Angeles County, Western Science Center, San Diego Natural History Museum, or Riverside Municipal Museum for the final disposition and permanent storage and maintenance of any fossil collections and associated data. Should any of these facilities choose not to accept the fossil collections and associated data, the project Applicant shall consult with the Bonita Unified School District or other educational institution to offer the fossil collections and associated data for donation; • The construction schedule, term/schedule of on-site paleontological monitor(s) and the extent of areas and activities to be monitored;	Community Development Director or designee	During construction	Evidence to the City: 1) preparation of a Paleontological Resource Impact Mitigation Plan 2) appropriate buffer areas have been established 3) formal agreement between the project proponent and appropriate repository for fossils 4) submittal of required evaluation and report by a qualified paleontologist to the City.		Issuance of a stop work order

Project Name: Brethren Hillcrest Gateway Project **Applicant: Brethren Hillcrest Homes**
Date: November 1, 2025

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
• Authority of paleontological monitor(s) to temporarily redirect construction activity in the vicinity of any paleontological discovery; • Procedures for the evaluation and option to recover large fossil specimens and for the evaluation, recovery, and processing of small fossil specimens; • Fossil specimen preparation, identification to the lowest taxonomic level possible, curation, and cataloging; and • A report of findings. The paleontologist shall monitor remaining ground-disturbing activities in native soils at the project sites and shall be equipped to record and salvage fossil resources that may be unearthed during construction. The paleontologist shall temporarily halt or divert construction equipment to allow recording and removal of the unearthed resources. Any fossils found shall be offered for curation at a curation facility approved by the City. A report of findings, including, when appropriate, an itemized inventory of recovered specimens and a discussion of their significance, shall be prepared upon completion of the steps outlined above. The report and inventory, when submitted to and approved by the appropriate lead agency, will signify completion of the program to mitigate impacts on paleontological resources. This measure shall be implemented to the satisfaction of the City of La Verne's Community Development Director or designee.					

Project Name: Brethren Hillcrest Gateway Project **Applicant: Brethren Hillcrest Homes**
Date: November 1, 2025

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
NOISE					
MITIGATION MEASURE NOI-1: During construction, the following measures shall be implemented to reduce construction noise to within the standards established in Section 8.20.050 of the City's Municipal Code. • **Temporary Construction Barriers for Mobile Construction Equipment.** The construction contractor shall erect a minimum 10-foot-high temporary construction barrier at the project construction boundary of the North Gateway site on all sides and South Gateway site on the north, southeast, and south side. The barriers shall be continuous with no gaps or holes and may be any material that has a minimum Sound Transmission Class (STC) rating of 28. • **Smart back-up alarms.** The construction contractor shall ensure construction vehicles are equipped with smart back-up alarms that automatically adjust the sound level of the alarm in response to ambient noise levels or, alternatively, employ human spotters to ensure safety when mobile construction equipment is moving in reverse in lieu of back-up alarms. This measure shall be implemented to the satisfaction of the City of La Verne Building Official and City Community Development Director, or designee.	City Building Official and Community Development Director, or designee	During demolition, grading, and construction	Evidence to the City: 1) temporary construction barrier is properly staged 2) construction equipment is in proper working order		Issuance of stop work order

Project Name: Brethren Hillcrest Gateway Project **Applicant: Brethren Hillcrest Homes**
Date: November 1, 2025

