Exhibit B –

Environmental Documents

(ENV-2022-7048-CE)

CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING
CITY HALL 200 NORTH SPRING STREET LOS ANGELES CA 90012

Categorical Exemption

1200 Vine Project

Environmental Case Number: ENV-2022-7048-CE
Related Case Number: CPC-2022-7047-CU-DB-SPR-HCA

Project Location: 1200, 1204, 1214, 1218 N. Vine Street and 6245, 6247 W. Lexington Avenue, Los Angeles, CA 90038

Community Plan Area: Hollywood Community Plan

Council District: 13

Project Description: The Project Site is located on the northeast corner of Vine Street and Lexington Avenue, in the Hollywood Community Plan of the City of Los Angeles, 90038 in the County of Los Angeles. The Project Site contains two buildings with a total of 27,011 square feet. Both buildings are vacant. The Project would construct a new mixed-use 8-story building with 153 residential dwelling units and 7,000 square feet of ground floor commercial (assuming a high-turnover sit-down restaurant with 235 seats.

Discretionary entitlements required to implement the Project will include, but are not necessarily limited to, the following: **Density Bonus (DB),** pursuant to LAMC Section 12.22 A.25(g)(3), approval of a Density Bonus Application for a project having 153 residential dwelling units, including 18 units reserved for Very Low Income households (17% of the base units, or 11 percent of the total number of units), with the following Off-Menu Incentives: **Off-Menu Incentive**, for an increase in the Floor Area Ratio (FAR) to 3.51:1 in lieu of the otherwise allowable maximum of 0.5:1 in the C2-1D Zone, as restricted by Ordinance Number 164,692; **Off-Menu Incentive,** for a decrease in the required rear yard to allow 10 feet in lieu of 20 feet required in the C2-1D Zone; and **Off-Menu Incentive,** for a decrease in the required side yard to allow 0 feet in lieu of 10 feet required in the C2-1D Zone. **Conditional Use** permit **(CU)**, pursuant to LAMC Section 12.24 U.26, for a Conditional Use permit to allow a 15 percent increase in density beyond the maximum 35 percent permitted in LAMC Section 12.22 A.25, for a total increase in density of 50% to provide a total of 153 residential dwelling units, setting aside 17% of its base density units for Very Low Income Households. **Site Plan Review (SPR)** pursuant to LAMC Section 16.05, for a development project that results in an increase of 50 or more dwelling units and/or guest rooms. **Class 32 Categorical Exemption,** pursuant to the State of California Environmental Quality Act and CEQA Guidelines, Section 15300.Other discretionary and ministerial permits and approvals that may be deemed necessary, including, but not limited to, temporary street closure permits, grading permits, haul route approval and permits, excavation permits, foundation permits, building permits, and sign permits.

PREPARED FOR:
The City of Los Angeles
Department of Los Angeles City Planning

PREPARED BY:
CAJA Environmental Services, LLC
9410 Topanga Canyon Blvd., Suite 101,
Chatsworth, CA 91311

APPLICANT:
Vine Street Los Angeles Apartments, LLC
4601 Park Road, Suite 450,
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January 2023

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D Noise Technical Modeling, DKA Planning, October 2022

E Air Quality Technical Modeling, DKA Planning, October 2022

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H-1 Geotechnical Engineering Investigation, Geotechnologies, Inc., December 9, 2021

H-2 Approval Letter, Los Angeles Department of Building and Safety, July 29, 2022

Section 1

Project Description

This section is based on the following items, which is included as **Appendix A** to this CE:

A-1 Plans, KTGY, July 26, 2022

A-2 Landscape Plans, Border Landscape Architecture, September 16, 2022

1 Project Information

Project Title: 1200 Vine Project

Document Type: Class 32 Categorical Exemption (CE) for new mixed-use in-fill development (the Project)

Environmental No.: ENV-2022-7048-CE

Related Case No.: CPC-2022-7047-CU-DB-SPR-HCA

Project Location: 1200, 1204, 1214, 1218 N. Vine Street and 6245, 6247 W. Lexington Avenue, Los Angeles, CA 90038 (Project Site or Site)

Lead Agency: City of Los Angeles, Los Angeles City Planning
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Seth Wulkan, Project Manager
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2 Regulatory Setting

California Environmental Quality Act (CEQA) Guidelines, Article 19 (Categorical Exemptions):

15300. CATEGORICAL EXEMPTIONS

Section 21084 of the Public Resources Code requires these Guidelines to include a list of classes of projects which have been determined not to have a significant effect on the environment and which shall, therefore, be exempt from the provisions of CEQA.

In response to that mandate, the Secretary for Resources has found that the following classes of projects listed in this article do not have a significant effect on the environment, and they are *declared to be categorically exempt from the requirement for the preparation of environmental documents.*

15300.2. EXCEPTIONS

(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

15332. IN-FILL DEVELOPMENT PROJECTS

Class 32 consists of projects characterized as in-fill development meeting the conditions described in this section.

(a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

(b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

(c) The project site has no value as habitat for endangered, rare or threatened species.

(d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

(e) The site can be adequately served by all required utilities and public services.

3 Environmental Setting

3.1 Project Location

The Project Site is located on the northeast corner of Vine Street and Lexington Avenue, in the Hollywood Community Plan of the City of Los Angeles (City), 90038 in the County of Los Angeles (County).

The Site is located approximately 4.75 miles northwest of Downtown Los Angeles and 11.5 miles northeast of the Pacific Ocean.

See **Figure 1-1, Regional Map**, for the location of the Project within the context of the City.

See **Figure 1-2, Aerial Map**, for an aerial view of the Site and the immediate surrounding area.

3.2 Surrounding Land Uses

The zoning of the Site and surrounding area is shown below.

<u>North</u> adjacent to the Site is a 2-story office building (currently occupied by Los Angeles County Department of Mental Health, Hollywood Mental Health Center, 1224 Vine Street). This area is zoned C2-1D.

<u>South</u> across Lexington Avenue is a fast food restaurant with drive-thru and surface parking lot (currently occupied by a Taco Bell, 6254 Lexington Avenue). This area is zoned C2-1D.

<u>Southeast</u> across Lexington Avenue are two 2-story residential buildings (6230, 6240 Lexington Avenue). This area is zoned RD1.5-1XL.

<u>West</u> across Vine Street is a 1-story banquet and event facility (currently occupied by the Taglyan Complex, 1201 Vine Street) and a vacant lot. This area is zoned C2-1D

<u>Southwest</u> across Vine Street and Lexington Avenue is a 2-story vacant commercial building (1161 Vine Street) and a 2-story school building and outdoor play area (currently occupied by the Early Head Start, 1147 Vine Street). This area is zoned C2-1D

<u>East</u> adjacent to the Site are two 2-story residential buildings (6232-6238 La Mirada Avenue and 6231-6239 Lexington Avenue). This area is zoned RD1.5-1XL.

The nearest residential uses:

- Multi-family buildings located at 6232-6238 La Mirada Avenue and 6231-6239 Lexington Avenue, 5 feet east of the Site.

The nearest schools:

- Early Head Start, 1147 Lexington Avenue, 160 feet southwest of the Site.

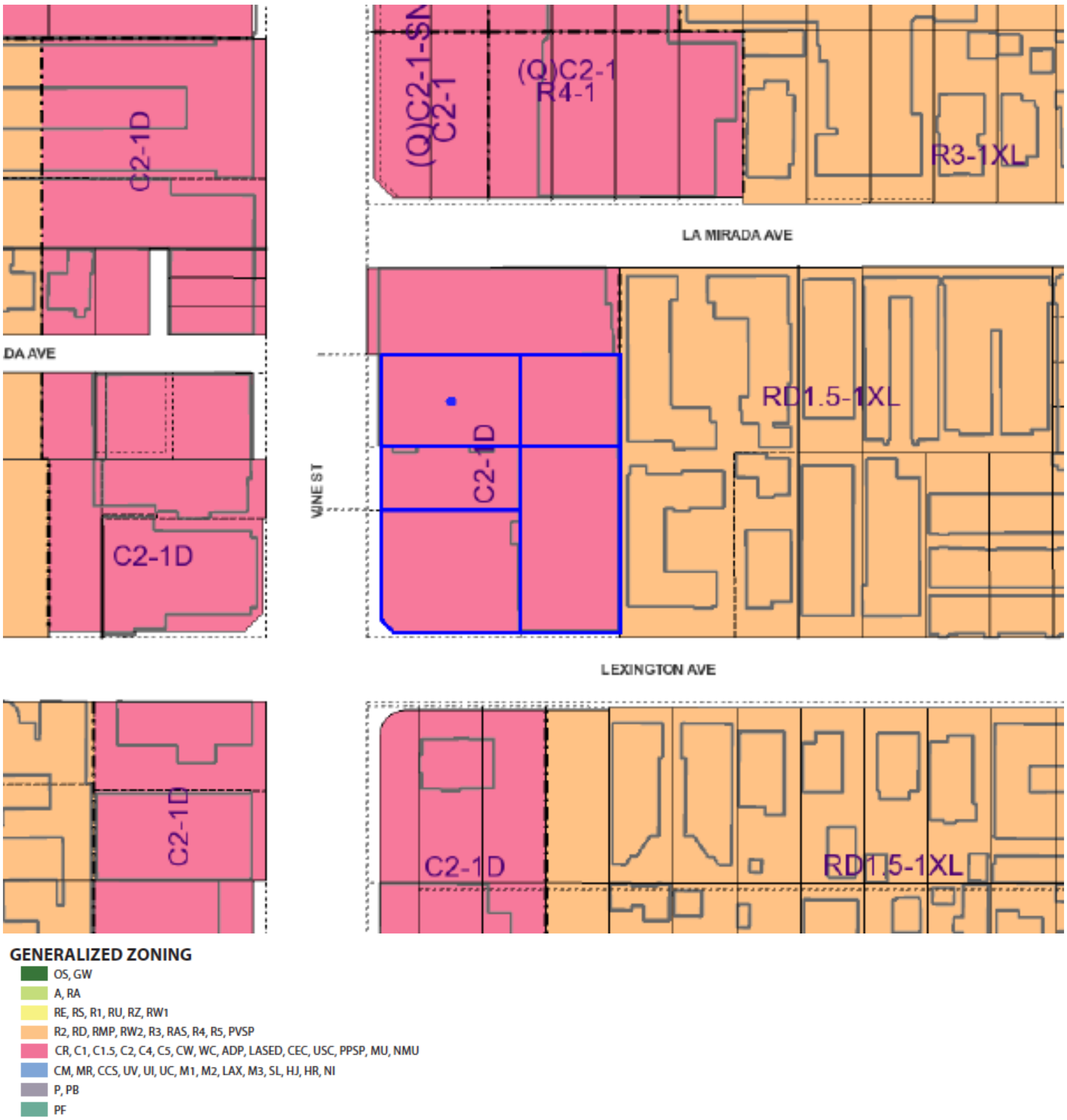
- Episcopal School of Los Angeles, 6235 Santa Monica Boulevard, 585 feet southwest of the

Site.

- Vine Street Elementary School, 955 Vine Street, 1,350 feet southwest of the Site.

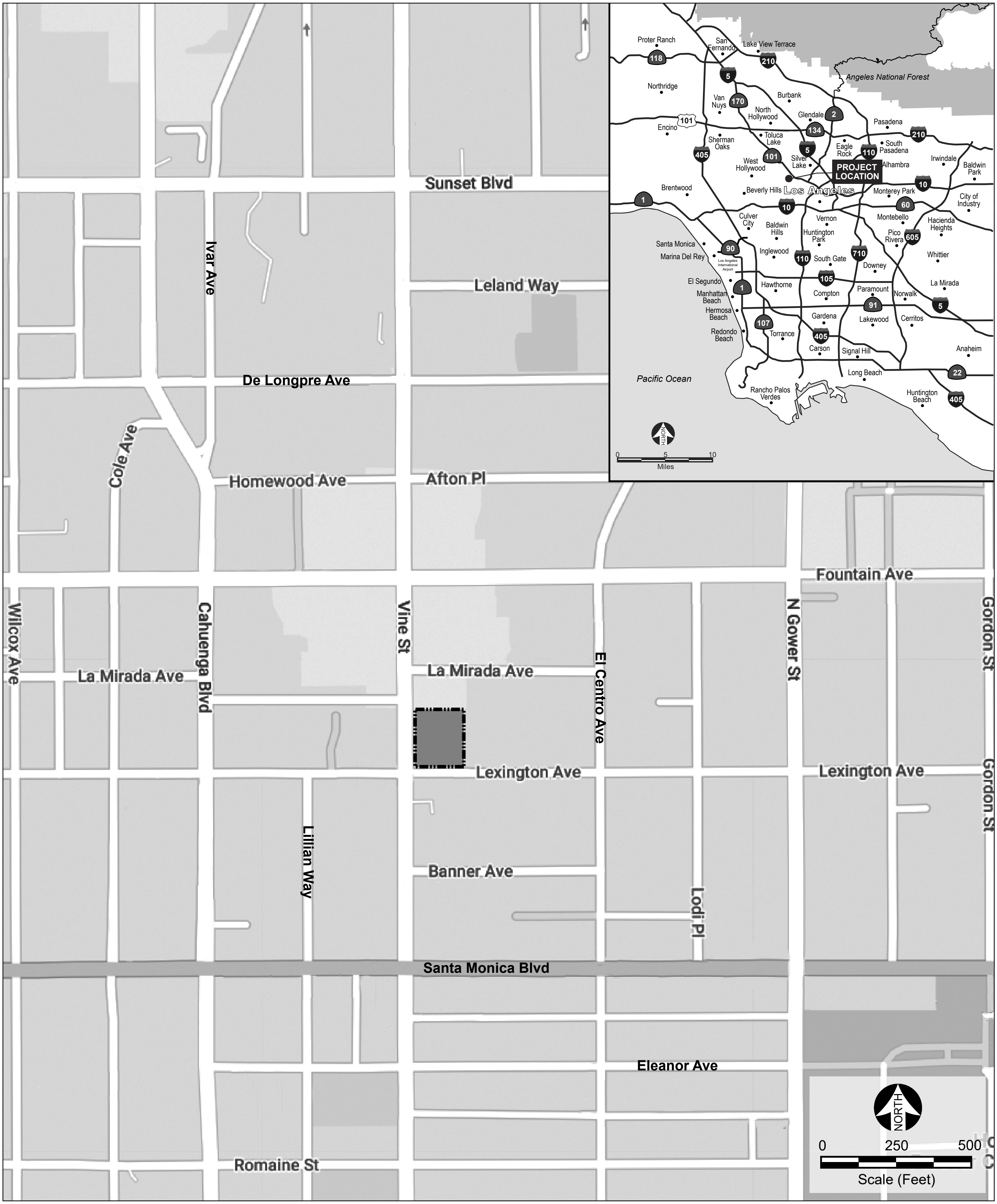
The nearest historic resources:[1,2]

- None



1 NavigateLA, Historic-Cultural Monuments layer: https://navigatela.lacity.org/navigatela, and HistoricPlacesLA: http://historicplacesla.org/map, accessed July 8, 2022.

2 SurveyLA: https://planning.lacity.org/preservation-design/historic-resources-survey



Legend

Project Site

Source: Google Maps 2022.

Figure 1
Regional Location Map

Legend

Project Site

Source: Google Maps 2022.

Figure 2
Aerial Map

3.3 Regional and Local Access

Regional access is provided by:

- US-101 (Hollywood) Freeway, 3,800 feet northeast of the Site

Local access is provided by:[3]

- Vine Street (Avenue II in the Mobility Plan 2035), adjacent west of the Site
- Lexington Avenue (Local Street Standard), adjacent south of the Site
- La Mirada Avenue (Local Street Standard), 80 feet north of the Site
- El Centro Avenue (Local Street Standard), 410 feet east of the Site
- Santa Monica Boulevard (Modified Avenue I), 665 feet south of the Site
- Fountain Avenue (Collector), 375 feet north of the Site
- Cahuenga Boulevard (Modified Avenue II), 675 feet west of the Site

3.4 Public Bicycle Facilities

There is a Metro Bike Share station, located at Vine Street and Fountain Avenue, 375 feet north of the Site.[4]

The following bicycle-friendly streets are nearby:[5]

- Vine Street, adjacent west of the Site
- Fountain Avenue, 375 feet north of the Site

3.5 Pedestrian Facilities

There are sidewalks along the Project Site's west side on Vine Street and south side on Lexington Avenue.

Striped crosswalks are provided at all legs of the nearest signalized intersection:

- Vine Street and Lexington Avenue, southwest of the Site

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3 NavigateLA, Mobility Plan 2035: https://navigatela.lacity.org/navigatela/, accessed July 8, 2022.

4 Metro Bike Share: https://bikeshare.metro.net/stations/, accessed July 8, 2022.

5 According to LADOT's Bike Program, Bicycle Friendly Streets (BFS) facilities parallel major corridors and provide a calmer, safer alternative for bicyclists of all ages and skill levels. BFS are multi-modal streets, which means that they accommodate all neighborhood users from cars, to bikes, to pedestrians. https://ladotbikeblog.wordpress.com/bfs/

3.6 Public Transit

The Site is within a High Quality Transit Area (HQTA),[6] which are areas within one-half mile of a high quality transit corridor, which is a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.[7]

Los Angeles County Metropolitan Transportation Authority (Metro)[8] and Los Angeles Department of Transportation (LADOT)[9] operates public transit in the area, as shown in **Table 1-1, Public Transit**.

Table 1-1
Public Transit

Line	Type	Direction	Stop	Distance to Site	Service (Peak Period Average Headways)
Metro					
210	Bus	North-south	Vine / Lexington	Adjacent west	10 minutes
4	Bus	East-west	Vine / Santa Monica	680 feet south	8 minutes
B (Red)	Subway	North-south	Hollywood / Vine	2,950 feet north	15 minutes
LADOT DASH					
Hollywood	Bus	East-west	Vine / Fountain	430 feet north	30 minutes
Hollywood / Wilshire	Bus	North-south	Gower / Lexington	1,060 feet east	30 minutes
Measurement from Site boundary to nearest station or stop point. Metro 210 schedule (October 23, 2022): https://www.metro.net/riding/schedules/?line=210-13167 Metro 4 schedule (October 23, 2022): https://www.metro.net/riding/schedules/?line=4-13167 Metro B schedule (December 11, 2022): https://www.metro.net/riding/schedules/?line=802 LADOT Hollywood (August 3, 2020): https://www.ladottransit.com/dash/routes/hollywood/hollywood.html LADOT H/W (July 31, 2021): https://www.ladottransit.com/dash/routes/hollywoodwilshire/hollywoodwilshire.html					

3.7 Planning and Zoning

Table 1-2, Project Site, lists the Site's APNs, zoning and General Plan land use designation:

- C2-1D (Commercial zone in Height District 1 with a Development Limitation) and Highway Oriented Commercial designation.[10]

The D Limitation is:[11]

> *1. The total floor area contained in all buildings on a lot shall not exceed one half (0.5)*

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6 SCAG, HQTA 2016 based on the 2020-2045 RTP/SCS: https://gisdata-scag.opendata.arcgis.com/datasets/high-quality-transit-areas-hqta-2016-scag-region?geometry=-121.570%2C33.364%2C-114.731%2C34.954, accessed July 8, 2022.

7 SCAG, Connect SoCal, Active Transportation Technical Report, page 26: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_active-transportation.pdf?1606001530, accessed July 8, 2022.

8 Metro System Map, Westside/Central Map: https://www.metro.net/riding/guide/system-maps/, accessed July 8, 2022.

9 LADOT System Map: https://www.ladottransit.com/dash/, accessed June 20, 2022.

10 Los Angeles Zoning Summary: https://planning.lacity.org/zoning/regulations-summary

11 Ordinance No. 164,692, May 16, 1989: https://planning.lacity.org/pdiscaseinfo/document/ODMxMw0/6d0d2d25-0f15-4c7d-b0c2-0a119627b1eb/ord

times the buildable area of the lot.

Table 1-2
Project Site

Address	Lot	APN	Size (sf)	Zone	Land Use
6245. 6247 W. Lexington Avenue	3	5534-002-023	11,309.9	C2-1D	Highway Oriented Commercial
1200, 1204 N. Vine Street	4		10,417.6		
None	5		5,509.0		
1214, 1218 N. Vine Street	6	5534-002-018	7,934.0		
None	8		5,616.0		
Source: Zone Information & Map Access System (ZIMAS): http://zimas.lacity.org, July 2022.					

The Project Site also is subject to the following zoning-related items:

- 2374 State Enterprise Zone: Los Angeles
- ZI-2433 Revised Hollywood Community Plan Injunction
- ZI-2498 Local Emergency Temporary Regulations - Time Limits and Parking Relief - LAMC 16.02.1
- ZI-2452 Transit Priority Area in the City of Los Angeles

The Project Site is located 665 feet north from a qualified Major Transit Stop at the intersection of Santa Monica Boulevard and Vine Street, which is served by Metro bus line 4 running east-west and Metro bus line 210 running north-south. As shown in **Table 1-1** above, both lines have an average service internal of 15 minutes or less.[12]

The Project Site is not within a Special Grading Area.[13]

The Project Site is not within a Methane Hazard Site.[14]

The Project Site is in the Hollywood Community Plan, which designates the site as Highway Oriented Commercial. The Hollywood Community Plan is undergoing a Community Plan Update (Update) and is currently in the adoption phase. The Update has been approved by the City Planning Commission which referred the Update to the City Council for adoption on August 19, 2021. The upcoming steps to complete adoption of the Update are receiving the recommendations for approval from the Los Angeles City Council's Planning and Land Use Management (PLUM) Committee, and then the final approval from the full City Council.[15] Adoption is anticipated in 2023.

---

12 Major Transit Stop is a site containing a rail station or the intersection of two or more bus routes with a service interval of 15 minutes or less during the morning and afternoon peak commute periods. The stations or bus routes may be existing, under construction or included in the most recent Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP).

13 Zone Information & Map Access System (ZIMAS): http://zimas.lacity.org, June 20, 2022.

14 Zone Information & Map Access System (ZIMAS): http://zimas.lacity.org, June 20, 2022.

15 Hollywood Community Plan Update: https://planning.lacity.org/plans-policies/community-plan-update/hollywood-community-plan-update#about

3.8 Existing Conditions

The lot area is 40,786 square feet (0.936 acres).[16] In the C2 zone, the buildable area equals the lot area.

The Project Site contains two one-story commercial buildings with a total of 27,011 square feet, as listed in **Table 1-3, Existing Buildings**.

Both buildings are vacant. They were formerly used for Goodwill Store and Dollar Store but have not been occupied for at least one year.

There is also an approximately 16,000 square foot[17] surface parking lot, fencing and a pole sign.

The Project will remove all existing uses and demolish all existing buildings.

Table 1-3
Existing Buildings

Address	Use	Stories	Size (sf)
6245-6247 Lexington	Vacant	1	13,475
1214-118 Vine	Vacant	1	13,536
Total			**27,011**
Source: Zone Information & Map Access System (ZIMAS): http://zimas.lacity.org, July 2022.			

The Site is not listed in HistoricPlacesLA[18] and not listed in SurveyLA.[19]

There are 9 street trees on the sidewalk (4 jacarandas on Vine Street and 5 pink trumpet trees on Lexington Avenue). There are 3 onsite palm trees on the southwest corner of the parking lot.[20] None of the trees constitute a protected tree[21] or shrub.[22]

4. Project Description

4.1 Project Overview

The Project would construct a new mixed-use 8-story building with 153 residential dwelling units

16 Plans, KTGY, July 26, 2022.

17 Google Maps approximate area.

18 Los Angeles Historic Places: http://historicplacesla.org/map, accessed July 8, 2022.

19 SurveyLA: https://planning.lacity.org/preservation-design/historic-resources-survey, accessed July 8, 2022.

20 Tree Evaluation Report, Arborgate Consulting, June 21, 2022.

21 LAMC Section 46.01: "PROTECTED TREE" means any of the following Southern California native tree species which measures four inches or more in cumulative diameter, four and one-half feet above the ground level at the base of the tree: (a) Oak tree including Valley Oak (Quercus lobata) and California Live Oak (Quercus agrifolía), or any other tree of the oak genus indigenous to California but excluding the Scrub Oak (Quercus dumosa). (b) Southern California Black Walnut (Juglans californica var. californica) (c) Western Sycamore (Platanus racemosa) (d) California Bay (Umbellularia californica) This definition shall not include any tree grown or held for sale by a licensed nursery, or trees planted or grown as a part of a tree planting program.

22 Effective February 4, 2021 in Ordinance No 186,873, the City added Mexican elderberry and toyon shrubs to the list of protected species.

and 7,000 square feet of ground floor commercial (assuming a high-turnover sit-down restaurant[23] with 235 seats[24]).

The Project would include 93 parking spaces as required by the Los Angeles Municipal Code (LAMC) and applicable Density Bonus incentives. Parking is located in two above grade levels wrapped with commercial use on the ground floor and residential units on the second floor.

The Project includes 21 studio units, 89 one-bedroom units, and 43 two-bedroom units.

The building will contain 5 levels of Type IIIA Wood (residential units on the fourth, fifth, sixth, seventh, and eighth levels) over 3 levels of Type IA Concrete (one ground floor level of parking and commercial use; parking and residential amenities on the second level; and residential units on the third level).

See **Figure 1-3, First Floor Plan**, for the ground level of the Project.

4.1.1 Density

See **Table 1-4** for the density calculation. Pursuant to the City's General Plan and LAMC Sections 12.14 A.4, 12.13.5 A.1, and 12.11 C.4, the maximum residential density within the C2 zone is generally one dwelling unit for every 400 square feet of lot area.

The lot area is 40,786 square feet. The Project therefore provides a base density of 102 units per the LAMC.

The Project is requesting a Density Bonus off-menu incentive pursuant to LAMC Section 12.22.A.25 to allow an increase in number of dwelling units by 50%, or 51 units. This would allow a total of 153 units.

The Project proposes 153 units, of which 17% of the base units (102 x 17% = 18 units) would be reserved for Very Low Income (VLI) households. The remaining 135 units will be market-rate.

Table 1-4
Density

Zone	Site Area	LAMC Density		Density Bonus		Provided
		Rate	Base	Incentive	Max	
C2	40,786 sf	1 unit / 400 sf	102 units	+50% (+51)	153 units	153 units
Plans, KTGY, July 26, 2022.						

23 Transportation Assessment, Gibson Transportation Consulting, November 2, 2022.

24 Assumes 50% of Restaurant Space Will be Usable Seating Area and 15 Square Feet per Seat.

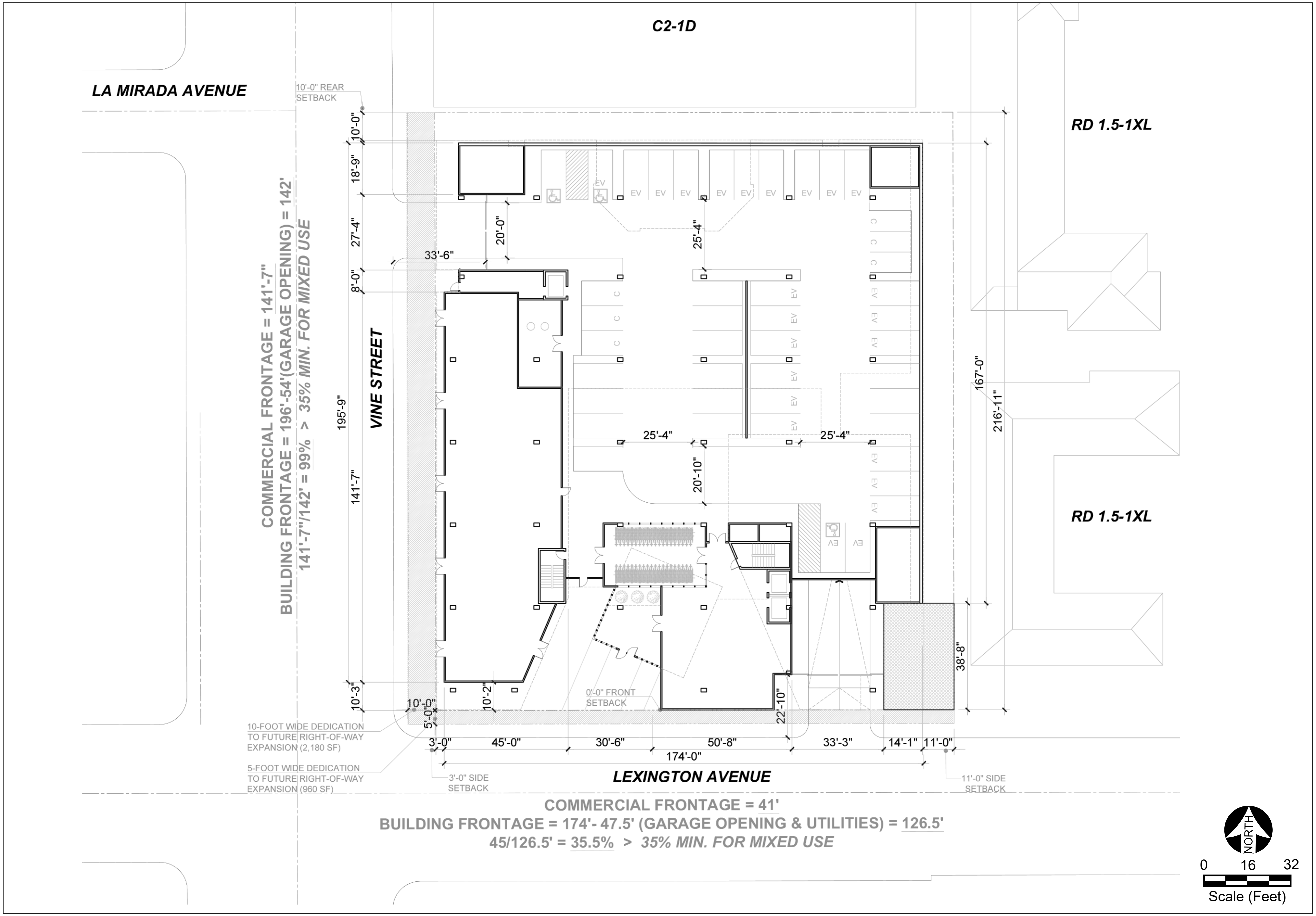

Figure 3
Site Plan

Source: KTGY Architecture + Planning, 2022.

4.1.2 Floor Area

See **Table 1-5** for the floor area and floor area ratio (FAR). Per LAMC Section 12.03, Buildable Area includes, "All that portion of a lot located within the proper zone for the proposed main building, excluding those portions of the lot which must be reserved for yard spaces, building line setback space, or which may only be used for accessory buildings or uses."

Under the LAMC, the FAR is limited to 0.5:1 due to the D Limitation as restricted by Ordinance Number 164,692. With a buildable area of 40,786 square feet, the floor area is limited to 20,393 square feet.

The Project is requesting a Density Bonus off-menu incentive pursuant to LAMC Section 12.22.A.25 for an increase in the FAR to 3.51:1 in lieu of the otherwise allowable maximum of 0.5:1 in the C2-1 Zone, as restricted by Ordinance Number 164,692.

The Hollywood Community Plan update would alter the underlying zoning to add a "Q" condition raising the base FAR from 0.5:1 to 1.5:1 and placing the Site under the Hollywood Community Plan Implementation Overlay (CPIO) that will provide for substantial height and FAR for projects providing affordable units.

The Project would include 143,295 square feet of floor area and a 3.51:1 FAR. Of this total, 136,295 square feet is residential floor area and 7,000 square feet is commercial. The commercial floor area is located at the ground floor of the Project.

Table 1-5
Floor Area

Zone	Buildable Area	LAMC Base		Density Bonus		Provided	
		FAR	Floor Area	FAR	Floor Area	FAR	Floor Area
C2-1D	40,786 sf	0.5:1	20,393 sf	3.51:1	143,295	3.51:1	143,295
[Q]C2-2D-CPIO	40,786 sf	1.5:1	61,179 sf	3:1	122,358 sf	3.51:1	143,295
Plans, KTGY, July 26, 2022.							

4.1.3 Height

Pursuant to LAMC Section 12.21.1.B.3(a), rooftop structures, equipment and improvements may exceed the maximum building height when authorized, provided the structure, equipment or improvement is screened from public view using non-reflective materials or otherwise made compatible with the overall design of the building.

Pursuant to LAMC Section 12.21.1.B.3, chimney, exhaust ducts, solar water heaters, or any roof structure housing stairways, elevators or ventilation fans may also exceed the building height limit by up to five feet, but are not required to provide a setback from the perimeter of the roof. Where height is limited to seventy-five (75) feet, roof structures for the housing of elevators and stairways may exceed the building height limit by up to twenty (20) feet in height.

The LAMC does not impose a maximum building height limit for height district 1 in the C2 zone.

The Project proposes a building of 8-stories with a total height of 88'-6" feet.

4.1.4 Setbacks

See **Table 1-6** for the setbacks. In the C2, C4, and C5 zones, no front yards are required. No side or rear yards are required for commercial uses.

The Project is requesting a Density Bonus off-menu incentive pursuant to LAMC Section 12.22.A.25 for a decrease in the required rear yard to allow 10 feet in lieu of 20 feet required in the C2-1D Zone and for a decrease in the required side yard along Vine Street to allow 0 feet in lieu of the otherwise required 10 feet required in the C2-1D Zone.

The Project includes 11 foot side (east side), 0 foot side (Vine Street), and 10 foot rear yards at the first residential levels.

Table 1-6
Setbacks

Location	Required per LAMC	Provided
Front (Lexington)	0 feet	0 feet
Side (Vine)	10 feet	0 feet
Side (east)	0 ft. (commercial) 11 ft. (residential)	11 ft. (residential)
Rear (abutting)	0 ft. (commercial) 20 ft. (residential)	10 ft. (residential)
Per Mixed Use Exemption From LAMC Section 12.22.A.18 Plans, KTGY, July 26, 2022.		

4.2 Design and Architecture

See **Appendix A** of this CE for floor plans, elevations, sections, and renderings. The Project has been designed as an integrated single structure with articulation and variation consistent with applicable City design guidance. Parking spaces within the building (ground and upper levels) and residential units located within the building have been integrated into the overall architectural theme of the Project.

The building's ground level will incorporate pedestrian scale uses and design, with a street fronting commercial storefront along with the residential building entrance all with floor to ceiling glazing. In addition, the building's proposed design, architecturally differentiates the base of the building from the residential above by including horizontal breaks in material and colored elements.

The upper residential portions of the building incorporate varied articulation including recessed balconies.

The Project is designed with a façade that utilizes a variety of materials, including metal, cement panel and plastering, and glass in order to add visual interest through different textures and colors. This variation, along with insets and offsets, and street-facing residential window contrasted with storefront glazing at the ground floor, separates the residential portions of the building from the commercial, avoids a dull or repetitive façade, and contributes to neighborhood safety by activating the ground floor and putting more "eyes on the street."

The building provides volume articulation with carved out sections that break down the massing and allow light and air into the building. The ground floor has glass openings that provide a pedestrian-friendly experience for Project residents and the public. Ground floor commercial activates the street.

The building's southern-facing façade is indented/cut-away above the second level to provide an interior courtyard space and allow light and air to enter the interior-facing units. This third floor courtyard space would include a pool deck and open space.

The building provides façade treatments with balconies that highlight the residential nature of the building. All sides of the proposed building are articulated with colored elements, glass and metal, windows, and inset and offset architectural elements to create visual interest. Overall variation in building appearance is created with the use of various materials, windows of different widths, and balconies, the landscaped ground floor, and the transition of the first floor to upper levels.

Rooftop equipment will be set back from the roof parapet edge and appropriately screened from public view.

The Project is designed to minimize the visual impact of building mechanics and maintenance areas. Electrical rooms, storage rooms, and trash and recycling areas, are located within the building and are not visible from surrounding public streets and public view.

The Project Site is located in an urbanized and fully developed portion of the City. The built environment is characterized by a variety of architectural styles, age of buildings, type of developments, and size.

4.3 Open Space

Table 1-7, Open Space, provides the amount of required open space under the LAMC and the open space proposed to be provided by the Project.

The Project would provide 21,569 square feet through courtyards, pool deck, indoor amenities, roof decks, and balconies.

Table 1-7
Open Space

Use	Quantity	Rate	Total (sf)
Required			
< 3 habitable rooms	21 units	100 sf / unit	2,100
= 3 habitable rooms	89 units	125 sf / unit	8,900
> 3 habitable rooms	43 units	175 sf / unit	5,375
		Total	**16,375**
Provided			
Common and open to the sky		Outdoor Deck Level 1	1,700
		Outdoor Deck Level 3	6,255
		Roof Deck 1	870
		Roof Deck 2	1,000
		Subtotal	**9,825**
Common and indoor		Lobby Level 1	564

	Mezzanine Level 2	800
	Lounge Level 3	1,000
	Fitness Level 3	1,000
	Club Room Level 8	730
	Subtotal	**4,094**
Private	Balconies (153 x 50 sf)	7,650
	Total	**21,569**

Per LAMC 12.21.G.2
Habitable Room - An enclosed subdivision in a residential building commonly used for living purposes, but not including any lobby, hall, closet, storage space, water closet, bath, toilet, slop sink, general utility room or service porch. A recess from a room or an alcove (other than a dining area) having 50 square feet or more of floor area and so located that it could be partitioned off to form a habitable room, shall be considered a habitable room.
For the purpose of applying the open space requirements of Section 12.21 G., a kitchen as defined herein shall not be considered a habitable room.
A studio and 1-bedroom units have less than 3 habitable rooms. A 2-bedroom has 3 habitable rooms.
Plans, KTGY, July 26, 2022.

4.4 Landscaping

Per LAMC Section 12.21.G.a.3, A minimum of 25 percent of the common open space area shall be planted with ground cover, shrubs or trees. At least one 24-inch box tree for every four dwelling units shall be provided on site and may include street trees in the parkway.

The Project is required to provide 25 percent of its 9,825 square feet of outdoor common open space as landscaping, or 2,456 square feet. The Project would provide 3,142 square feet of landscaped common open space.[25]

There are a total of 9 street trees along the sidewalk of Vine Street and Lexington Avenue. Up to 9 trees would be removed for the proposed driveways. Any tree removal will comply with the City's Tree Replacement Program (including Urban Forestry Division, Bureau of Street Services for the street trees). The City may require a replacement ratio of 2:1. Therefore, the removal of 9 trees would require 18 trees.

The Project would be required to provide at least 39 trees (153 units / 4). The Project would provide 39 trees on the ground level, Level 3 podium, and level 7:[26]

The Project would comply with LAMC requirements for trees and landscaping.

4.5 Access and Circulation

There are three existing curb cuts at the Site, one along Lexington Avenue at the southeast corner of the Site, and two along Vine Street.

25 Landscape Plans, Border Landscape Architecture, September 16, 2022.
26 Landscape Plans, Border Landscape Architecture, September 16, 2022.

The southern curb cut on Vine Street would be closed. The other two curb cuts on Vine Street and Lexington Avenue will be slightly shifted to accommodate the new building.

The curb cut on Vine Street would provide two-way access (ingress and egress) to the ground level parking. The curb cut on Lexington Avenue would provide two-way access (ingress and egress) to the second level parking.

The residential use would be accessed from a residential lobby on Lexington Avenue.

The commercial use would be accessed from Vine Street.

4.6 Vehicle Parking

Table 1-8, Vehicle Parking, provides the amount of required and provided vehicle parking.

The Project is requesting parking in accordance with AB 2345 standards (Government Code Section 65915) which requires no more than 0.5 parking spaces per dwelling unit.

Additionally, the Project is in a Los Angeles State Enterprise Zone which requires 2 parking spaces for each 1,000 square feet of non-residential / retail / commercial / restaurant space.

The Project is required to provide 78 residential spaces and 14 commercial spaces for a total of 92 spaces.

The Project proposes to provide a total of 93 parking spaces (78 residential and 15 commercial spaces) in two levels (ground and level 2).