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
MITIGATION MEASURE NOI-2: Prior to issuance of an occupancy permit, the City Director of Development Services, or designee, shall verify that the proposed project has obtained from an acoustical engineer a memorandum confirming that the heating, ventilation, and air conditioning (HVAC) equipment would comply with Item No. 2 under PS-7 Action in the City's General Plan Update Public Safety Element and Section 8.20.20 of the City Noise Ordinance. Pursuant to Item No. 2 under PS-7 Action in the City's General Plan Update Public Safety Element and Section 8.20.20 of the City Noise Ordinance, noise generated from HVAC equipment shall not exceed 55 A-weighted decibels (dBA) during daytime hours and 50 dBA during nighttime hours at the neighboring residential property. This measure shall be implemented to the satisfaction of the City Community Development Director, or designee.	City Building Official and Community Development Director, or designee	Prior to issuance of an occupancy permit	Evidence to the City: heating, ventilation, and air conditioning (HVAC) equipment would comply with Section 12.08.530 of the Los Angeles County Noise Ordinance		Withhold occupancy permit
MITIGATION MEASURE NOI-3: The construction contractor shall prohibit large bulldozers and loaded trucks, or require the use of light construction equipment (e.g., small bulldozers and trucks), within 12 feet of any existing residential structure. Additionally, the construction contractor shall probit the use of jackhammers or require the use of hand tools within six feet of an existing residential structure. This measure shall be implemented to the satisfaction of the City of La Verne Building Official and City Community Development Director, or designee.	City Building Official and Community Development Director, or designee	During demolition, grading, and construction	Evidence to City: light construction equipment and hand tools are used in proximity to existing residential structures		Issuance of stop work order

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TRIBAL CULTURAL RESOURCES					
MITIGATION MEASURE TCR-1: The Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN) shall be contacted, as detailed in **MM CUL-1**, of any pre-contact cultural resources discovered during project implementation and be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a Cultural Resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with YSMN, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents YSMN for the remainder of the project, should YSMN elect to place a monitor on-site. This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director, or designee.	Community Development Director or designee	During ground-disturbing activities	Evidence to the City: 1) YSMN has been provided information of any pre-contact cultural resources discovered during ground-disturbing activities 2) preparation of a Cultural Resources Monitoring and Treatment Plan 3) a YSMN monitor has been retained to be present during remaining ground-disturbing activities		Issuance of a stop work order
MITIGATION MEASURE TCR-2: Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency (i.e., City of La Verne) for dissemination to YSMN. The Lead Agency and/or applicant shall, in good faith, consult with YSMN throughout the life of the project. This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director, or designee.	Community Development Director or designee	During ground-disturbing activities	Evidence to the City: archaeological/cultural documents prepared for the project would be supplied to the project applicant and City for dissemination to YSMN		Issuance of a stop work order

REGULATORY COMPLIANCE MEASURES

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GEOLOGY AND SOILS					
REGULATORY COMPLIANCE MEASURE GEO-1: Prior to issuance of grading and/or building permits, the project Applicant shall provide evidence to the City for review and approval that proposed structures, features, and facilities have been designed and will be constructed in conformance with applicable provisions of the 2022 edition of the California Building Code (CBC) or the most current edition of the CBC in effect at the time the project Applicant's development application is deemed complete by the City. Additionally, the project Applicant shall provide evidence to the City that the recommendations cited in the project-specific Geotechnical Investigation are incorporated into project plans and/or implemented as deemed appropriate by the City. Geotechnical recommendations include, but are not limited to, removal of existing vegetation, structural foundations, floor slabs, utilities, septic systems, and any other surface and subsurface improvements that would not remain in place for use with the new development. Remedial earthwork, overexcavation, and ground improvement shall occur to depths specified in the Geotechnical Investigation to provide a sufficient layer of engineered fill or densified soil beneath the structural footings/foundations, as well as proper surface drainage devices and erosion control. Expansion index and plasticity index testing will be required at the completion of rough grading to verify the properties of the near-surface soils. Fill	Community Development Director or designee	Prior to the issuance of grading and/or building permits	Evidence to the City: 1) design-level plans comply with California Building Code in effect at the time of development application submittal 2) design-level geotechnical/soils/geologic report has been prepared and recommendations are incorporated as applicable 3) verification testing has been conducted by a California-licensed structural engineer		Withhold grading and/or building permits