Table 1-8
Vehicle Parking

Use	Quantity	Required		Provided
		Rate	Amount	
Residential	21 studio	0.5 space / unit	11	78
	89 1-bedroom	0.5 space / unit	45	
	43 2-bedroom	0.5 space / unit	22	
		Subtotal	**78**	
Commercial	7,000 sf	1 space / 500 sf	14	15
Total			**92**	**93**

Per LAMC 12.22 A.4.
Plans, KTGY, July 26, 2022.

4.6.1 Electric Vehicle Parking

According to LAMC Section 99.04.106.4.2, where multi-family dwelling units and other "R" occupancies are constructed on a building site, and parking is available, 30% of the total number of parking spaces provided, but in no case less than one space, shall be electric vehicle charging spaces (EV spaces) capable of supporting future electric vehicle supply equipment (EVSE). According to LAMC Section 99.04.106.4.4, the number of EVCS shall be 10% of the total number of parking spaces provided for all new multi-family dwelling units, other "R" occupancies, hotels and motels.

Calculations for the required number of EV spaces and electric vehicle charging stations (EVCS) shall be rounded up to the nearest whole number. The number of EVCS can be counted towards the total number of EV spaces required for the building required per Subsections 99.04.106.4.2 and 99.04.106.4.3.1.

LAMC Section 99.05.106.5.3.3 applies to nonresidential uses and has the same 30% EVSE requirements.

LAMC Section 99.05.106.5.3.6 applies to nonresidential uses and has the same 10% EVCS requirements.

Table 1-9, Electric Vehicle Parking, provides the amount of required and provided electric vehicle parking. The Project would provide 29 EVSE spaces, of which 10 would have EVCS.

Table 1-9
Electric Vehicle Parking

Parking Provided	Required		Provided	
	EVSE (30%)	EVCS (10%)	EVSE	EVCS
78 residential	24	8	25	8
15 commercial	4	2	4	2
Total	**28**	**10**	**29**	**10**

EVSE - electric vehicle supply equipment.
EVCS – electric vehicle charging stations.
Plans, KTGY, July 26, 2022.

4.7 Bicycle Parking

Table 1-10, Bicycle Parking, provides the amount of required and provided bicycle parking. The Project would provide 120 bicycle parking spaces (14 short-term and 106 long-term). The long-term bicycle parking stalls will be located at the ground level.

LAMC 12.21.A.16(a) requires new projects to provide bicycle parking spaces. Short-term bicycle parking shall consist of bicycle racks that support the bicycle frame at two points. Long-term bicycle parking shall be secured from the general public and enclosed on all sides and protect bicycles from inclement weather.

Table 1-10
Bicycle Parking

Use	Quantity	Short-Term Spaces			Long-Term Spaces		
		Rate	Required	Provided	Rate	Required	Provided
Residential	1-25 units	1 / 10 unit	2.5	10	1 / 1 unit	25	102
	26-100 units	1 / 15 units	5.0		1 / 1.5 units	50	
	101-200 units	1 / 20 units	2.7		1 / 2 units	26.5	
	201+ units	1 / 40 units	0		1 / 4 units	0	
Commercial	7,000 sf	1 / 2,000 sf	3.5	4	1 / 2,000 sf	3.5	4

Total		13.7	14		105	106

LAMC Table 12.21 A.16 (a)(1)(i) and Ordinance No. 185,480.
A minimum of two short-term bicycle parking spaces shall be provided in all cases.
Per LAMC Section 12.21.A.16(b): When the application of these regulations results in the requirement of a fractional bicycle space, any fraction up to and included on-half may be disregarded, and any fraction over one-half shall be construed as requiring one bicycle parking space. Therefore the 2.5 spaces rounds down to 2 spaces.
Plans, KTGY, July 26, 2022.

4.8 Lighting and Signage

Project signage would include building identification, wayfinding, and security markings. Signage would be similar to other signage in the Project's vicinity.

Exterior lighting would be shielded to reduce glare and eliminate light being cast into the night sky. Security lighting would be integrated into the overall architecture and landscaping.

The Project would also comply with LAMC lighting regulations that include approval of street lighting plans by the Bureau of Street Lighting; limited light intensity from signage to no more than three foot-candles above ambient lighting; and limited exterior lighting to no more than two foot-candles of lighting intensity or direct glare onto specified sensitive uses, under the terms of the LAMC Section 93.0117(b).

4.9 Site Security

The Project would provide a passive security program to ensure the safety of its residents, employees, and visitors. Security features to assist in crime prevention efforts and to reduce the demand for police protection services would include secured building access/design to residential areas; lighting of building entryways and areas; and possible video surveillance. The security program would include controlling access; monitoring entrances and exits of buildings; monitoring fire/life/safety systems; and security lighting.

4.10 Sustainability Features

The Project will comply with the applicable Los Angeles Green Building Code (LAGBC, 2023 version effective January 1, 2023)[27] and the applicable California Green Building Standards Code (CalGreen, 2022 version effective January 1, 2023).[28] The applicability is determined when the Project is submitted and accepted by plan check.

All building systems would meet applicable Title 24 Energy Standards. These standards would reduce energy and water usage and waste and, thereby, reduce associated greenhouse gas emissions and help minimize the impact on natural resources and infrastructure. The sustainability features to be incorporated into the Project would include, but not be limited to, WaterSense-labeled plumbing fixtures and Energy Star-labeled appliances, reduction of indoor

27 City of Los Angeles Department of Building and Safety, Green Building, available at http://ladbs.org/forms-publications/forms/green-building, accessed on November 7, 2022.

28 California Building Codes: https://www.dgs.ca.gov/BSC/CALGreen, accessed on November 7, 2022.

and outdoor water use, weather-based controller and drip irrigation systems, and water-efficient landscape design. In addition, the landscaping on the outdoor decks would serve to help reduce solar heat gain and facilitate possible stormwater retention on-site.

The Project would recycle and reuse building and construction materials to the maximum extent feasible.

The Project would provide EV spaces.

The Project's infill location would promote the concentration of development in an urban location with extensive infrastructure and access to public transit facilities. The Project's proximity to public transportation would reduce vehicle miles traveled for residents and visitors.

4.10.1 Solar Ready Roof

The 2019 Building Energy Efficiency Standards took effect on January 1, 2020. Low-rise multi-family buildings that do not have a photovoltaic system installed shall comply with the requirements of CCR Title 24, Part 6, Section 110.10(b) through 110.10(d).

LAMC Section 99.05.211.1 (Solar Ready Buildings) states that Projects must comply with California Energy Code Section 110.10. There are 2 exceptions: Additions having less than 2,000 square feet of new roof area and alterations.

The solar zone shall be located on the roof or overhang of the building or on the roof or overhang of another structure located within 250 feet of the building or on covered parking installed with the building project, and shall have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy.

The roof area is 21,780 square feet. The Project is required to provide 15 percent of its roof area, or 3,267 square feet, for solar zone area. The Project would provide 3,267 square feet of solar zone.[29]

4.11 Anticipated Construction Schedule

The estimated construction schedule is shown in **Table 1-11, Construction Schedule**.

Table 1-11
Construction Schedule

Phase	Schedule	Duration
Demolition	January 2, 2024 – March 29, 2024	62 days (3 months)
Grading and Excavation	April 1, 2024 – May 31, 2024	43 days (2 months)
Trenching	June 1, 2024 – July 15, 2024	30 days (1.5 months)
Construction	June 1, 2024 – July 31, 2026	535 days (26 months)
Architectural Coatings	March 2, 2026 – November 30, 2026	186 days (9 months)
Demolition involves removing buildings or structures.		

29 Plans, KTGY, July 26, 2022.

Site Preparation involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.
Grading involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.
Trenching is associated with underground utilities.
Building Construction involves the construction of the foundation, structures and buildings.)
Paving involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.
Architectural Coating involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.

Construction schedule, including start, end, and duration dates are estimates only.
Some overlap of phasing may occur.
The analysis assumes that construction would start in 2024. In practice, construction could begin at a later time. However, using an earlier start date represents a worst-case scenario for the analysis of construction emissions, because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.
Construction is proposed to finish in late 2026 and the Project would undergo a standard process to obtain its certification of occupancy and would begin leasing. The operational year 2027 relates to future traffic operations and assumes a fully leased building for maximum trip and VMT purposes.
Estimates provided by the Applicant, July 2022.

The estimated operational year is 2027.[30]

The Project will demolish 27,011 square feet of existing buildings and approximately 16,000 square feet of surface parking lot asphalt.

For a conservative assumption, the Project will excavate at a depth of approximately 6 feet for, foundation elements, and grading of soils.[31]

0 cubic yards of fill will be imported to the Site. The amount of materials exported will be up to approximately 10,000 cubic yards (accounting for swell/expansion amount).[32]

The haul route would be approximately 30 miles one-way, or 60 miles roundtrip, and could include the following:

- Full trucks: Exit Site on Lexington Avenue and travel south on Vine Street to east on Santa Monica Boulevard to south on US-101 to I-10 East, to the CA-60 East, to the I-605 North to exit Live Oak Avenue to Arrow Highway, to Vincent Avenue, to Azusa Landfill (1211 Gladstone Street, Azusa, CA 91702).

- Empty trucks would travel in the reverse to the Site and exit US-101 on Santa Monica Boulevard.

30 Transportation Assessment, Gibson Transportation Consulting, November 2, 2022.

31 Plans, KTGY, June 2, 2022.

32 Estimates provided by the Applicant, July 2022. Assumes 8,439 cy with a soil swell percent of 18.5% = 10,000 cy.

Truck routes are expected to utilize the most convenient access to freeway ramps. The truck routes would comply with the approved truck routes designated within the City and/or adjacent jurisdictions. Trucks traveling to and from the Project Site must travel along the designated routes.

4.12 Discretionary Requests

Discretionary entitlements required to implement the Project will include, but are not necessarily limited to, the following:[33]

- **Density Bonus (DB),** pursuant to LAMC Section 12.22 A.25(g)(3), approval of a Density Bonus Application for a project having 153 residential dwelling units, including 18 units reserved for Very Low Income households (17% of the base units, or 11 percent of the total number of units), with the following Off-Menu Incentives:
    - **Off-Menu Incentive**, for an increase in the Floor Area Ratio (FAR) to 3.51:1 in lieu of the otherwise allowable maximum of 0.5:1 in the C2-1D Zone, as restricted by Ordinance Number 164,692;
    - **Off-Menu Incentive,** for a decrease in the required rear yard to allow 10 feet in lieu of 20 feet required in the C2-1D Zone; and
    - **Off-Menu Incentive,** for a decrease in the required side yard to allow 0 feet in lieu of 10 feet required in the C2-1D Zone.
- **Conditional Use** permit **(CU**), pursuant to LAMC Section 12.24 U.26, for a Conditional Use permit to allow a 15 percent increase in density beyond the maximum 35 percent permitted in LAMC Section 12.22 A.25, for a total increase in density of 50% to provide a total of 153 residential dwelling units, setting aside 17% of its base density units for Very Low Income Households.

Site Plan Review (SPR) pursuant to LAMC Section 16.05, for a development project that results in an increase of 50 or more dwelling units and/or guest rooms.

Class 32 Categorical Exemption, pursuant to the State of California Environmental Quality Act and CEQA Guidelines, Section 15300.

Other discretionary and ministerial permits and approvals that may be deemed necessary, including, but not limited to, temporary street closure permits, grading permits, haul route approval and permits, excavation permits, foundation permits, building permits, and sign permits.

33 Findings and Supplemental Information, Attachment A, filed September 2022.

Section 2

Environmental Analysis

1 Regulatory Framework

Title 14 of the California Code of Regulations, Chapter 3 (Guidelines for Implementation of the California Environmental Quality Act (CEQA), Article 19 (Categorical Exemptions), Section 15300 (Categorical Exemptions) includes a list of classes of projects which have been determined not to have a significant effect on the environment and which shall, therefore, be exempt from the provisions of CEQA.

The Project is categorically exempt from CEQA under the Class 32 exemption, as set forth in Section 15332, Article 19, Chapter 3, Title 14 of the California Code of Regulations (CCR). The Class 32 exemption promotes infill development within urbanized areas by exempting qualifying urban in-fill projects that are consistent with the local general plan and zoning requirements and can be served with existing utilities and public services. The Class 32 exemption does not apply to projects that would result in significant traffic, noise, air quality, or water quality impacts. Application of this exemption, as with all categorical exemptions, is limited by the regulatory exceptions identified in Section 15300.2, listed below. Each area of qualification and/or exception is discussed in detail in this CE.

Section 15332. In-Fill Development Projects.

> *Class 32 consists of projects characterized as in-fill development meeting the conditions described in this section.*
>
> *(a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.*
>
> *(b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.*
>
> *(c) The project site has no value as habitat for endangered, rare or threatened species.*
>
> *(d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.*
>
> *(e) The site can be adequately served by all required utilities and public services.*

Section 15300.2. Exceptions

> *(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located - a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply [to] all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.*

(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

2 Discussion of CCR Section 15332(a)

The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

In order to qualify for a Class 32 exemption, a project must be found to be consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

2.1 General Plan

The General Plan consists of seven State-mandated elements: Land Use, Mobility, Noise, Safety, Housing, Open Space, and Conservation; and elements addressing Air Quality, Infrastructure Systems, Public Facilities and Services, Health and Wellness, as well as the Citywide General Plan Framework Element. The Framework Element establishes the overall policy and direction for the City's entire General Plan. It provides a citywide context and a comprehensive long-range strategy to guide the comprehensive update of the General Plan's other mandated and optional elements. The Framework Element establishes the fundamental and over-arching goals, objectives and policies for the City and its Community Plans and Specific Plans.

2.1.1 Land Use

In Los Angeles, the Land Use element of the General Plan is made up of the City's 35 Community Plans. The Project would demonstrate consistency with the Land Use Element through consistency with the Community Plan (discussed below).

2.1.2 Mobility Element

The goals of the Transportation Chapter of the Framework Element are to provide adequate accessibility to commerce, work opportunities, and essential services, and to maintain acceptable levels of mobility for all those who live, work, travel, or move goods in the City. The Transportation Chapter includes proposals for major transportation improvements to enhance the movement of goods and to provide greater access to major intermodal facilities, such as the ports and airports. As discussed in the Transportation Chapter of the Framework Element, the goals, objectives, policies, and related implementation programs of the Transportation Chapter are set forth in the Transportation Element of the General Plan adopted by the City in September 1999.

As an update to the Transportation Element, the City Council initially adopted Mobility Plan 2035 in August 2015. The Mobility Plan 2035 was readopted in January 2016 and amended in September 2016.[1] Mobility Plan 2035 incorporates "complete streets" principles and lays the policy foundation for how the City's residents interact with their streets. Mobility Plan 2035 includes five main goals that define the City's high-level mobility priorities: (1) Safety First; (2) World Class Infrastructure; (3) Access for All Angelenos; (4) Collaboration, Communication, and Informed Choices; and (5) Clean Environments and Healthy Communities. Each of the goals contains objectives and policies to support the achievement of those goals. Accordingly, the goals

1 City of Los Angeles, Department of City Planning, Mobility Plan 2035, adopted September 2016.

of the Transportation Chapter of the Framework Element are now implemented through Mobility Plan 2035.

2.1.3 Noise Element

The Noise Element includes programs and noise mitigation guidelines, but also recognizes that many noise sources are beyond the City's jurisdictional control. The Noise Element is implemented by the City's noise ordinances, against which the Project's noise impacts are analyzed herein.

2.1.4 Safety Element

Adopted in November 2021, the Safety Element offers a high-level overview of how the City plans for disasters. California Government Code specifies General Plan requirements that pertain to safety, which can be addressed in the Safety Element or the Local Hazard Mitigation Plan. The Local Hazard Mitigation Plan (LHMP) guides the City in reducing risks from disasters to people, property, economy and environment.[2]

The Safety Element of the General Plan provides a contextual framework for understanding the relationship between hazard mitigation, response to a natural disaster and initial recovery from a natural disaster. Chapters I and III of the Safety Element outline the scope of the City Emergency Operations Organization (EOO)'s on-going efforts to use experiences and new information to improve the City's hazard program. Chapter II outlines the City's historic commitment to improving its prevention of controllable disasters, mitigation of impacts associated with disasters and response to disaster events.

Goals and policies of the Safety Element, relate to hazard mitigation by the City, including emergency response (multi-hazard), and disaster recovery (multi-hazard). The goals and objectives of the Safety Element provide a guideline for the City's service systems and do not relate to actions of the private developer. As such, these goals and objectives are not evaluated. However, regulations arising out of the objectives of the Safety Element are reflected in the Building and Safety Code and the Fire Code provision with which the Project must comply in order to obtain building permits and a certificate of occupancy.

2.1.5 Housing Element

Adopted in November 2021, the Housing Element 2021–2029 of the City's General Plan identifies five primary goals that will guide the Element:[3]

- Goal 1: A City where housing production results in an ample supply of housing to create more equitable and affordable portions that meet existing and projected needs.
- Goal 2: A City that preserves and enhances the quality of housing and provides greater housing stability for households of all income levels.

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2 City of Los Angeles, Department of City Planning, Safety Element, adopted November 2021.

3 Los Angeles, Housing Element 2021-2029, adopted November 2021: https://planning.lacity.org/plans-policies/housing-element-update#adopted-plan

- Goals 3: A City in which housing creates healthy, livable, sustainable, and resilient communities that improve the lives of all Angelenos.
- Goal 4: A City that fosters racially and socially inclusive neighborhoods and corrects the harms of historic racial, ethnic, and social discrimination of the past and present.
- Goal 5: A City that is committed to preventing and ending homelessness.

The Regional Housing Needs Assessment (RHNA) is the State required process that seeks to ensure cities and counties are planning for enough housing to accommodate all economic segments of the community. For this current 2021-2029 Housing Element 6th cycle, the regional Southern California Association of Governments (SCAG) issued a target of 456,643 housing units for the entire City of Los Angeles, of which 184,721 units (40%) are designated for very low-and low-income households.

On February 22, 2022, the California Department of Housing and Community Development (HCD) rejected the 2021 Housing Element[4], telling the City that it must re-zone more quickly to comply with stricter state laws that are aimed at more development across California. Under the state's ruling, the city must rezone for 255,000 new homes by mid-October, instead of over the next three years.

Los Angeles City Planning and the Los Angeles Housing Department worked together to address feedback received from HCD and prepare revisions (targeted amendments) to programs to address the new Affirmatively Furthering Fair Housing (AFFH) requirements. On June 14, 2022, the Los Angeles City Council adopted the targeted amendments to the 2021-2029 Housing Element (Council File No. 21-1230-S1).

The amended Housing Element was provided to HCD immediately after its adoption for review and certification.[5] On June 29, 2022, HCD confirmed that the amended Housing Element is in full compliance with State Housing Element Law.[6]

2.1.6 Open Space Element

The Open Space and Conservation Chapter of the Framework Element contains goals, objectives, and policies to guide the provision, management, and conservation of public open space resources; address the outdoor recreational needs of the City's residents; and guide amendments to the General Plan Open Space Element and Conservation Element.

2.1.7 Conservation Element

The City of Los Angeles General Plan includes a Conservation Element. Section 5 of the Conservation Element recognizes the City's responsibility for identifying and protecting its cultural and historical heritage. The Conservation Element established an objective to protect important

4 California Department of Housing and Community Development, https://planning.lacity.org/odocument/f058cf1b-ce3a-4e10-ad07-9972e24585e2/HCD_comment_Letter.pdf

5 Los Angeles, Housing Element 2021-2029, news: https://planning.lacity.org/plans-policies/community-plan-update/housing-element-news/city-council-adopts-targeted-amendments

6 California Department of Housing and Community Development: https://planning.lacity.org/odocument/c30f832f-9f91-47ff-bcc0-69f33b197a11/LACityAdoptedIN062922.pdf

cultural and historical sites and resources for historical, cultural, research, and community educational purposes and a corresponding policy to continue to protect historic and cultural sites and/or resources potentially affected by proposed land development, demolition, or property modification activities.[7]

2.1.8 Consistency Analysis

Table 2-1, General Plan, lists the goals for land use that apply to developers in collaboration with local government. As shown, the Project will be consistent with the applicable (developer-controlled or focused) goals of the General Plan for each land use. The Project's residential and commercial uses are consistent with the goals of the General Plan Framework. Therefore, there would be no significant impacts due to consistency with land use designations in the General Plan.

The Framework Element is a strategy for long-term growth which sets a citywide context to guide the update of the Community Plan and Citywide Elements. The Framework Element is a comprehensive, long range document containing purposes, policies and programs for the development of the City of Los Angeles. The Citywide General Plan Framework text defines policies related to growth and includes policies for land use, housing, urban form/neighborhood design, open space/conservation, economic development, transportation, and infrastructure/public services.

Table 2-1
General Plan Framework, Mobility, Housing, Conservation, Health and Wellness, and Infrastructure and Public Services and Element Consistency Analysis

Goal, Objectives, Policies	Discussion
Framework Element Land Use Chapter	
Multi-Family Residential	
GOAL 3C. Multifamily neighborhoods that enhance the quality of life for the City's existing and future residents.	**Consistent.** The Project Site is in an urbanized area with street frontage on Vine Street (designated a Avenue II in the 2035 Mobility Plan), with full infrastructure to accommodate the proposed use.
Objective 3.4. Encourage new multi-family residential, retail commercial, and office development in the City's neighborhood districts, community, regional, and downtown centers as well as along primary transit corridors/boulevards, while at the same time conserving existing neighborhoods and related districts.	**Consistent.** The Project with 153 dwelling units, including 18 units set aside for Very Low Income households, conforms to permitted density with the requested Density Bonus. The Project will expand the existing multifamily neighborhood and enhance the quality of life for the City's existing and future residents by providing a range of residential units, including units set aside for Very Low Income households, within a modern and quality designed development which will include on-site amenities to serve the Project residents as well as ground-floor commercial uses which will serve the neighborhood.

7 City of Los Angeles Conservation Element of the General Plan, adopted September 26, 2001, p. II-9.

Objective 3.7. Provide for the stability and enhancement of multi-family residential neighborhoods and allow for growth in areas where there is sufficient public infrastructure and services and the residents' quality of life can be maintained or improved. **Policies. 3.7.1** Accommodate the development of multi-family residential units in areas designated in the community plans in accordance with Table 3-1 and Zoning Ordinance densities indicated in Table 3-3, with the density permitted for each parcel to be identified in the community plans.[8]	**Consistent.** The Project Site is located within close proximity of public transit. The Project Site has a General Plan land use designation of Highway Oriented Commercial, which corresponds with the C2-zoning of the Project Site (among other zones) which is equivalent to the High Medium land use designation indicated in Tables 3-1 and 3-3. Table 3-1 and Table 3-3 note that the "High Medium" Multi-Family Residential Land Use Designation corresponds to the R4 Zone. The Project Site is in the C2 Zone, which permits multi-family residential at the High Medium (R4) density (a density of 56-109 dwelling units per net acre, per Table 3-3).
Housing **GOAL 4A.** An equitable distribution of housing opportunities by type and cost accessible to all residents of the City.	**Consistent.** The Project will provide 153 apartment units, including 18 units set aside for Very Low Income households. This will supplement the existing housing stock in the Hollywood Community Plan area with diversity and contribute to the affordable housing supply. The Property is located within an established mixed-use center in Los Angeles and is designated for Highway Serving Commercial uses by the existing Hollywood Community Plan. As Los Angeles moves towards greater transit network connectivity, the Property is well suited not only for its original land use designated related to highway serving uses, but to serve the broader Hollywood community with numerous connections to other areas throughout Los Angeles from both bus and rail transit options.
Housing	
Objective 4.1. Plan the capacity for and develop incentives to encourage production of an adequate supply of housing units of various types within each City sub region to meet the projected housing needs by income level of the future population to the year 2010.	**Consistent.** The Project will provide 153 apartment units, including 18 units set aside for Very Low Income households. This will supplement the existing housing stock in the Hollywood Community Plan area with diversity and contribute to the affordable housing supply.
Objective 4.2. Encourage the location of new multi-family housing development to occur in proximity to transit stations, along some transit corridors, and within some high activity areas with adequate transitions and buffers between higher-density developments and surrounding lower-density residential neighborhoods.	**Consistent.** The Project is located 0.4 miles from the Metro B Line stop at Sunset and Vine, with connections to the entire Metro Rail system at 7th Street Metro Center and Union Station. In addition, the Project also has a stop for the Metro Bus Route 210 immediately in front of the Site, as well as to the LADOT Hollywood Clockwise and Hollywood/Wilshire routes within two-blocks of the Site. In addition, 0.4 miles to the north at Sunset Boulevard and Vine Street the Property is connected to Metro Bus Routes 2 and 4. All of these transit routes connect the Property to east and west Los Angeles, the San

8 Table 3-1 and Table 3-3 note that the "High Medium" Multi-Family Residential Land Use Designation corresponds to the R4 Zone. The Project Site is in the C2 Zone, which permits multi-family residential at the High Medium (R4) density (a density of 56-109 dwelling units per net acre, per Table 3-3).

	Fernando Valley, and south Los Angeles and southern cities. Furthermore, the Project Site is in close proximity to the Hollywood Pool and Recreation Center, Vine Street Early Education Center, and De Longpre Park. Therefore, the Project is consistent with the General Plan as it supports the addition of residential units near commercial districts with transit options. The Project will create a new desirable place in which the community can live, work and visit, which is also well-served by various public transit options.
Objective 4.3. Conserve scale and character of residential neighborhoods.	**Consistent.** The building is appropriately scaled and designed to integrate into the mixed-use neighborhood of Hollywood.
Mobility Element	
Policy 2.3. Recognize walking as a component of every trip, and ensure high quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.	**Consistent**. The Project would be located within a commercial corridor that is characterized by a high degree of pedestrian activity. The Project would further promote pedestrian activity by developing a mixed use residential and commercial use in proximity to public transit options, with streetscape improvements such as street trees and landscaping.
Policy 3.1. Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes - including goods movement – as integral components of the City's transportation system.	**Consistent**. The Project would promote this policy by providing adequate vehicular access, improving pedestrian access, and providing bicycle facilities. The Project includes 14 short-term and 106 long-term bicycle parking spaces, per LAMC requirements.
Policy 3.2. Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.	**Consistent**. The Project would be designed to provide accessibility and accommodate the needs of people with disabilities as required by the American with Disabilities Act (ADA) and the City's applicable related building code regulations.
Policy 3.3. Promote equitable land use decisions that result in fewer vehicle trips by providing greater proximity and access to jobs, destinations, and other neighborhood services.	**Consistent**. The Project would promote equitable land use decisions that result in fewer vehicle trips by providing a new mixed-use residential and commercial development in close proximity to public transit options, and jobs.
Policy 3.4. Provide all residents, workers and visitors with affordable, efficient, convenient, and attractive transit services.	**Consistent**. The Project would be located in an area well-served by public transit provided by Metro, including bus lines 210 and 4 and LADOT DASH Hollywood. The Metro rail B line is 2,950 feet north of the Site.
Policy 3.5. Support "first-mile, last-mile solutions" such as multi-modal transportation services, organizations, and activities in the areas around transit stations and major bus stops (transit stops) to maximize multi-modal connectivity and access for transit riders.	**Consistent**. The Project would activate the area around major transit stops with housing and commercial use.

Policy 3.7. Improve transit access and service to major regional destinations, job centers, and inter-modal facilities.	**Consistent**. The Project would be located in an area well-served by public transit provided by Metro, including bus lines 210 and 4 and LADOT DASH Hollywood. The Metro rail B line is 2,950 feet north of the Site.
Policy 3.8. Provide bicyclists with convenient, secure and well maintained bicycle parking facilities.	**Consistent**. The Project provides bicycle parking spaces in accordance with LAMC requirements. The Project includes 14 short-term and 106 long-term bicycle parking spaces, per LAMC requirements.
Policy 3.9. Discourage the vacation of public rights-of-way	**Consistent**. The Project would not vacate any public rights-of-way, all associated public rights-of-way would be maintained as part of the Project. A Los Angeles Bureau of Engineering (BOE) Planning Case Referral Form (PCRF) was requested on June 12, 2022 to determine any potential highway dedications on the public streets adjoining the Site. No dedication on Vine Street or Lexington Avenue has been requested by BOE.
Policy 3.10. Discourage the use of cul-de-sacs that do not provide access for active transportation options.	**Consistent**. The Project would not include the development of a cul-de-sac. Vine Street and Lexington Avenue are through streets.
Policy 4.8. Encourage greater utilization of Transportation Demand Management (TDM) strategies to reduce dependence on single-occupancy vehicles.	**Consistent.** If the Project is estimated to generate a net increase of 250 or more daily vehicle trips and requires discretionary action, a transportation assessment for a Project is required.[9] LADOT's VMT calculator, Version 1.3, was used to determine if the project would exceed any of the Transportation Impact Assessment criteria which would require further transportation impact analysis. The Project would generate 1,025 daily vehicle trips, which exceeds LADOT's transportation assessment guidelines screening criteria and a vehicle miles traveled analysis (VMT) is required. For the purposes of this analysis, the VMT evaluation accounted for a reduced parking supply from baseline LAMC requirements and the inclusion of short-term and long-term bicycle parking per LAMC requirements. The VMT Calculator estimates that the Project would generate 1,320 total household VMT. Thus, based on the population assumptions, the Project would generate an average household VMT per capita of 3.7, which would not exceed the significance thresholds for the Central APC (6.0 household VMT

9 LADOT, Transportation Assessment Guidelines, August 2022.

	per capita). Therefore, the Project would not result in a significant household VMT impact.[10]
Policy 4.13. Balance on-street and off-street parking supply with other transportation and land use objectives.	**Consistent**. The Mobility Plan 2035 recognizes that an oversupply of parking can undermine broader regional goals of creating vibrant public spaces and a robust multimodal mobility system and that parking consumes a vast amount of space in the urban environment, which otherwise could be put to valuable alternative uses. Additionally, the Mobility Plan observes that large parking lots create significant environmental impacts, detract from neighborhoods' visual quality, and discourage walking by increasing the distances between services and facilities. Adequate parking would be provided on-site in accordance with LAMC requirements, including bicycle facilities. Furthermore, the Project would be located in an area well-served by public transit, which would reduce parking demand.
Policy 5.2. Support ways to reduce vehicle miles traveled (VMT) per capita.	**Consistent**. The Project would include mixed-use residential and commercial uses located in a commercial corridor characterized by a high degree of pedestrian activity. The Project would provide greater proximity to neighborhood services, jobs, and residences and would be well-served by existing public transportation. Therefore, the Project would support VMT reductions. LADOT concluded that the Project would not result in a significant VMT impact.[11]
Policy 5.4. Continue to encourage the adoption of low and zero emission fuel sources, new mobility technologies, and supporting infrastructure.	**Consistent**. While this policy applies to large-scale goals relative to fuel sources, technologies and infrastructure, the Project would facilitate the use of alternative-fuel, low-emitting, and fuel-efficient vehicles by providing parking spaces that are capable of supporting future installation of electric vehicle supply equipment (EVSE), per the applicable LAMC Section 99.04.106.8. The Project would provide 29 EVSE spaces, of which 10 would have EVCS.
Policy 5.5. Maximize opportunities to capture and infiltrate stormwater within the City's public right-of-ways.	**Consistent**. During construction, the Project would incorporate a Stormwater Pollution Prevention Plan (SWPPP) that includes the implementation of best management practices (BMPs) and other erosion control measures to minimize the discharge of pollutants in stormwater runoff in accordance with the state's General Industrial Stormwater Permit. In addition, during operation, the Project would include

10 Transportation Assessment, Gibson Transportation Consulting, November 2, 2022.

11 Approval Letter, Los Angeles Department of Transportation, December 19, 2022.

	BMPs to collect, detain, treat, and discharge runoff on-site before discharging into the municipal storm drain system as part of the City's Low Impact Development (LID) ordinance.
Housing Element (2021-2029)	
Objective 1.1. Forecast and plan for existing and projected housing needs over time with the intention of furthering Citywide Housing Priorities.	**Consistent.** The Project would develop a variety of floor plan layouts and bedroom types, including 153 new multi-family residential units with 18 affordable VLI units. The 153 units include 21 studio units, 89 1-bedroom units, and 43 2-bedroom units. The Project would contribute to the total number of dwelling units as deemed necessary in the Regional Housing Needs Assessment.
Objective 1.2. Facilitate the production of housing, especially projects that include Affordable Housing and/or meet Citywide Housing Priorities.	**Consistent.** The Project would not involve the removal of any existing housing and would add 153 new multi-family residential units including 18 units set aside for Very Low Income households .
Objective 3.1. Use design to create a sense of place, promote health, foster community belonging, and promote racially and socially inclusive neighborhoods.	**Consistent.** The mixed-use Project has been developed to provide an appropriate and high-quality design that is compatible with existing development in the community. As such, the Project would promote a livable neighborhood with a mix of housing types in a well-designed building.
Objective 3.2. Promote environmentally sustainable buildings and land use patterns that support a mix of uses, housing for various income levels and provide access to jobs, amenities, services and transportation options.	**Consistent.** The Project would comply with the Los Angeles Green Building Code (LAGBC). Further, pursuant to the California's CALGreen Building Standards, the Project Applicant would be required to recycle/divert construction waste generated on the Project Site in accordance with the LAMC. The EV parking requirement reduces dependency on fossil fuels. The Project would provide 29 EVSE spaces, of which 10 would have EVCS. As such, the Project would contribute to the promotion of development of sustainable buildings to minimize the adverse effects on the environment and the use of non-renewable resources. The Project Site is an infill site located within walking distance to transit options. As such, the Project would contribute to the promotion of a sustainable community.
Objective 4.1. Ensure that housing opportunities are accessible to all residents without discrimination on the basis of race, color, ancestry, sex, national origin, color, religion, sexual orientation, gender identity, marital status, immigration status, family status, age, intellectual, developmental, and physical disability, source of	**Consistent.** The Project would comply with all federal, state, and local laws regarding equal housing without discrimination on the basis of race, ancestry, sex, national origin, color, religion, sexual orientation, marital status, familial status, age, disability (including HIV/AIDS), and student status.

income and student status or other arbitrary reason.	
Conservation Element	
15.1 Objective: Protect and reinforce natural and scenic vistas as irreplaceable resources and for the aesthetic enjoyment of present and future generations.	**Consistent.** The Project Site and surrounding area are characterized by dense urban development. Due to existing buildings in the area, views are generally obstructed, and no scenic vistas exist. Therefore, the Project would not have any adverse effect on a scenic vista for the enjoyment of present and future generations.
15.1 Policy: Continue to encourage and/or require property owners to develop their properties in a manner that will, to the greatest extent practical, retain significant existing land forms (e.g., ridge lines, bluffs, unique geologic features) and unique scenic features (historic, ocean, mountains, unique natural features) and/or make possible public view or other access to unique features or scenic views.	**Consistent.** The Project Site does not contain any significant existing land forms (e.g., ridge lines, bluffs, unique geologic features) or unique scenic features (historic, ocean, mountains, unique natural features). The Project Site is located in an urbanized portion of the City and topographically relatively flat. The Project Site is not a part of a scenic resource and would not obstruct any scenic views.
Health and Wellness Element	
1.5 Improve Angelenos' health and well-being by incorporating a health perspective into land use, design, policy, and zoning decisions through existing tools, practices, and programs.	**Consistent.** The Project would provide housing opportunities to the community within walking distance to existing bus lines, helping to reduce dependence on vehicles and the air pollutants generated by vehicular traffic. In addition, the Project would be located within and near the job centers of Los Angeles.
2.2 Promote a healthy built environment by encouraging the design and rehabilitation of buildings and sites for healthy living and working conditions, including promoting enhanced pedestrian-oriented circulation, lighting, attractive and open stairs, healthy building materials and universal accessibility using existing tools, practices, and programs.	**Consistent.** The Project would promote pedestrian activity, with a residential and commercial development. The Project would be designed to encourage pedestrian activity. Use of bicycles to and from the Project Site would be encouraged as part of the Project by the provision of ample and safe bicycle parking. The number, type of spaces, and dimensions would be provided based on LAMC Sections 12.21-A,16 and 12.21-A,4(c). The bicycle spaces would be provided in a readily accessible location(s). Appropriate lighting would be provided to increase safety and provide theft protection during nighttime parking.
2.3 Strive to eliminate barriers for individuals with permanent and temporary disabilities to access health care and health resources.	**Consistent.** Design of the Project would comply with all existing federal, state, and local regulations, including the Americans with Disabilities Act (ADA) and the state and City building codes to eliminate barriers for individuals with permanent and temporary disabilities.
2.11 Lay the foundation for healthy communities and healthy living by promoting infrastructure improvements that support active transportation with safe, attractive, and comfortable facilities that	**Consistent.** See Policy 1.5 above regarding how the Project's mix of uses and location near transit would support healthy communities and healthy living.

meet community needs; prioritize implementation in communities with the greatest infrastructure deficiencies that threaten the health, safety, and well-being of the most vulnerable users.	
3.8 Support public, private, and nonprofit partners in the ongoing development of new and innovative active spaces and strategies to increase the number of Angelenos who engage in physical activity across ages and level of abilities.	**Consistent.** The Project meets the LAMC requirement. This includes an outdoor decks, indoor amenities, and balconies.
5.1 Reduce air pollution from stationary and mobile sources; protect human health and welfare and promote improved respiratory health.	**Consistent.** The Project would facilitate the use of alternative-fuel, low-emitting, and fuel-efficient vehicles by providing parking spaces that are capable of supporting future installation of electric vehicle supply equipment (EVSE), per the applicable LAMC Section 99.04.106.8. See Policy 1.5 above regarding how the Project's uses and location near transit would support healthy communities and healthy living.
5.3 Reduce exposure to second-hand smoke by promoting smoke-free environments and market and support public, private, and nonprofit cessation programs and services.	**Consistent.** The Project would reduce exposure to second-hand smoke in accordance with applicable law, such as prohibition on smoking in rental residential units (California Civil Code Section 1947.5).
5.4 Protect communities' health and well-being from exposure to noxious activities (for example, oil and gas extraction) that emit odors, noise, toxic, hazardous, or contaminant substances, materials, vapors, and others.	**Consistent.** The Project's regional and local, construction emissions and operational emissions would be less than significant (see the air quality analysis below). The Project would comply with existing regulations pertaining to hazardous materials to ensure that no significant impacts related to upset and accident conditions related to hazardous materials would occur as a result of the Project. Finally, the Project does not include facilities that would use hazardous materials, such as a dry cleaner, industrial manufacturing processes, or automotive repair facilities. The Project would not result in any impacts related to odors.
5.7 Promote land use policies that reduce per capita greenhouse gas emissions, result in improved air quality and decreased air pollution, especially for children, seniors and others susceptible to respiratory diseases.	**Consistent.** The Project would comply with Section 2485 in CCR Title 13, which requires trucks and vehicles in loading and unloading queues to have their engines turned off after five minutes when not in use, in order to reduce vehicle emissions.
Infrastructure and Public Services Chapter	
Policy 9.3.1: Reduce the amount of hazardous substances and the total amount of flow entering the wastewater system.	**Consistent**. The Project would support this City policy through compliance with City grading permit regulations (Chapter IX, Division 70 of the LAMC), which requires the preparation of an erosion control plan, to reduce the effects of sedimentation and erosion. The Project would also be required to comply with the City's LID Ordinance (Ordinance No. 181,899), which promotes the use of natural infiltration systems, evapotranspiration, and the reuse of

	stormwater. Thus, Best Management Practices (BMPs) would be implemented to collect, detain, treat, and discharge runoff on-site before discharging into the municipal storm drain system. The treatment method proposed for the Project Site is the implementation of High Efficiency Biofiltration Systems (flow-through planters) to manage stormwater runoff in accordance with current LID requirements. Thus, the Project would reduce the amount of hazardous substances and total amount of flow entering the wastewater system.
Objective 9.6: Pursue effective and efficient approaches to reducing stormwater runoff and protecting water quality.	**Consistent**. See Policy 9.3.1. above under Infrastructure and Public Services Chapter.
Objective 9.10: Ensure that water supply, storage, and delivery systems are adequate to support planned development.	**Consistent**. Based on LADWP's demand projections provided in its 2020 Urban Water Management Plan (UWMP)[12], LADWP would be able to meet the water demand of the Project, as well as the existing and planned future water demands of its service area. As the Project's water demand is accounted for in the City's future projected demands (the 2020-2045 RTP includes growth throughout the Los Angeles subregion and informs the LADWP 2020 UWMP), the Project would not require the construction or expansion of new water treatment facilities that could cause a significant environmental effect. In general, projects that conform to SCAG's 2020-2045 RTP demographic projections and are in the City's service area are considered to have been included in LADWP's water supply planning efforts in the UWMP. In terms of the City's overall water supply condition, the water requirement for any project that is consistent with the City's General Plan has been taken into account in the planned growth of the water system. Furthermore, the Project would not exceed the available capacity within the distribution infrastructure that would serve the Project Site.
Goal 9P: Appropriate lighting required to: (1) provide for nighttime vision, visibility, and safety needs on streets, sidewalks, parking lots, transportation, recreation, security, ornamental, and other outdoor locations; (2) provide appropriate and desirable regulation of architectural and information lighting such as building façade lighting or advertising lighting; and	**Consistent.** The Project would introduce new sources of artificial light to the Project Site, including low-level exterior lights for security and way-finding purposes, as well as general accent lighting. The Project would not include electronic lighting or signs with flashing or strobe lights. All exterior lighting would be shielded or directed toward the areas to be

12 LADWP 2020 Urban Water Management Plan, page ES-6: https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-water/a-w-sourcesofsupply/a-w-sos-uwmpln;jsessionid=0LnWhxdVj2JJg2Vm6Xrr4rmqyLL9GtlpLdJBQxVQgdb53TnwhJRB!-1106340359?_afrLoop=151440072116797&_afrWindowMode=0&_afrWindowId=null#%40%3F_afrWindowId%3Dnull%26_afrLoop%3D151440072116797%26_afrWindowMode%3D0%26_adf.ctrl-state%3Dw319yjmek_4

(3) protect and preserve the nighttime environment, views, driver visibility, and otherwise minimize or prevent light pollution, light trespass, and glare.	lit to limit spill-over onto off-site uses. The Project would comply with the City's lighting and signage ordinances and would have signage approved by LADBS.
General Plan, Chapter 3-Land Use: https://planning.lacity.org/cwd/framwk/chapters/03/03207.htm City of Los Angeles, Conservation Element of the General Plan, March 2001. Housing Element: http://planning.lacity.org/HousingInitiatives/HousingElement/Text/Ch6.pdf City of Los Angeles, Health and Wellness Element of the General Plan, March 2015. General Plan, http://cityplanning.lacity.org/cwd/framwk/fwhome0.htm Note: This table includes only the policies that are applicable to the Project.	