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soils shall consist of very low expansive soils. Construction of concrete structures in contact with subgrade soils determined to be corrosive shall include measures to protect concrete, steel, and other metals. A California-licensed structural engineer must conduct verification testing upon completion of ground improvements to confirm that the compressible soils have been sufficiently densified. Additionally, the structural engineer must determine the ultimate thickness and reinforcement of the building floor slabs based on the imposed slab loading and verify seismic design parameters in accordance with American Society of Civil Engineers (ASCE) 7-16 Section 11.4.8. This measure shall be implemented to the satisfaction of the City Director of Building and Safety or designee.					
HAZARDS AND HAZARDOUS MATERIALS					
REGULATORY COMPLIANCE MEASURE HAZ-1: A comprehensive asbestos-containing materials (ACM) survey and lead-based materials (LBM) survey shall be completed prior to demolition or renovation of 2692 Park Avenue, 2675 A Street, 2677 A Street, 2681 A Street, and 2683 A Street within the South Gateway Site. If the ACM survey reveals any manufactured construction material that contains less than one percent asbestos by weight pursuant to Title 8, CCR Section 1529: Asbestos and if the LBM survey reveals lead levels below 0.7 milligram per square centimeter pursuant to Los Angeles County Code Title 11, Chapter 11.28, Section 11.28.010(c), no further survey or remedial work is required. However, if ACM greater than one percent asbestos by weight are identified within	Community Development Director or designee, and/or Building and Safety Division, or designee.	Prior to demolition or renovation	Evidence to the City: asbestos report/disposal plan, a lead-based materials report/disposal plan, and SCAQMD-approved disposal tickets to the City		Withhold demolition or renovation permit

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structures proposed for renovation or demolition, **Regulatory Compliance Measure HAZ-2** shall apply. Furthermore, if lead levels at or above 0.7 milligram per square centimeter are identified, **Regulatory Compliance Measure HAZ-3** shall apply. This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director or designee, and/or Building and Safety Division, or designee.					
REGULATORY COMPLIANCE MEASURE HAZ-2: Prior to the demolition of 2730 Park Avenue and 2712 Park Avenue within the North Gateway Site, as well as demolition or renovation of any of the properties within the South Gateway Site determined under **Regulatory Compliance Measure HAZ-1** to contain ACM, all ACM shall be abated from the demolition sites. An Asbestos Notification shall be prepared and submitted to the South Coast Air Quality Management District (SCAQMD) for approval before any asbestos abatement may commence. The contractor shall provide a construction and demolition plan with disposal tickets from an SCAQMD-approved disposal facility and air clearances prior to final inspection, and an asbestos report shall be provided to the City prior to the issuance of a demolition or renovation permit. This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director or designee, and/or Building and Safety Division, or designee.	Community Development Director or designee, and/or Building and Safety Division, or designee.	Prior to demolition or renovation	Evidence to the City: 1) asbestos notification submitted to SCAQMD 2) construction/demolition plan with disposal tickets from SCAQMD-approved disposal facility and air clearances 3) asbestos report provided to the City		Withhold demolition or renovation permit
REGULATORY COMPLIANCE MEASURE HAZ-3: Prior to the demolition of 2730 Park Avenue and 2712 Park Avenue within the North Gateway Site, as well as demolition or renovation of any of the properties within the South Gateway Site	Community Development Director or designee, and/or Building	Prior to demolition or renovation	Evidence to the City: 1) construction/demolition plan with disposal tickets from SCAQMD-approved		Withhold demolition permit

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determined under **Regulatory Compliance Measure HAZ-1** to contain LBP, all LBM shall be abated from the demolition site with lead levels at or above 0.7 milligram per square centimeter shall be abated from the demolition site. Furthermore, California Department of Health lead certified staff would be required for all abatement work. The contractor shall provide a construction and demolition plan with disposal tickets from a South Coast Air Quality Management District-approved disposal facility and air clearances prior to final inspection, and a lead report shall be provided to the City prior to the issuance of a demolition or renovation permit. This measure shall be implemented to the satisfaction of the City of La Verne Community Development Director or designee, and/or Building and Safety Division, or designee.	and Safety Division, or designee.		disposal facility and air clearances 2) lead report provided to the City		
HYDROLOGY AND WATER QUALITY					
REGULATORY COMPLIANCE MEASURE HYD-1: Prior to issuance of a grading permit, the Applicant shall obtain coverage under the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction and Land Disturbance Activities, Order No. 2022-0057-DWQ, NPDES No. CAS000002 (Construction General Permit). This shall include submission of Permit Registration Documents (PRDs), including a Notice of Intent for coverage under the permit to the SWRCB via the Stormwater Multiple Application and Report Tracking System (SMARTS). The Applicant shall provide the Waste Discharge Identification Number (WDID) to the	Public Works Department and/or the Community Development Director, or designee	Prior to the issuance of demolition and grading permits and during construction	Evidence to the City: 1) submission of Permit Registration Documents (PRDs) 2) filing of the Notice of Intent with the Regional Water Quality Control Board via submittal of a copy of the Waste		Withhold demolition and/or grading permit and/or issuance of a stop work order