2.2 Hollywood Community Plan

The Community Plan is one of 35 community plans geographically established for different areas of the City to implement the policies of the General Plan Framework Element and comprise the Land Use Element. The specific purpose of the Community Plan is to promote an arrangement of land use, circulation, and services that encourages and contributes to the economic, social and physical health, safety, welfare, and convenience of the community within the larger framework of the City. In addition, the Community Plan serves to guide the development of the community to meet existing and anticipated needs and conditions, as well as to balance growth and stability, enable economic stability and growth, responsibly manage land development and other trends, and to protect investment.

The Project Site is located within the Hollywood Community Plan (adopted on December 13, 1988)[13], which designates the Site as Highway Oriented Commercial land use. The Project Site is zoned C2-1D.

The Project Site is in the Hollywood Community Plan, which designates the site as Highway Oriented Commercial. The Hollywood Community Plan is undergoing a Community Plan Update (Update) and is currently in the adoption phase. The Update has been approved by the City Planning Commission which referred the Update to the City Council for adoption on August 19, 2021. The upcoming steps to complete adoption of the Update are receiving the recommendations for approval from the Los Angeles City Council's Planning and Land Use Management (PLUM) Committee, and then the final approval from the full City Council.[14] Adoption is anticipated in 2023.

The Community Plan is the Land Use Element of the City's General Plan. The Community Plan also contains policies and objectives to guide development and uses planned within the City. As addressed above, not every goal, policy, or objective is of the Community Plan applicable to the Project or the Project Site, a demonstration of consistency with the General Plan requires a finding of general harmony with the plan. The Community Plan is intended to promote an arrangement of land use, circulation, and services that will encourage and contribute to the economic, social and physical health, safety, welfare, and convenience of the community within the larger framework of the City; guide the development of the Community Plan area to meet existing and

13 https://planning.lacity.org/plans-policies/community-plan-area/hollywood

14 Hollywood Community Plan Update: https://planning.lacity.org/plans-policies/community-plan-update/hollywood-community-plan-update#about

anticipated needs and conditions; to balance growth and stability; regulate land development and other trends; and protect investment.

Table 2-2, Community Plan, sets forth the Community Plan objectives for residential and commercial land use and discusses the Project's consistency and applicability with each objective. The Project would not conflict with any of the objectives of the Community Plan.

The Hollywood Community Plan does not outline goals and policies as is traditionally the case for community plans throughout the City but instead includes a list of Objectives.

Table 2-2
Hollywood Community Plan Consistency Analysis

Objectives	Discussion
Objective 1: To further the development of Hollywood as a major center of population, employment, retail services, and entertainment; and to perpetuate its image as the international center of the motion picture industry.	**Consistent.** The Project proposes a mixed use development of 153 dwelling units and 7,000 square feet of commercial space, including 18 units set-aide for Very Low Income households. As such, the Project is providing needed multi-family residential development, appropriate housing along a mixed-use boulevard, increasing the choice of housing type for the area, and offering commercial/retail opportunities.
Objective 2: To make provision for the housing required to satisfy the varying needs and desires of all economic segments of the Community, maximizing the opportunity for individual choice.	**Consistent.** The Project's Very Low Income units will increase access to housing in the community for lower income people and families. The Project contains a range of units from studio to two-bedroom units, as well as 18 units for Very Low Income households, which will ensure a mixed-income project to meet varying needs and maximize housing choices. The Project will help to alleviate the ongoing housing crisis in Los Angeles and will address the critical demand for affordable housing in the City without displacing existing residential tenants.
Objective 4.a: Allocating and distributing commercial lands for retail, service, and office facilities in quantities and patterns based on accepted planning principles and standards.	**Consistent.** The Project will locate high-quality commercial and residential uses in proximity to transit, and enhance the built environment with redevelopment of underutilized commercial space into a mixed use vibrant community.
https://planning.lacity.org/plans-policies/community-plan-area/hollywood	

2.3 Zoning Regulations

2.3.1 Local Emergency Temporary Regulations – Time Limits and Parking Relief

On July 1, 2021, pursuant to Ordinance 187,096, supplemental Local Emergency Temporary Regulations became effective (LAMC Section 16.02.1). Concurrently, as required by the

Ordinance, a Resolution was adopted by the City Council to activate these supplemental Temporary Regulations for a period of one year from the end of the Local Emergency declaration issued on March 4, 2020. Currently, the Local Emergency declaration is still valid and ongoing, and no end date for it or the Temporary Regulations established under this Ordinance has been determined. The extension of time limits applies to most CUPs and quasi-judicial actions. This does not apply to the Project.

The automobile parking requirements applies to change of use, outdoor dining, valet parking, and offsite parking. This does not apply to the Project.

2.3.2 State Enterprise Zone: Los Angeles

The Site is within an Enterprise Zone/Employment and Economic Incentive Program Area (EZ). The Federal, State and City governments provide economic incentives to stimulate local investment and employment through tax and regulation relief and improvement of public services. EZ special provisions applicable to plan check include parking standards and height. The Los Angeles State Enterprise Zone provides reduced parking requirements of 2 spaces for every 1,000 square feet of business, retail, restaurant, bar and related uses (LAMC Section 12.21.A.4(x)(3)6.).

The Project’s commercial uses will utilize the Enterprise Zone's reduced parking requirement of 2 spaces for every 1,000 square feet.

2.3.3 Transit Priority Area in the City of Los Angeles

On September 2013, the Governor signed into law Senate Bill (SB) 743, which instituted changes to the California Environmental Quality Act (CEQA) when evaluating environmental impacts to projects located in areas served by transit. While the thrust of SB 743 addressed a major overhaul on how transportation impacts are evaluated under CEQA, it also limited the extent to which aesthetics and parking are defined as impacts under CEQA. Specifically, Section 21099 (d)(1) of the Public Resources Code (PRC) states that a project’s aesthetic and parking impacts shall not be considered a significant impact on the environment if:

1. The project is a residential, mixed-use residential, or employment center project, and

2. The project is located on an infill site within a transit priority area.[15]

The Project contains multiple uses, including residential and commercial. The Project Site is an infill site, which is defined in pertinent part as a lot located within an urban area that has been previously developed.[16] The Project Site is within a transit priority area, which is defined in pertinent part as an area within one-half mile of an existing major transit stop.[17]

15 http://zimas.lacity.org/documents/zoneinfo/ZI2452.pdf.

16 California Public Resources Code Section 21099(a)(4).

17 California Public Resources Code Section 21099(a)(7).

As a TPA, projects are entitled to certain exemptions under CEQA, as well as parking reductions of 0.5 spaces per unit for the provision of on-site affordable housing, as recently amended by State Assembly Bill AB 2345.

2.4 Zoning Code

The Project Site is zoned C2-1D, and is designated for Highway Oriented Commercial land uses by the Hollywood Community Plan. Height District 1 in commercial zones has no limit on height or stories[18], with a maximum base Floor Area Ratio (FAR) of 1.5:1.

However, the D limitation on the Project Site allows up to 3:1 FAR but restricts the FAR of the commercial portion to 0.5:1.

The C2-2D zone permits both commercial and residential uses. The corresponding zones for the Highway Oriented Commercial land use designation include C1, C2, P, RAS3, and RAS4.[19]

Residential uses are permitted at one dwelling unit per 400 square feet of lot area.

The Project proposes to use Off-Menu Density Bonus incentives. The Project is eligible for the requested Off-Menu Incentives by dedicating 17% of the base density for Very Low-Income households, resulting in the provision of 18 of its total 153 units reserved for affordable households. The City has previously determined that potential incentives may be requested by an applicant in order to provide for affordable housing costs as defined in California Health and Safety Code Section 50052.5 or Section 50053.

In order to achieve cost reductions that allow for the provision of the 18 deed restricted affordable very low income units, the Applicant is requesting a Density Bonus approval with three (3) Off-Menu Incentives for:

1) FAR increase for a maximum of 3.51:1 in lieu of 3.0:1 and 0.5:1;

2) a reduction in the rear yard to provide 10 feet in lieu of the 20 feet otherwise required; and

3) a reduction in the side yard to provide 0 feet in lieu of the 10 feet otherwise required.

These incentives are necessary in order to incorporate the highest-quality new housing in this neighborhood and to provide 18 residential units (17% of the base density) dedicated to Very Low Income households.

The increase in FAR resulting in 3.51:1 is more appropriate for such a prominent location in Hollywood. The restriction to 0.5:1 is due to the “D” Condition, which is typical of commercial boulevards in Los Angeles, but is now outdated. A 3.51:1 FAR is suitable for a site of this size in such a prominent activity center, and to provide the substantial affordable housing component in this Project, with 18 affordable units. Granting the subject request for the increase in FAR will allow for the provision of additional market rate units that will offset the cost of the inclusion of

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18 Commercial only uses limited to 45 feet pursuant to Commercial Corner development standards, mixed-use project are exempt and unlimited by height and stories.

19 General Plan Land Use Map: https://planning.lacity.org/plans-policies/community-plan-area/hollywood

restricted affordable units. Additionally, the increase in allowable Floor Area would allow for the construction of units in varying sizes and inclusion of multi-bedroom units to accommodate larger households, thus more marketable to a wider population. Without this requested increase, the FAR restriction would limit the Project to a 0.5:1 FAR, and prohibit the Applicant from providing a mixed-income housing project with such a substantial set-aside for Very Low Income Households. The underlying 0.5:1 FAR limitation is also prohibitive to a property granted unlimited height, thus preventing appropriate utilization of the Property for residential development consistent with R4 zoning standards. Therefore, this incentive for an increase of FAR is necessary to provide the building envelope and floor area needed for the Applicant to produce the cost reductions necessary to accommodate the Project's 18 units dedicated to Very Low Income households.

Granting the request for a decrease in this rear yard will allow for an expanded building envelope and the provision of additional market rate units which will offset the cost of the inclusion of restricted affordable units. Additionally, the decrease in the required rear yard will allow for a building footprint that is consistent with other buildings in the area, and make the provision of additional affordable units feasible by enabling parking on the first and second level as opposed to in costly subterranean levels that would render the provision of affordable units financially infeasible. The rear-yard decrease is thus necessary to provide the additional units which creates cost reductions enabling the Applicant to construct a housing project with 17% of the base density set aside for Very Low Income households. Additionally, the decrease in yard will allow the Project to accommodate street activating commercial uses and parking at the first and second floors that ensure the Project will be compatible with the surrounding community, and make the Project economically feasible in the long-term.

Granting the request for a decrease in this side yard will allow for an expanded building envelope which maximizes space along the street frontage. The maximization of this space will allow for the provision of market rate units that offset the cost of restricted affordable units. The configuration of the building to allow a 0 foot yard will ensure that commercial space is appropriately oriented toward the street, enhancing the marketability of market rate units and ensuring the economic viability of the Project. This will in turn allow the developer to provide such a substantial set-aside of affordable units. Additionally as noted above, an increase in the building footprint will make the provision of additional affordable units feasible by enabling parking on the first and second level as opposed to in costly subterranean levels that would render the provision of affordable units financially infeasible. The side-yard decrease is thus necessary to provide additional market rate units which creates cost reductions for the project, enabling the Applicant to construct a housing project with 17% of the base density set aside for Very Low Income households.

2.5 Conclusion

For all the foregoing reasons, the Project would be consistent with the applicable goals, policies, and objectives of the City's general land use plans and zoning for the Project Site.

The Project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations , and therefore, the Project would comply with CCR Section 15332(a).

3 Discussion of CCR Section 15332(b)

The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

The Project Site is located in an urbanized area of the City of Los Angeles. Urban land uses directly abut and surround the Project Site on all sides. The Project Site is bounded as follows:

<u>North</u> adjacent to the Site is a 2-story office building (currently occupied by Los Angeles County Department of Mental Health, Hollywood Mental Health Center, 1224 Vine Street). This area is zoned C2-1D.

<u>South</u> across Lexington Avenue is a fast food restaurant with drive-thru and surface parking lot (currently occupied by a Taco Bell, 6254 Lexington Avenue). This area is zoned C2-1D.

<u>Southeast</u> across Lexington Avenue are two 2-story residential buildings (6230, 6240 Lexington Avenue). This area is zoned RD1.5-1XL.

<u>West</u> across Vine Street is a 1-story banquet and event facility (currently occupied by the Taglyan Complex, 1201 Vine Street) and a vacant lot. This area is zoned C2-1D

<u>Southwest</u> across Vine Street and Lexington Avenue is a 2-story vacant commercial building (1161 Vine Street) and a 2-story school building and outdoor play area (currently occupied by the Early Head Start, 1147 Vine Street). This area is zoned C2-1D

<u>East</u> adjacent to the Site are two 2-story residential buildings (6232-6238 La Mirada Avenue and 6231-6239 Lexington Avenue). This area is zoned RD1.5-1XL.

As defined by CEQA Section 21071: *"Urbanized area" means either of the following: (a) An incorporated city that meets either of the following criteria: (1) Has a population of at least 100,000 persons. (2) Has a population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons.*

The Project Site measures 0.936 acres, which is less than five acres. The Project Site is located within the City of Los Angeles. Therefore, the development occurs within the City limits, is of no more than five acres, and is substantially surrounded by urban uses.

Therefore, the Project would comply with CCR Section 15332(b).

4 Discussion of CCR Section 15332(c)

The project site has no value as habitat for endangered, rare or threatened species.

This section is based on the following item, included as **Appendix B** of this CE:

B Tree Evaluation Report, Arborgate Consulting, June 21, 2022

4.1 Trees

There are 9 street trees on the sidewalk (4 jacarandas on Vine Street and 5 pink trumpet trees on Lexington Avenue). There are 3 onsite palm trees on the southwest corner of the parking lot.[20] None of the trees constitute a protected tree[21] or shrub.[22]

4.2 Habitat for Species

The Project Site is completely surrounded by urban uses. The Project Site contains two 1-story vacant commercial buildings and a surface parking lot.

The Project Site has been subject to substantial disturbance associated with the original construction of the building and ongoing regular maintenance of the landscaping and nearby surrounding areas are entirely developed. As such, the Project Site does not exhibit potential to support endangered, rare, or threatened plant species.

The Project Site is disturbed, relative to the presence of natural habitats, and surrounding areas are entirely developed; therefore, the Site does not provide potential habitat for endangered, rare, or threatened animal species. Some examples of these disturbances that deter animals include complete absence of native habitats or vegetation, substantial vehicle traffic, artificial lighting, regular vegetation maintenance, domesticated and feral dogs and cats, and pest management.

The California Natural Diversity Database (CNDDB) identifies the following special-status community terrestrial habitats as occurring within the USGS Hollywood quadrangle[23]: California Walnut Woodland, Southern Coast Love Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest and Southern Sycamore Alder Riparian Woodland.[24]

No special status community terrestrial habitats are present on the Project Site and there is no

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20 Tree Evaluation Report, Arborgate Consulting, June 21, 2022.

21 LAMC Section 46.01: "PROTECTED TREE" means any of the following Southern California native tree species which measures four inches or more in cumulative diameter, four and one-half feet above the ground level at the base of the tree: (a) Oak tree including Valley Oak (Quercus lobata) and California Live Oak (Quercus agrifolía), or any other tree of the oak genus indigenous to California but excluding the Scrub Oak (Quercus dumosa). (b) Southern California Black Walnut (Juglans californica var. californica) (c) Western Sycamore (Platanus racemosa) (d) California Bay (Umbellularia californica) This definition shall not include any tree grown or held for sale by a licensed nursery, or trees planted or grown as a part of a tree planting program.

22 Effective February 4, 2021 in Ordinance No 186,873, the City added Mexican elderberry and toyon shrubs to the list of protected species.

23 US Geological Survey, Topographic Maps, Hollywood Quadrangle, 2022: https://apps.nationalmap.gov/viewer/

24 California Department of Fish and Wildlife, BIOS Map: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data#43018410-cnddb-quickview-tool

potential to occur.

4.3 Migratory Birds

Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 CFR Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA).

The City's Bureau of Street Services, Urban Forestry Division complies with the MBTA for tree pruning and tree removal.

The Project would comply with the regulations of the CDFW[25] and USFWS.[26]

4.4 Wetlands and Riparian Areas

No federally protected wetlands (e.g., estuarine and marine deepwater, estuarine and marine, freshwater pond, lake, riverine) occur on or in the immediate vicinity of the Project Site.[27] The nearest wetland habitat is the Hollywood Forever Cemetery Lake, which classified as Freshwater Pond and located approximately 2,900 feet southeast of the Project Site.[28]

No riparian or other sensitive habitat areas are located on or adjacent to the Project Site.[29]

Due to the highly urbanized nature of the Project Site and surrounding area, the lack of a major water body, and the lack of trees (only palms), the Project Site is not a habitat for native resident or migratory species or contain native nurseries.

There are no City or County significant ecological areas on or around the Project Site.[30] There are no California Natural Community Conservation Plans (CNCCP) in the area. The only CNCCP in LA County is in the City of Rancho Palos Verdes.[31]

There are no Habitat Conservation Plans near the Site.[32]

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25 http://www.leginfo.ca.gov/.html/fgctableofcontents.html, accessed October 12, 2022.

26 https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php, accessed October 12, 2022.

27 USFWS, National Wetlands Inventory, Wetlands Mapper, website: http://www.fws.gov/wetlands/Data/Mapper.html, accessed October 12, 2022.

28 USFWS, National Wetlands Inventory, Wetlands Layer: http://www.fws.gov/wetlands/Data/Mapper.html, accessed October 12, 2022.

29 USFWS, National Wetlands Inventory, Wetlands Mapper, website: http://www.fws.gov/wetlands/Data/Mapper.html, accessed October 12, 2022.

30 Navigate LA, Significant Ecological Areas layer: http://navigatela.lacity.org/navigatela/, accessed July 18, 2021.

31 California Natural Community Conservation Plans, April 2019, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68626&inline, accessed October 12, 2022.

32 USFWS, Habitat Conservation Plans: https://ecos.fws.gov/ecp0/conservationPlan/region/summary?region=8&type=HCP, accessed October 12, 2022.

Thus, there exists no value for the Project Site as habitat for endangered, rare, or threatened species. Further, the Project Site is not located in an approved local, regional, or state habitat conservation plan.

4.5 Conclusion

The Project would not conflict with any local policies or ordinances protecting biological resources, or with the provisions of an adopted Habitat Conservation Plan. The Project Site has no value as habitat for endangered, rare, or threatened species.

Therefore, the Project would comply with CCR Section 15332(c).

5 Discussion of CCR Section 15332(d): Traffic

Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.[33]

This section is based on the following items, included as **Appendix C** of this CE:

C-1 Transportation Assessment, Gibson Transportation Consulting, November 2, 2022

C-2 Approval Letter, Los Angeles Department of Transportation, December 19, 2022

5.1 Construction

Pursuant to the LADOT guidance, construction impacts are considered part of the non-CEQA transportation analysis.[34] The discussion below is for informational purposes only.

Construction traffic would include worker trips and grading haul trips. Construction workers generally arrive at and depart from the worksite outside of peak traffic hours. The haul trips would occur during the permissible hauling hours identified by the Department of Building and Safety. Thus, it is not anticipated that construction traffic trips would contribute to a significant increase in the overall congestion in the Project Site vicinity. In addition, any truck trips would be limited to the length of time required for the Project's construction.

The grading phase would average approximately 45[35] haul trucks per day during the 45-day phase. Vine Street is a key part of the initial haul route for any soil exported from the Project Site Freeway, as trucks would then use Santa Monica Boulevard to access the Hollywood Freeway.

Project construction is not expected to create hazards for roadway travelers, bus riders, or parkers, so long as commonly practiced safety procedures for construction are followed. Such procedures and other measures (e.g., to address temporary traffic control, lane closures, sidewalk closures, etc.) would be incorporated into the Construction Management Plan.

Construction activities would be primarily contained within the Project Site boundaries. All construction equipment will be staged entirely on-site or delivered on an as needed basis. However, temporary closures of the public ROW (e.g., travel lanes, sidewalks) adjacent to the Project Site may be required during construction. Temporary traffic controls (e.g., use of directional signage, maintaining continuous and unobstructed pedestrian paths, and/or providing overhead covering) would be provided to direct traffic and/or pedestrians safely around any closures, as required in the Construction Management Plan.

The construction activities of the Project would require the temporary relocation of the Metro Local 210 stop located along Vine Street adjacent to the Project Site. The stop relocation would be

33 Each of these topic areas (traffic, noise, air quality, and water quality) is discussed in its own section below.

34 LADOT, Transportation Assessment Guidelines, August 2022. Project construction is categorized under Non-CEQA Transportation Analysis.

35 10,000 cubic yards export / 10 cy truck capacity / x 2 (for round trip) = 2,000 truck trips in total / 45 day = 45 truck trips per day

coordinated with Metro. Metro would be notified should the Project construction affect any other Metro facilities.

Parking is not permitted along Vine Street adjacent to the Project Site. It is, however, permitted along Lexington Avenue adjacent to the Project Site where construction activities may result in a temporary removal of up to five unmetered parking spaces. As such, coordination with LADOT would be included in the Construction Management Plan.

Typically, LADOT recommends that a construction work site traffic control plan be submitted to LADOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. LADOT also recommends that all construction related truck traffic be restricted to off-peak hours to the extent feasible.

5.2 Operation

LADOT's Transportation Assessment Guidelines (August 2022) (TAG) provides screening criteria to determine whether traffic analysis is required under the California Environmental Quality Act (CEQA). CEQA analysis is based on vehicle miles traveled (VMT) that could be generated by the Project. The TAG states that a development project requires preparation of a transportation assessment if it is estimated to generate a net increase of 250 or more daily vehicle trips and requires discretionary action by the City. The Project would require a discretionary action. The Project trip generation was estimated to determine whether the other half of the criteria is satisfied.

The TAG allows the use of LADOT's VMT Calculator tool (version 1.3, released July 2020) to estimate daily trips for the purpose of screening a development project. The VMT Calculator is programmed with trip generation rates from Trip Generation Manual, 9th Edition (Institute of Transportation Engineers [ITE], 2012). It also applies various adjustment factors based on the Project's proximity to transit, surrounding density of development, etc. It considers trips generated by the proposed uses and discounts trips generated by existing or recently operating uses that would be removed from the Project Site.

Table 5-1 summarizes daily trip generation for the Project. This includes the Project; no credit is being applied for any existing uses, as the uses to be removed are vacant. As shown, the Project would generate 1,025 net trips without any TDM strategies. Therefore, based on the City threshold of 250 trips, a transportation assessment would be required for the Project.

5.2.1 Methodology

Two categories of transportation analysis are required by the City as detailed in the Transportation Assessment Guidelines (LADOT, August 2022) (TAG). The first category relates to potential transportation impacts under the California Environmental Quality Act (CEQA). Should a project exceed thresholds identified in the TAG, its impact would be considered significant under CEQA and would require implementation of feasible mitigation measures to reduce the impact below the threshold of significance. The CEQA thresholds identified in the TAG are consistent with City thresholds and with State of California (State) CEQA guidance. The second category is non-CEQA impacts.

- T-1 Conflicting with Plans, Programs, Ordinances or Policies
- T-2.1 Causing Substantial Vehicle Miles Traveled (VMT)
- T-2.2 Substantially Inducing Additional Automobile Travel Analysis
- T-3 Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use

Table 5-1
Trip Generation Estimates

Land Use	Size	Daily Vehicle Trips
Existing Uses (removed)		
Vacant[1]	-	-
Proposed Project		
Multi-Family Housing (Mid-Rise)	135 units	
Multi-Family Housing (Affordable)	178 units	1,025
High-Turnover Sit-Down Restaurant	7,000 sf	
Net total		**1,025**

[1] It should be noted that, to provide a more conservative analysis, no trip generation reductions were applied for the removal of existing uses at the Project Site.
Affordable Housing trip generation rates from Los Angeles Department of Transportation (LADOT) Transportation Guidelines, Table 3.3-2: Trip Generation Rates for Affordable Housing Projects, August 2022. Trip generation rates "Inside TPA Area" were utilized.
Utilizing the City of Los Angeles' VMT Calculator Tool (version 1.3).
Transportation Assessment, Gibson Transportation Consulting, November 2, 2022.

5.2.2 Conflict with Plans, Programs, Ordinances or Policies

To guide the City's Mobility Plan 2035, the City adopted programs, plans, ordinances, and policies that establish the transportation planning framework for all travel modes, including vehicular, transit, bicycle, and pedestrian facilities. Land development projects shall be evaluated for conformance with these City adopted transportation plans, programs, and policies.

The Project location and site access is consistent with the goals of the Mobility Plan as the Project would be designed to provide safe access for all users. The Project would support the policies of the Mobility Plan as it would promote a balanced transportation system by locating affordable housing in proximity to transit, jobs, and local retail uses. The Project would meet the goals of the Mobility Plan and would not interfere with the applicable policies of the Mobility Plan. Thus, the Project would be consistent with the Mobility Plan.

The Project supports healthy lifestyles by reducing single-occupant vehicle trips by virtue of its location near to abundant high-quality and high-frequency transit options and its provision of bicycle parking per the LAMC. The Project does not interfere with any other policies recommended by the plan. Therefore, the Project is consistent with Plan for a Healthy Los Angeles.

LAMC Section 12.21.A.16 details the bicycle parking requirements for new developments. In accordance with the requirements of the LAMC, the Project would provide a total 120 bicycle parking spaces, including 14 short-term and 106 long-term bicycle parking spaces.

LAMC Section 12.26J, the adopted TDM Ordinance (1993), establishes TDM requirements for projects with at least 25,000 sf of non-residential gross floor area. The Project does not include non-residential floor area in excess of 25,000 sf and, therefore, the TDM Ordinance does not apply.

LAMC Section 12.37 pertains to development or expansion of buildings along Highways and Collector Streets and applies to streets designated Boulevard I, Boulevard II, Avenue I, Avenue II, and Avenue III in the Mobility Plan. Vine Street is a designated Avenue II in the Mobility Plan, and the Project would provide a 10-foot dedication for future ROW expansion. Thus, the Project would be consistent with the requirements of LAMC Section 12.37.

The primary goal of Vision Zero is to eliminate traffic deaths in the City by 2025. Vision Zero identifies the HIN, a network of streets where strategic investments will have the biggest impact in reducing death and severe injury. Annually developed Action Plans emphasize creating safe streets for all users, developing a culture of safety, adopting policy measures to promote safety, and using data to inform the most effective solutions.

Adjacent to the Project Site, Vine Street has been identified as part of the High Injury Network, but has not been identified as a Priority Corridor. Therefore, no Vision Zero improvements are currently planned adjacent to the Project Site. Nevertheless, the Project would not preclude future Vision Zero safety improvements by the City. Thus, the Project does not conflict with Vision Zero.

Citywide Design Guidelines (LADCP Urban Design Studio, October 2019) identifies urban design principles to guide architects and developers in designing high-quality projects that meet the City's functional, aesthetic, and policy objectives and help foster a sense of community. Citywide Design Guidelines is organized around six design objectives. City of Los Angeles Urban Design Principles (LADCP, 2011) aims to improve mobility in the City through travel mode choices.

The Project would provide affordable housing in proximity to a broad range of land uses and transit options within walking distance, which would encourage pedestrian activity. The Project would be integrated within the surrounding area by providing improved sidewalks and landscaping. Pedestrian connections would be provided via separate entrances from vehicle entrances. In addition, loading activities would occur on-site. Therefore, the Project would align with Citywide Design Guidelines to provide a safe, comfortable, and accessible experience for all transportation modes.

Therefore, the Project does not have a significant transportation impact under CEQA Threshold T-1.1 (Conflicting with Plans, Programs, Ordinances or Policies).

5.2.2 Cause Substantial Vehicle Miles Traveled

As shown in **Table 5-2**, the VMT Calculator estimates that the Project would generate 695 proposed daily VMT. Utilizing the City's VMT Calculator Tool (V1.3), the VMT analysis for the Project was prepared. The Project's proposed land uses along with the existing land use were input into the City's VMT Calculator Tool.

The VMT Calculator was used to evaluate Project VMT and compare it to the VMT impact criteria. It should be noted that as part of the Project design, measures would be implemented to reduce the number of single occupancy vehicle trips to the Project Site. For the purposes of this analysis, the VMT evaluation accounted for a reduced parking supply from baseline LAMC requirements and the inclusion of short-term and long-term bicycle parking per LAMC requirements.

As shown in **Table 5-2**, the VMT Calculator estimates that the Project would generate 1,320 total household VMT. Thus, based on the population assumptions, the Project would generate an average household VMT per capita of 3.7, which would not exceed the significance thresholds for the Central APC (6.0 household VMT per capita). Therefore, the Project would not result in a significant household VMT impact, and no mitigation measures would be required.

Therefore, the Project does not have a significant transportation impact under CEQA Threshold T-2.1 (Causing Substantial VMT).

Table 5-2
VMT Analysis Summary

Daily Vehicle Trips	Daily VMT	Household VMT			Work VMT		
		Per Capita	Threshold	Impact?	Per Capita	Threshold	Impact?
892	5,297	3.7	6.0	No	-	7.6	No

VMT results based on the City of Los Angeles VMT Calculator Version 1.3 (July 2020).
The maximum allowable VMT reduction is based on the Project's designated TBZ as determined in Transportation Demand Management Strategies in LA VMT Calculator (LADOT, November 2019) and Quantifying Greenhouse Gas Mitigation Measures (California Air Pollution Control Officers Association, 2010).
Per the TAG, retail and restaurant uses totaling less than 50,000 sf would be considered local-serving and would have a negligible impact on regional VMT. Therefore, the VMT impact of the Project's commercial component would be considered less-than-significant.
Reduced parking supply and the provision of bike parking per LAMC are included as Project design features.
Based on home-based production trips only (see Appendix D, Report 4).
Transportation Assessment, Gibson Transportation Consulting, November 2, 2022.

5.2.3 Substantially Inducing Additional Automobile Travel Analysis

The Project does not include additional through traffic lanes on existing or new highways, general purpose lanes, high-occupancy vehicle lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges. Accordingly, neither the Project nor any improvements associated with it are considered a transportation project. Therefore, Threshold T-2.2 does not apply to the Project and no further evaluation is required.

5.2.4 Substantially Increasing Hazards Due to a Geometric Design Feature of Incompatible Use

Vehicular access to the Project Site would be provided via one commercial driveway on Vine Street, a designated Avenue II, with right-turn-only ingress/egress and one full access residential driveway on Lexington Avenue, a designated Local Street. Both driveways would be designed in accordance with City standards. Adequate queuing areas would also be provided at the driveways internal to the Project Site to limit any potential spillover into the public streets. Therefore, as detailed above, the vehicular access and internal circulation plan for the Project would be designed to minimize vehicular conflicts, and safety impacts to the abutting street system are not anticipated.

Pedestrian and bicycle access to the Project would be provided via commercial entrances along Vine Street and a residential lobby along Lexington Avenue. Vine Street has been identified as part of Vision Zero's HIN (High Injury Network) and the Mobility Plan's PED (Pedestrian Enhanced District) and BLN (Bicycle Lane Network). Vine Street also has Class III bicycle sharrows.

The driveways would be designed to provide safe pedestrian and bicycle crossings and, therefore, would not pose any safety hazards.

Therefore, the Project does not have a significant transportation impact under CEQA Threshold T-3 (Substantially Increasing Hazards Due to a Geometric Design Feature).

5.3 Conclusion

LADOT confirms that the Project would not have a significant transportation impact.[36]

For all the foregoing reasons, the Project would not have a significant traffic impact and satisfies the requirement in CCR Section 15332(d) related to traffic.

[36] Approval Letter, Los Angeles Department of Transportation, December 19, 2022.

6 Discussion of CCR Section 15332(d): Noise

Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.[37]

This section is based on the following item, included as **Appendix D** of this CE:

D Noise Technical Modeling, DKA Planning, October 2022

6.1 Fundamentals of Noise

6.1.1 Characteristics of Sound

Sound can be described in terms of its loudness (amplitude) and frequency (pitch). The standard unit of measurement for sound is the decibel (i.e., dB). Because the human ear is not equally sensitive to sound at all frequencies, the A-weighted scale (dBA) is used to reflect the normal hearing sensitivity range. On this scale, the range of human hearing extends from 3 to 140 dBA. **Table 6-1** provides examples of A-weighted noise levels from common sources.

Table 6-1
A-Weighted Decibel Scale

Typical A-Weighted Sound Levels	Sound Level (dBA L_{eq})
Near Jet Engine	130
Rock and Roll Band	110
Jet flyover at 1,000 feet	100
Power Motor	90
Food Blender	80
Living Room Music	70
Human Voice at 3 feet	60
Residential Air Conditioner at 50 feet	50
Bird Calls	40
Quiet Living Room	30
Average Whisper	20
Rustling Leaves	10

Source: Cowan, James P., Handbook of Environmental Acoustics, 1993.
These noise levels are approximations intended for general reference and informational use.

6.1.2 Noise Definitions

This noise analysis discusses sound levels in terms of equivalent noise level (L_{eq}), maximum noise level (L_{max}) and the Community Noise Equivalent Level (CNEL).

37 Each of these topic areas (traffic, noise, air quality, and water quality) is discussed in its own section.

- Equivalent Noise Level (L_{eq}): L_{eq} represents the average noise level on an energy basis for a specific time period. Average noise level is based on the energy content (acoustic energy) of sound. For example, the L_{eq} for one hour is the energy average noise level during that hour. L_{eq} can be thought of as a continuous noise level of a certain period equivalent in energy content to a fluctuating noise level of that same period.

- Maximum Noise Level (L_{max}): L_{max} represents the maximum instantaneous noise level measured during a given time period.

- Community Noise Equivalent Level (CNEL): CNEL is an adjusted noise measurement scale of average sound level during a 24-hour period. Due to increased noise sensitivities during evening and night hours, human reaction to sound between 7:00 P.M. and 10:00 P.M. is as if it were actually 5 dBA higher than had it occurred between 7:00 A.M. and 7:00 P.M. From 10:00 P.M. to 7:00 A.M., humans perceive sound as if it were 10 dBA higher. To account for these sensitivities, CNEL figures are obtained by adding an additional 5 dBA to evening noise levels between 7:00 P.M. and 10:00 P.M. and 10 dBA to nighttime noise levels between 10:00 P.M. and 7:00 A.M. As such, 24-hour CNEL figures are always higher than their corresponding actual 24-hour averages.

6.1.3 Effects of Noise

The degree to which noise can impact an environment ranges from levels that interfere with speech and sleep to levels that can cause adverse health effects. Most human response to noise is subjective. Factors that influence individual responses include the intensity, frequency, and pattern of noise; the amount of background noise present; and the nature of work or human activity exposed to intruding noise.

According to the National Institute of Health (NIH), extended or repeated exposure to sounds above 85 dB can cause hearing loss. Sounds less than 75 dBA, even after continuous exposure, are unlikely to cause hearing loss.[38] The World Health Organization (WHO) reports that adults should not be exposed to sudden “impulse” noise events of 140 dB or greater. For children, this limit is 120 dB.[39]

Exposure to elevated nighttime noise levels can disrupt sleep, leading to increased levels of fatigue and decreased work or school performance. For the preservation of healthy sleeping environments, the WHO recommends that continuous interior noise levels not exceed 30 dBA, L_{eq} and that individual noise events of 45 dBA or higher be limited.[40] Assuming a conservative exterior to interior sound reduction of 15 dBA, continuous exterior noise levels should therefore not exceed 45 dBA L_{eq}. Individual exterior events of 60 dBA or higher should also be limited. Some epidemiological studies have shown a weak association between long-term exposure to noise levels of 65 to 70 dBA, L_{eq} and cardiovascular effects, including ischaemic heart disease and hypertension. However, at this time, the relationship is largely inconclusive.

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38 National Institute of Health, National Institute on Deafness and Other Communication, www.nidcd.nih.gov/health/noise-induced-hearing-loss.

39 World Health Organization, Guidelines for Community Noise, 1999.

40 World Health Organization, Guidelines for Community Noise, 1999.

People with normal hearing sensitivity can recognize small perceptible changes in sound levels of approximately 3 dBA while changes of 5 dBA can be readily noticeable. Sound level increases of 10 dBA or greater are perceived as a doubling in loudness and can provoke a community response.[41] However, few people are highly annoyed by noise levels below 55 dBA L_{eq}.[42]

Noise Attenuation. Noise levels decrease as the distance from noise sources to receivers increases. For each doubling of distance, noise from stationary sources can decrease by about 6 dBA over hard surfaces (e.g., reflective surfaces such as parking lots) and 7.5 dBA over soft surfaces (e.g., absorptive surfaces such as soft dirt and grass). For example, if a point source produces a noise level of 89 dBA at a reference distance of 50 feet and over an asphalt surface, its noise level would be approximately 83 dBA at a distance of 100 feet, 77 dBA at 200 feet, etc. Noises generated by mobile sources such as roadways decrease by about 3 dBA over hard surfaces and 4.5 dBA over soft surfaces for each doubling of distance. It should be noted that because decibels are logarithmic units, they cannot be added or subtracted. For example, two cars each producing 60 dBA of noise would not produce a combined 120 dBA.