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Director of the City of La Verne Public Works Department and the Community Development Director or designee, to demonstrate proof of coverage under the Construction General Permit. Project construction shall not be initiated until a WDID is received from the SWRCB and is provided to the City, or designee. A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented for the proposed project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify Construction Best Management Practices (BMPs) to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities. Upon completion of construction and stabilization of the site, a Notice of Termination shall be submitted via SMARTS.			Discharger's Identification Number to the City 3) preparation of a Stormwater Pollution Prevention Plan, identifying Construction Best Management Practices (BMPs) 4) submission of a Notice of Termination via SMARTS		
REGULATORY COMPLIANCE MEASURE HYD-2: Prior to issuance of a grading permit, the Applicant shall submit Standard Urban Stormwater Mitigation Plan (SUSMP) to the City of La Verne for review and approval. The SUSMP shall demonstrate that the proposed development plan includes BMPs for source control, pollution prevention, site design, low impact development (LID) implementation, and structural treatment control. Best Management Practices (BMPs) shall be designed and implemented consistent with the requirements outlined in the project-specific LID Studies and Los Angeles County's LID Standards Manual. Periodic maintenance of any required bioretention basin and landscaped areas during project occupancy and operation shall be in accordance with the schedule outlined in the SUSMP. This condition shall be	Public Works Department and/or the Community Development Director, or designee	Prior to the issuance of grading permits	Evidence to the City: Submission of a Standard Urban Stormwater Mitigation Plan (SUSMP) to the City		Withhold grading permit

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implemented to the satisfaction of the Director of the City of La Verne Public Works Department and the Community Development Director or designee, as appropriate.					
NOISE					
REGULATORY COMPLIANCE MEASURE NOI-1: Prior to and during construction, the following measures shall be implemented to reduce construction noise to within the standards established in Section 8.20.050 of the City's Municipal Code. • **Construction Noise Management Plan.** The project Applicant in consultation with the construction contractor shall prepare and submit to the City of La Verne Community Development Department a construction noise management plan that details the proper posting of construction schedules, appointment of a noise disturbance coordinator, and methods for assisting in noise reduction measures pursuant to Section 8.20.050 of the City's Municipal Code because noise-sensitive receptors are located 200 feet or less from the project sites. • **Construction Hours.** The construction contractor shall limit construction activities to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between the hours of 8:00 a.m. and 6:00 p.m. on Saturdays pursuant to Section 8.20.050 of the City's Municipal Code. Construction activities are prohibited outside of these hours and any time	Community Development Director, or designee	Prior to and during construction	Evidence to the City: 1) preparation of a construction noise management plan 2) construction is prohibited outside of permissible hours, Sundays, and holidays 3) noise control techniques shall be used wherever feasible		Withhold grading permit and/or issuance of a stop work order

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on Sundays and legal holidays. • **Best Available Noise Control Techniques.** The construction contractor shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) for all construction equipment and trucks wherever feasible. • **Temporary power poles.** The construction contractor shall use temporary power poles instead of generators where feasible. • **Electrically Powered Tools.** To the extent practicable, electrical power shall be used to run air compressors and similar power tools, which shall be equipped with external jackets on the tools themselves whenever feasible. This measure shall be implemented to the satisfaction of the City of La Verne Building Official and City Community Development Director, or designee.					