Noise is most audible when traveling by direct line of sight, an unobstructed visual path between noise source and receptor. Barriers that break line of sight between sources and receivers, such as walls and buildings, can greatly reduce source noise levels by allowing noise to reach receivers by diffraction only. As a result, sound barriers can generally reduce noise levels by up to 15 dBA.[43] The effectiveness of barriers can be greatly reduced when they are not high or long enough to completely break line of sight from sources to receivers.

6.2 Regulatory Framework

6.2.1 Federal

Currently, no federal noise standards regulate environmental noise associated with short-term construction activities or long-term operations of development projects. As such, temporary and long-term noise impacts produced by the Project would be largely regulated or evaluated by State and City of Los Angeles standards designed to protect public well-being and health.

6.2.2 State

6.2.2.1 2017 General Plan Guidelines

The State's 2017 General Plan Guidelines establish county and city standards for acceptable exterior noise levels based on land use. These standards are incorporated into land use planning processes to prevent or reduce noise and land use incompatibilities. **Table 6-2** illustrates State compatibility considerations between various land uses and exterior noise levels.

California Government Code Section 65302 also requires each county and city to prepare and adopt a comprehensive long-range general plan for its physical development. Section 65302(f) requires a noise element to be included in the general plan. This noise element must identify and

41 Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2018.

42 World Health Organization, Guidelines for Community Noise, 1999.

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

appraise noise problems in the community, recognize Office of Noise Control guidelines, and analyze and quantify current and projected noise levels.

The State has also established noise insulation standards for new multi-family residential units, hotels, and motels that are subject to relatively high levels of noise from transportation. The noise insulation standards, collectively referred to as the California Noise Insulation Standards (Title 24, California Code of Regulations) set forth an interior standard of 45 dBA CNEL for habitable rooms. The standards require an acoustical analysis which indicates that dwelling units meet this interior standard where such units are proposed in areas subject to exterior noise levels greater than 60 dBA CNEL. Local jurisdictions typically enforce the California Noise Insulation Standards through the building permit application process.

Table 6-2
State of California Noise/Land Use Compatibility Matrix

Land Use Compatibility	Community Noise Exposure (dBA, CNEL)							
	<	55	60	65	70	75	80	>
Residential – Low Density Single-Family, Duplex Mobile Homes	NA	NA						
		CA	CA	CA				
					NU			
Residential – Multi-Family	NA	NA	NA					
			CA	CA				
					NU			
Transient Lodging – Motels, Hotels	NA	NA	NA					
			CA	CA				
					NU	NU		
Schools, Libraries, Churches, Hospitals, Nursing Homes	NA	NA	NA	NA				
			CA	CA				
					NU	NU		
	CA	CA	CA	CA	CA	CA		
Sports Arenas, Outdoor Spectator Sports								
	CA	CA	CA	CA	CA	CA	CA	
Playgrounds, Neighborhood Parks	NA	NA	NA	NA				
				NU	NU	NU		
Golf Courses, Riding Stables, Water Recreation, Cemeteries	NA	NA	NA	NA	NA			
				NU	NU	NU	NU	
Office Buildings, Business Commercial and Professional	NA	NA	NA	NA				
				CA	CA	CA		
						NU	NU	NU
Industrial, Manufacturing, Utilities, Agriculture	NA	NA	NA	NA	NA			
				CA	CA	CA	CA	
						NU	NU	NU

NA = Normally Acceptable - Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

CA = Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice.
NU = Normally Unacceptable - New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
CU = Clearly Unacceptable - New construction or development should generally not be undertaken.
Source: CA Office of Planning and Research, General Plan Guidelines - Noise Element Guidelines (Appendix D), Figure 2, 2017.

6.2.3 County

6.2.3.1 County Airport Land Use Commission Comprehensive Land Use Plan

In Los Angeles County, the Regional Planning Commission has the responsibility for acting as the Airport Land Use Commission and for coordinating the airport planning of public agencies within the County. The Airport Land Use Commission coordinates planning for the areas surrounding public use airports. The Comprehensive Land Use Plan provides for the orderly expansion of Los Angeles County's public use airports and the areas surrounding them. It is intended to provide for the adoption of land use measures that will minimize the public's exposure to excessive noise and safety hazards. In formulating the Comprehensive Land Use Plan, the Los Angeles County Airport Land Use Commission has established provisions for safety, noise insulation, and the regulation of building height within areas adjacent to each of the public airports in the County.

6.2.4 City of Los Angeles

6.2.4.1 General Plan Noise Element

The City of Los Angeles General Plan includes a Noise Element that includes policies and standards in order to guide the control of noise to protect residents, workers, and visitors. Its primary goal is to regulate long-term noise impacts to preserve acceptable noise environments for all types of land uses. There are also references to programs applicable to construction projects that call for protection of noise sensitive uses and use of best practices to minimize short-term noise impacts. However, the Noise Element contains no quantitative or other thresholds of significance for evaluating a project's noise impacts. Instead, it adopts the State's guidance on noise and land use compatibility, shown in **Table 6-2** above, "to help guide determination of appropriate land use and mitigation measures vis-à-vis existing or anticipated ambient noise levels."

It also includes the following objective and policy that are relevant for the Project:

> ***Objective 2*** *(Non-airport): Reduce or eliminate non-airport related intrusive noise, especially relative to noise sensitive uses.*

Policy 2.2: *Enforce and/or implement applicable city, state, and federal regulations intended to mitigate proposed noise producing activities, reduce intrusive noise and alleviate noise that is deemed a public nuisance.*

6.2.4.2 Los Angeles Municipal Code

The City of Los Angeles Municipal Code (LAMC) contains regulations that would regulate noise from the Project's temporary construction activities.

Section 41.40(a) would prohibit specific Project construction activities from occurring between the hours of 9:00 P.M. and 7:00 A.M., Monday through Friday. Subdivision (c) would further prohibit such activities from occurring before 8:00 A.M. or after 6:00 P.M. on any Saturday or national holiday, or at any time on any Sunday. These restrictions serve to limit specific Project construction activities to Monday through Friday 7:00 A.M. to 9:00 P.M., and 8:00 A.M. to 6:00 P.M. on Saturdays or national holidays.

Section 112.05 of the LAMC establishes noise limits for powered equipment and hand tools operated in a residential zone or within 500 feet of any residential zone. Of particular importance to construction activities is subdivision (a), which institutes a maximum noise limit of 75 dBA as measured at a distance of 50 feet from the activity for the types of construction vehicles and equipment that would likely be used in the construction of the Project. However, the LAMC notes that these limitations would not necessarily apply if it can be proven that the Project's compliance would be technically infeasible despite the use of noise-reducing means or methods.

In addition, the LAMC regulates long-term operations of land uses, including but not limited to the following regulations.

Section 111.02 discusses the measurement procedure and criteria regarding the sound level of "offending" noise sources. A noise source causing a 5 dBA increase over the existing average ambient noise levels of an adjacent property is considered to create a noise violation. However, Section 111.02(b) provides a 5 dBA allowance for noise sources lasting more than five but less than 15 minutes in any 1-hour period, and a 10 dBA allowance for noise sources causing noise lasting 5 minutes or less in any 1-hour period. In accordance with these regulations, a noise level increase from certain city-regulated noise sources of five dBA over the existing or presumed ambient noise level at an adjacent property is considered a violation.

Section 112.01 of the LAMC would prohibit any amplified noises, especially those from outdoor sources (e.g., outdoor speakers, stereo systems) from exceeding the ambient noise levels of adjacent properties by more than 5 dBA. Any amplified noises would also be prohibited from being audible at any distance greater than 150 feet from the Project's property line, as the Project is located within 500 feet of residential zones.

Section 112.02 would prevent Project heating, ventilation, and air conditioning (HVAC) systems and other mechanical equipment from elevating ambient noise levels at neighboring residences by more than 5 dBA.

The LAMC also provides regulations regarding vehicle-related noise, including Sections 114.02, 114.03, and 114.06. Section 114.02 prohibits the operation of any motor driven vehicles upon any property within the City in a manner that would cause the noise level on the premises of any occupied residential property to exceed the ambient noise level by more than 5 dBA. Section 114.03 prohibits loading and unloading causing any impulsive sound, raucous or unnecessary noise within 200 feet of any residential building between the hours of 10 P.M. and 7 A.M. Section 114.06 requires vehicle theft alarm systems to be silenced within five minutes.

6.3 Existing Conditions

6.3.1 Noise-Sensitive Receptors

The City considers the following noise-sensitive uses: residences, transient lodgings (hotels), schools, libraries, churches, hospitals, nursing homes, auditoriums, concert halls, amphitheaters, playgrounds, and parks. The Project Site is located on the Vine Street commercial corridor in the Hollywood neighborhood. Sensitive receptors within 0.25 miles of the Project Site include, but are not limited to, the following representative sampling:

- Mental Health Center, 1224 Vine Street, directly north of the Project Site.
- Residences, 6232-6238 La Mirada Avenue, five feet east of the Project Site.
- Residences, 6231-6239 Lexington Avenue, five feet east of the Project Site.
- Residences, 6236-6240 Lexington Avenue, 80 feet south of the Project Site.
- Taglyan Complex special event center, 1201 Vine Street, 90 feet west of the Project Site.
- Early Head Start School, 1147 Vine Street, 160 feet southwest of the Project Site.
- Hotel (residential rentals), 6326 Lexington Avenue, 230 feet west of the Project Site.
- Hampton Inn & Suites Hotel, 1133 Vine Street; 300 feet southwest of the Project Site.
- Episcopal School of Los Angeles, 6235 Santa Monica Boulevard, 585 feet southwest of the Project Site.
- Vine Street Elementary School, 955 Vine Street, 1,350 feet southwest of the Project Site.

6.3.2 Existing Ambient Noise Levels

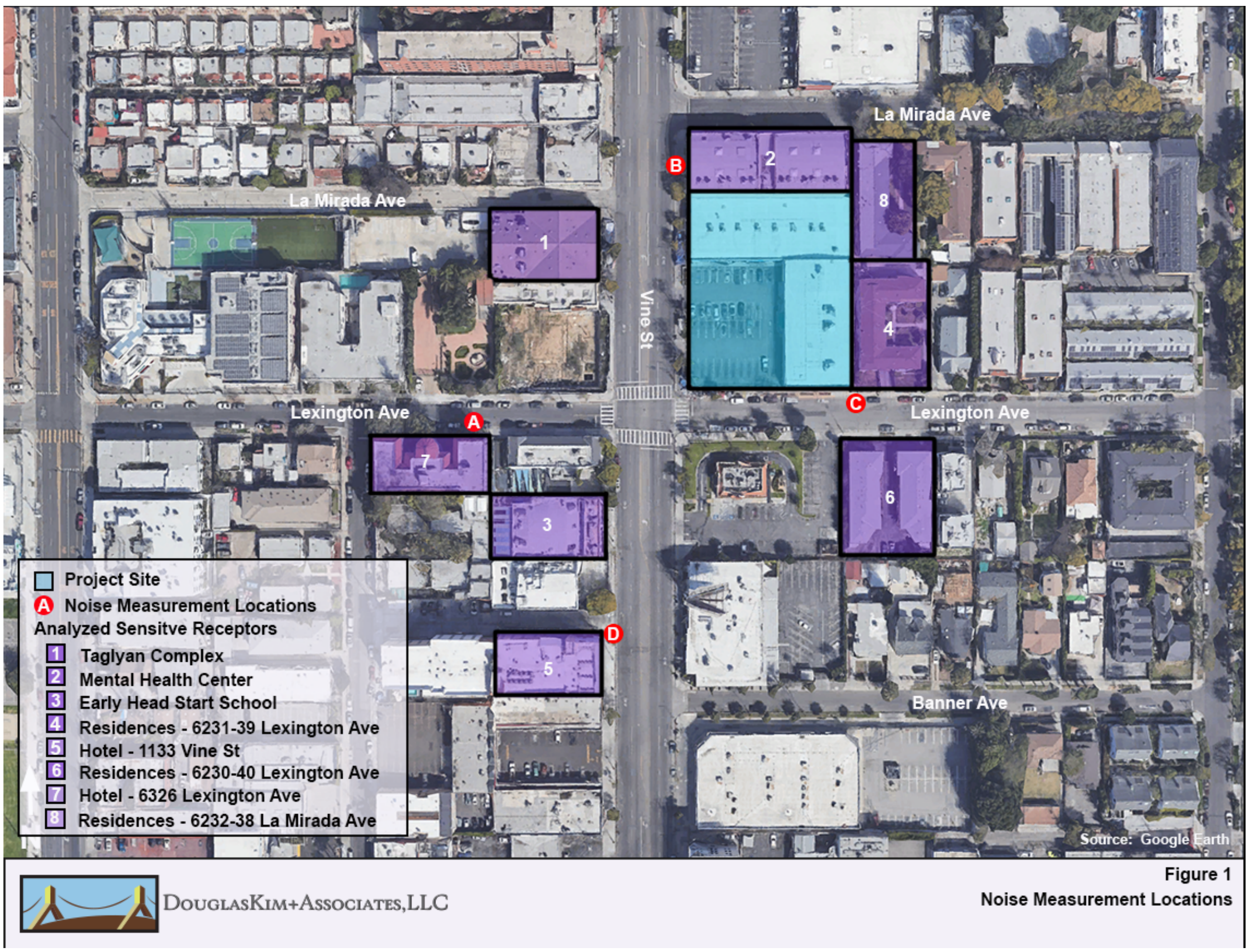
The Project Site is occupied by two buildings totaling 27,011 square feet and a 16,000 square-foot surface parking lot. As both buildings are vacant, there is no noise generated at the Project Site. Traffic is the primary source of noise near the Project Site, largely from the operation of vehicles with internal combustion engines and frictional contact with the ground and air. This includes traffic on Vine Street, which carries 2,552 north- and south-bound vehicles at Lexington Avenue in the A.M. peak hour.[44]

44 Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

In September 2022, DKA Planning took short-term noise measurements near the Project site to determine the ambient noise conditions of the neighborhood near sensitive receptors.[45] As shown in **Table 6-3**, noise levels along roadways near the Project Site ranged from 57.6 to 68.1 dBA L_{eq}, which was generally consistent with the traffic volumes on Lexington Avenue and Vine Street, respectively.

Figure 6-1 illustrates where ambient noise levels were measured near the Project Site to establish the noise environment and their relationship to the applicable sensitive receptor(s). 24-hour CNEL noise levels are generally considered "Normally Acceptable" and "Conditionally Acceptable" for the types of land uses near the Project Site.

Figure 6-1
Noise Monitoring Locations



45 Noise measurements were taken using a Quest Technologies Sound Examiner SE-400 Meter. The Sound Examiner meter complies with the American National Standards Institute (ANSI) and International Electrotechnical Commission (IEC) for general environmental measurement instrumentation. The meter was equipped with an omni-directional microphone, calibrated before the day's measurements, and set at approximately five feet above the ground.

Table 6-3
Existing Noise Levels

Noise Measurement Locations	Primary Noise Source	Sound Levels		Nearest Sensitive Receptor(s)	Noise / Land Use Compatibility [b]
		dBA (L_{eq})	dBA (CNEL)[a]		
A. 6326 Lexington Ave.	Traffic on Lexington Ave.	57.6	55.6	Hotel, 6326 Lexington Ave.	Normally Acceptable
B. 1224 Vine St.	Traffic on Vine St.	68.1	66.1	Mental Health Center; Taglyan Complex	Conditionally Acceptable
C. 6239 Lexington Ave.	Traffic on Lexington Ave.	59.5	57.5	Residences, 6231-39, 6236-40 Lexington Ave; 6232-38 La Mirada Ave.	Normally Acceptable
D. Hampton Inn & Suites	Traffic on Vine St.	66.7	64.7	Early Head Start School; Hotel, 1133 Vine St.	Conditionally Acceptable

[a] Estimated based on short-term (15-minute) noise measurement using Federal Transit Administration procedures from 2016 Transit Noise and Vibration Impact Assessment Manual, Appendix E, Option 4.
[b] Pursuant to California Office of Planning and Research "General Plan Guidelines, Noise Element Guidelines, 2017. When noise measurements apply to two or more land use categories, the more noise-sensitive land use category is used. See Table 6-2 above for definition of compatibility designations.
Source: DKA Planning, 2022.

6.4 Methodology

6.4.1 On-Site Construction Activities

Construction noise levels at nearby sensitive receptors were modeled employing the ISO 9613-2 sound attenuation methodologies using the SoundPLAN Essential model (version 5.1). This software package considers reference equipment noise levels, noise management techniques, distance to receptors, and any attenuating features to predict noise levels from sources like construction equipment. The distance from construction equipment noise sources (e.g., engines and tailpipes) assume that vehicles would not be capable of operating directly where the Project's property line abuts adjacent structures. These vehicles would retain some setback to preserve maneuverability, in addition to operating at reduced power and intensity to maintain precision at these locations.

6.4.2 Off-Site Construction Activities

The Project's off-site construction noise impact from haul trucks was analyzed by considering the Project's estimated haul truck usage with existing traffic and roadway noise levels along the Project's anticipated haul route. Because it takes a doubling of traffic volumes on a roadway to generate the increased sound energy it takes to elevate ambient noise levels by 3 dBA,[46] the analysis focused on whether truck traffic would double traffic volumes on key roadways to be used for hauling soils to and/or from the Project Site during construction activities. Because haul trucks generate more noise than traditional passenger vehicles, a 19.1 passenger car equivalency (PCE) was used to convert haul truck trips to a reference level conversion to an equivalent number

46 Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.

of passenger vehicles.[47] It should be noted that because an official haul route has not been approved as of the preparation of this analysis, assumptions were made about logical routes that would minimize haul truck traffic on local streets in favor of major arterials that can access regional-serving freeways.

Similarly, off-site noise impacts from vendors and employees that access the construction site were also analyzed. The analysis focused on whether truck traffic would double traffic volumes on key roadways to be used for hauling soils during construction activities.

6.4.3 On-Site Operational Noise Sources

The Project's potential to result in significant noise impacts from on-site operational noise sources was evaluated by identifying sources of on-site noise sources and considering the impact that they could produce given the nature of the source (i.e., loudness and whether noise would be produced during daytime or more-sensitive nighttime hours), distances to nearby sensitive receptors, surrounding ambient noise levels, the presence of similar noise sources in the vicinity, and maximum allowable noise levels permitted by the LAMC.

6.4.4 Off-Site Operational Project Traffic Noise Sources

The Project's off-site noise impact from Project-related traffic was evaluated based its potential to increase traffic volumes on local roadways that serve the Project site. Because it takes a doubling of traffic volumes on a roadway to generate the increased sound energy it takes to elevate ambient noise levels by 3 dBA, the analysis focused on whether auto trips generated by the Project would double traffic volumes on key roadways to be used to access the Project Site.

6.5 Thresholds of Significance

6.5.1 State CEQA Guidelines

In accordance with CEQA Guidelines Section 15332(d), approval of the project would not result in any significant effects relating to noise.

6.5.2 Construction Noise Threshold

Based on guidelines from the City of Los Angeles City Department of Planning, the on-site construction noise impact would be considered significant if:

- Construction activities lasting more than one day would exceed existing ambient exterior sound levels by 10 dBA (hourly L_{eq}) or more at a noise-sensitive use;

- Construction activities lasting more than 10 days in a three-month period would exceed existing ambient exterior noise levels by 5 dBA (hourly L_{eq}) or more at a noise-sensitive use; or

[47] Caltrans, Technical Noise Supplement Table 3-3, 2013.

- Construction activities of any duration would exceed the ambient noise level by 5 dBA (hourly L_{eq}) at a noise-sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday.

6.5.3 Operational Noise Thresholds

In addition to applicable City standards and guidelines that would regulate or otherwise moderate the Project's operational noise impacts, the following criteria are adopted to assess the impact of the Project's operational noise sources:

- Project operations would cause ambient noise levels at off-site locations to increase by 3 dBA CNEL or more to or within "normally unacceptable" or "clearly unacceptable" noise/land use compatibility categories, as defined by the State's 2017 General Plan Guidelines.

- Project operations would cause any 5 dBA or greater noise increase.[48]

6.6 Analysis of Project Impacts

6.6.1 Construction

6.6.1.1 On-Site Construction Activities

Construction would generate noise during the construction process that would span 35 months of demolition, grading, utilities trenching, building construction, and application of architectural coatings, as shown in **Table 6-4**. During all construction phases, noise-generating activities could occur at the Project Site between 7:00 A.M. and 9:00 P.M. Monday through Friday, in accordance with LAMC Section 41.40(a). On Saturdays, construction would be permitted to occur between 8:00 A.M. and 6:00 P.M.

Table 6-4
Construction Schedule Assumptions

Phase	Duration	Notes
Demolition	Months 1-3	Removal of 27,011 square feet of building floor area and 16,000 square feet of asphalt/concrete parking lot hauled 30 miles to landfill in 10-cubic yard capacity trucks.
Grading	Months 4-5	Approximately 10,000 cubic yards of soil (including swell factors for topsoil and dry clay) hauled 30 miles to landfill in 10-cubic yard capacity trucks.[49]
Trenching	Months 6-7 (6 weeks)	Trenching for utilities, including gas, water, electricity, and telecommunications.
Building Construction	Months 6-31	Footings and Foundation work (e.g., pouring concrete pads), framing, welding; installing mechanical, electrical, and

48 As a 3 dBA increase represents a slightly noticeable change in noise level, this threshold considers any increase in ambient noise levels to or within a land use's "normally unacceptable" or "clearly unacceptable" noise/land use compatibility categories to be significant so long as the noise level increase can be considered barely perceptible. In instances where the noise level increase would not necessarily result in "normally unacceptable" or "clearly unacceptable" noise/land use compatibility, a readily noticeable 5 dBA increase is still to be significant. Increases less than 3 dBA are unlikely to result in noticeably louder ambient noise conditions and would therefore be less than significant.

49 Estimates provided by the Applicant, July 2022. Assumes 8,439 cy with a soil swell percent of 18.5% = 10,000 cy.

Table 6-4
Construction Schedule Assumptions

Phase	Duration	Notes
		plumbing. Floor assembly, cabinetry and carpentry, elevator installations, low voltage systems, trash management.
Architectural Coatings	Months 27-35	Application of interior and exterior coatings and sealants.
Source: DKA Planning, 2022.		

Noise levels would generally peak during the demolition and grading phases, when diesel-fueled heavy-duty equipment (e.g., excavators, dozers) are needed to move large amounts of debris and dirt, respectively. This equipment is mobile in nature and does not always operate at in a steady-state mode full load, but rather powers up and down depending on the duty cycle needed to conduct work. As such, equipment is occasionally idle during which time no noise is generated. Mobile equipment will often operate away from off-site receptors, continuously moving around.

During other phases of construction (e.g., demolition, site preparation, building construction, architectural coatings), noise impacts are generally lesser because they are less reliant on using heavy equipment with internal combustion engines. Smaller equipment (e.g., forklifts, generators, powered hand tools, pneumatic equipment) would generally be utilized. Off-site secondary noises would be generated by construction worker vehicles, vendor deliveries, and haul trucks. **Figure 6-2** illustrates how noise would propagate from the construction site during the demolition and grading phase.

Figure 6-2
Construction Noise Sound Contours

Because the Project's construction phase would occur for more than three months, the applicable City threshold of significance for the Project's construction noise impacts is an increase of 5 dBA over existing ambient noise levels. As shown in **Table 6-5**, when considering ambient noise levels, the use of multiple pieces of powered equipment simultaneously would increase ambient noise negligibly. This assumes the use of best practices techniques required by the City's Building and Safety code, such as temporary sound barriers. These construction noise levels would not exceed the City's significance threshold of 5 dBA. Therefore, the Project's on-site construction noise impact would be less than significant.

Table 6-5
Construction Noise Impacts at Off-Site Sensitive Receptors

Receptor	Maximum Construction Noise Level (dBA L_{eq})	Existing Ambient Noise Level (dBA L_{eq})	New Ambient Noise Level (dBA L_{eq})	Increase (dBA L_{eq})	Potentially Significant?
1. Taglyan Complex	64.0	68.1	69.5	1.4	No
2. Mental Health Center	58.5	68.1	68.6	0.5	No
3. Early Head Start School	58.6	66.7	67.3	0.6	No
4. Residences – 6231-39 Lexington Ave.	61.4	59.5	63.6	4.1	No
5. Hotel – 1133 Vine St.	53.8	66.7	66.9	0.2	No
6. Residences – 6230-40 Lexington Ave.	60.9	59.5	63.3	3.8	No
7. Hotel – 6326 Lexington Ave.	56.9	57.6	60.3	2.7	No
8. Residences – 6232-38 La Mirada Ave.	49.2	59.5	59.9	0.4	No
Source: DKA Planning, 2022.					

6.6.1.2 Off-Site Construction Activities

The Project would also generate noise at off-site locations from haul trucks moving debris and soil from the Project Site during demolition and grading activities, respectively; vendor and contractor trips; and worker commute trips. Construction activities would generate up to an estimated 193 peak hourly PCE vehicle trips, as summarized in **Table 6-6**, during the building construction phase, assuming all workers travel to the worksite at the same time and that all worker trips, vendor trips, and haul trips use the same route to travel to and from the Project Site. This includes converting noise from heavy-duty truck trips to an equivalent number of passenger vehicle trips. This would represent about 7.6 percent of traffic volumes on Vine Street, which carries about 2,552 vehicles at Lexington Avenue in the morning peak hour of traffic.[50] Because workers, haulers, and vendors will likely use more than one route to travel to and from the Project Site, this conservative assessment of traffic volumes overstates the likely traffic volumes from construction activities at this intersection.

Vine Street is a key part of the initial haul route for any soil exported from the Project Site Freeway, as trucks would then use Santa Monica Boulevard to access the Hollywood Freeway. Because the Project's construction-related trips would not cause a doubling in traffic volumes (i.e., 100

[50] Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

percent increase) on Vine Street, the Project's construction-related traffic would not increase existing noise levels by 3 dBA or more. Therefore, the Project's noise impacts from construction-related traffic would be less than significant.

Table 6-6
Construction Vehicle Trips (Maximum Hourly)

Construction Phase	Worker Trips [a]	Vendor Trips	Haul Trips	Total (PCE)	Percent of Peak A.M. Hour Trips on Vine St.[e]
Demolition	10	0	36[b]	46	1.8
Grading	8	0	121[c]	129	5.0
Trenching	5	0	0	5	0.2
Building Construction	129	64[d]	0	193	7.6
Architectural Coating	27	0	0	27	1.0

[a] Assumes all worker trips occur in the peak hour of construction activity.
[b] The project would generate 852 haul trips over a 64-day period with seven-hour work days. Because haul trucks emit more noise than passenger vehicles, a 19.1 passenger car equivalency (PCE) was used to convert haul truck trips to a passenger car equivalent.
[c] The project would generate 2,000 haul trips over a 45-day period with seven-hour work days. Assumes a 19.1 PCE.
[d] This phase would generate about 24 vendor truck trips daily over a seven-hour work day. Assumes a blend of vehicle types and a 9.55 PCE.
[e] Percent of existing traffic volumes on Vine Street at Lexington Avenue.
Source: DKA Planning, 2022

6.6.2 Operation

6.6.2.1 On-Site Operational Noise Sources

During long-term operations, the Project would produce noise from both on- and off-site sources. As discussed below, the Project would not result in an exposure of persons to or a generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. The Project would also not increase surrounding noise levels by more than 5 dBA CNEL, the minimum threshold of significance based on the noise/land use category of sensitive receptors near the Project Site. As a result, the Project's on-site operational noise impacts would be considered less than significant.

Mechanical Equipment. The Project would operate mechanical equipment throughout the roof that would generate incremental long-term noise impacts. HVAC equipment in the form of large rooftop units (RTUs) suitable for cooling large volumes of a building would be located on the rooftop, approximately 85 feet above grade. This equipment would include a number of sound sources, including compressors, condenser fans, supply fans, return fans, and exhaust fans that could generate a sound pressure level of up to 81.9 dBA at one foot.[51]

However, noise impacts from rooftop mechanical equipment on nearby sensitive receptors would be negligible for several reasons. First, there would be no line-of-sight from these rooftop units to

51 City of Pomona, Pomona Ranch Plaza WalMart Expansion Project, Table 4.4-5; August 2014. Source was cluster of mechanical rooftop condensers including two Krack MXE-04 four-fan units and one MXE-02 two-fan unit. Reference noise level based on 30 minutes per hour of activity.

the sensitive receptors. Because the residences adjacent to the Project Site are generally one- to two-stories in height, there would be no sound path from the HVAC equipment to residences and other receptors that would be up to 60 to 70 feet lower than the roof of the Project. Second, the presence of the Project's roof edge creates an effective noise barrier that further reduces noise levels from rooftop HVAC units by 8 dBA or more.[52] A 3'-6" parapet would further shield sensitive receptors near the Project Site. These design elements would be helpful in managing noise, as equipment often operates continuously throughout the day and occasionally during the day, evenings, and weekends. Finally, the RTUs are set back substantially from the edges of those roofs, allowing for more attenuation of any noise. These units are set back almost 30 feet from the west edge of the roof, 20 feet from the north edge, and 25'6 from the east edge. When combined with the ten and eleven-foot building setbacks, respectively, these RTUs would be negligible additions to the noise environment at nearby receptors.

As a result, noise from HVAC units would negligibly elevate ambient noise levels, far less than the 5 dBA CNEL threshold of significance for operational impacts. Compliance with LAMC Section 112.02 would further limit the impact of HVAC equipment on noise levels at adjacent properties.

All other mechanical equipment would be fully enclosed within the structure, shielded from outside sources. This includes three mechanical equipment rooms and an electrical equipment rooms on the first and second floors of the above-ground parking garage. In addition, elevator equipment (including hydraulic pump, switches, and controllers) would be located on the ground floor of the parking garage structure.

Given the integration of these mechanical equipment facilities into the design of the structure, there would be no external noise impacts from these operational facilities and these operational noise impacts would be considered less than significant.

<u>Auto-Related Activities</u>. The majority of vehicle-related noise impacts at the Project Site would come from vehicles entering and exiting the development from a driveway off Vine Street for commercial workers and visitors and Lexington Avenue for residents and visitors. During the peak P.M. hour, approximately 54 vehicles would generate noise in and out of the residents' garage via the driveway off Lexington Avenue, with up to 54 vehicles using the garage in the peak A.M. hour.[53] Vehicles accessing the commercial garage would generate about 41 vehicle trips from the driveway off Vine Street in the peak P.M. hour and 43 net trips in the A.M. peak hour.

Two sensitive receptors near the Project Site would generally have a direct line of sight to the development's two driveways. This includes the Taglyan Complex approximately 100 feet west of the Vine Street driveway and the 6236-6240 Lexington Avenue apartments about 80 feet south of the Lexington Avenue driveway. As shown in **Table 6-7**, the average vehicle use of the garage during daytime hours (average of 4.5 vehicles per hour between 8:00 A.M. and 7:00 P.M.) and nighttime hours (an average of 1.5 vehicles hourly from 7:00 P.M. to 8:00 A.M.) would elevate ambient noise levels by less than 0.1 dBA CNEL, well below the 5 dBA threshold of significance for operational sources of noise.

52 Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

53 Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

Parking garage-related noise impacts for other receptors would also be negligible given their more remote locations and/or the lack of a line of sight from the garage. Parking garage noise would include tire friction as vehicles navigate to and from parking spaces, doors slamming, car alarms, and minor engine acceleration. Most of these sources are instantaneous (e.g., car alarm chirp, door slam) while others may last a few seconds. As such, the Project's parking garage activities would not have a significant impact on the surrounding noise environment.

Table 6-7
Parking Garage-Related Impacts at Off-Site Sensitive Receptors

Receptor	Maximum Noise Level (dBA CNEL)	Existing Ambient Noise Level (dBA CNEL)	New Ambient Noise Level (dBA CNEL)	Increase (dBA CNEL)	Significant ?
Taglyan Complex	36.2	66.1	66.1	<0.1	No
Residences, 6236-6240 Lexington Ave.	38.7	55.6	55.6	<0.1	No
Source: DKA Planning, 2022, using FTA Noise Impact Assessment Spreadsheet. Assumes a 50/50 split between ADT for each garage entrance based on peak hour trip generation estimates.					

Outdoor Uses. Noise associated with everyday residential and commercial activities would largely be contained internally within the Project. This includes the commercial retail space fronting Vine Street and various uses supporting the residences (e.g., pool room, co-work space, club lounges, fitness rooms), all integrated within the development itself. However, there are outdoor activities that could generate noise, including human conversation, trash collection, landscape maintenance, and commercial loading. These are discussed below:

- Human conversation. There are three outdoor spaces that could generate noise from passive activities like human conversation and socializing, including:
    - Ground-level outdoor plaza (1,700 square feet) facing Lexington Avenue near Vine Street.
    - Roof deck on the 8th floor (1,100 square feet) at the northwest corner of the development facing Vine Street.
    - Roof deck on the 8th floor (1,200 square feet) at the southeast corner of the development facing Lexington Avenue.

All these areas would be used for passive socializing and recreation. There would be intermittent activities that would produce negligible impacts from human speech, based on the Lombard effect. This phenomenon recognizes that voice noise levels in face-to-face conversations generally increase proportionally to background ambient noise levels, but only up to approximately 67 dBA at a reference distance of one meter. Specifically, vocal intensity increases about 0.38 dB for every 1.0 dB increase in noise levels above 55 dB, meaning people talk slightly above ambient noise levels in order to communicate.[54]

[54] Acoustical Society of America, Volume 134; Evidence that the Lombard effect is frequency-specific in humans, Stowe and Golob, July 2013.

Each of these outdoor areas would have negligible impacts on the local noise environment. The ground-level plaza is oriented Vine Street and any noise affecting residences along Lexington Avenue would be shielded by the leasing office and lobby of the development to the east. The 8th floor roof deck at the northwest corner of the development would face both Vine Street where the Taglyan Complex would be 100 feet west and the mental health building to the north where there are no windows or openings facing the development. The 8th floor roof deck at the southeast corner of the development would be nearly 74 feet above the street level, where it would be about 54 feet above the apartments across Lexington Avenue.

As such, when combined with the nature of human conversation (Lombard effect), these three outdoor areas would produce intermittent noise from socializing that would not result in significant noise impacts and would not elevate noise levels at nearby sensitive receptors over a 24-hour period by 5 dBA CNEL or more.

- Trash collection. On-site trash and recyclable materials for the residents and merchants would be managed from a waste collection area on the ground floor of the parking garage. Haul trucks would likely access solid waste from Vine Street, where solid waste activities would include use of trash compactors and hydraulics associated with the refuse trucks themselves. Noise levels of approximately 71 dBA L_{eq} and 66 dBA L_{eq} could be generated by collection trucks and trash compactors, respectively, at 50 feet of distance.[55] Intermittent solid waste management activities would operate during the day. Trash collection activities would not substantially elevate 24-hour noise levels at off-site locations by 5 dBA CNEL or more.

- Landscape maintenance. Noise from gas-powered leaf flowers, lawnmowers, and other landscape equipment can generated substantial bursts of noise during regular maintenance. For example, gas powered leaf blowers and other equipment with two-stroke engines can generated 100 dBA L_{eq} and cause nuisance or potential noise impacts for nearby receptors.[56] Any intermittent landscape equipment would operate during the day and would represent a negligible impact that would not increase 24-hour noise levels at off-site locations by 5 dBA CNEL or more.[57]

- Commercial loading. On-site loading and unloading activities would be managed in the ground floor of the parking garage which vehicles would access from the Vine Street driveway. This internal drop-off zone is obscured from any off-site sensitive receptors by the development itself. As a result, there would be negligible noise impacts on off-site receptors and impacts would not increase CNEL noise levels at off-site locations. Further, LAMC Section 114.03 would regulate loading and unloading activities between 10:00 P.M. and 7:00 A.M.

Based on an assessment of these on-site sources, the impact of on-site operational noise sources would be considered less than significant.

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55 RK Engineering Group, Inc. Wal-Mart/Sam's Club reference noise level, 2003.

56 Erica Walker et al, Harvard School of Public Health; Characteristics of Lawn and Garden Equipment Sound; 2017

57 While AB 1346 (Berman, 2021) bans the sale of new gas-powered leaf blowers by 2024, existing equipment can continue to operate indefinitely.

6.6.2.2 Off-Site Operational Noise Sources

The majority of the Project's operational noise impacts would be off-site from vehicles traveling to and from the development. The Project could add up to 892 vehicle trips to the local roadway network on a peak weekday at the start of operations in 2027. During the peak P.M. hour, approximately 54 vehicles would generate noise in and out of the residents' garage via the driveway off Lexington Avenue, with up to 54 vehicles using the garage in the peak A.M. hour.[58] Vehicles accessing the commercial garage would generate about 41 vehicle trips from the driveway off Vine Street in the peak P.M. hour and 43 trips in the A.M. peak hour. Even if all vehicles accessing the development were to use Vine Street, this would represent about 3.8 percent of traffic volumes on Vine Street, which carries about 2,552 vehicles at Lexington Avenue in the morning peak hour of traffic.[59]

Because it takes a doubling of traffic volumes (i.e., 100 percent) to increase ambient noise levels by 3 dBA L_{eq}, the Project's traffic would neither increase ambient noise levels 3 dBA or more into "normally unacceptable" or "clearly unacceptable" noise/land use compatibility categories, nor increase ambient noise levels 5 dBA or more. Twenty-four hour CNEL impacts would similarly be minimal, far below criterion for significant operational noise impacts, which begin at 3 dBA. As such, this impact would be considered less than significant.

6.7 Airport Noise

The Project Site is located about 7.2 miles south of the Hollywood Burbank Airport, 8.5 miles northeast of the Santa Monica Airport, and 10.5 miles east of Los Angeles International Airport. Because the Project would not be located within the vicinity of a private airstrip or within two miles of a public airport, the Project would not expose local workers or residents in the area to excessive noise levels. This would be considered a less than significant impact.

6.8 Conclusion

For all the foregoing reasons, the Project would not have a significant impact related to noise and, therefore, would comply with CCR Section 15332(d).

58 Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

59 Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

7 Discussion of CCR Section 15332(d): Air Quality

Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.[60]

This section is based on the following item, included as **Appendix E** of this CE:

E Air Quality Technical Modeling, DKA Planning, October 2022

7.1 Regulatory Framework

7.1.1 Federal

7.1.1.1 Clean Air Act

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years, with the most recent amendments in 1990. At the federal level, the United States Environmental Protection Agency (USEPA) is responsible for implementation of some portions of the CAA (e.g., certain mobile source and other requirements). Other portions of the CAA (e.g., stationary source requirements) are implemented by state and local agencies. In California, the CCAA is administered by the California Air Resources Board (CARB) at the state level and by the air quality management districts and air pollution control districts at the regional and local levels.

The 1990 amendments to the CAA identify specific emission reduction goals for areas not meeting the National Ambient Air Quality Standards (NAAQS). These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA which are most applicable to the Project include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions).

NAAQS have been established for seven major air pollutants: CO (carbon monoxide), NO_2 (nitrogen dioxide), O_3 (ozone), $PM_{2.5}$ (particulate matter, 2.5 microns), PM_{10} (particulate matter, 10 microns), SO_2 (sulfur dioxide), and Pb (lead).

The CAA requires USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. Title I provisions are implemented for the purpose of attaining NAAQS. The federal standards are summarized in **Table 7-1**. USEPA has classified the Los Angeles County portion of the South Coast Air Basin (Basin) as a nonattainment area for O_3, $PM_{2.5}$, and Pb.

60 Each of these topic areas (traffic, noise, air quality, and water quality) is discussed in its own section.

Table 7-1
State and National Ambient Air Quality Standards and Attainment Status for LA County

Pollutant	Averaging Period	California		Federal	
		Standards	Attainment Status	Standards	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm ($180\ \mu g/m^3$)	Non-attainment	--	--
	8-hour	0.070 ppm ($137\ \mu g/m^3$)	N/A[1]	0.070 ppm ($137\ \mu g/m^3$)	Non-attainment
Respirable Particulate Matter (PM_{10})	24-hour	$50\ \mu g/m^3$	Non-attainment	$150\ \mu g/m^3$	Maintenance
	Annual Arithmetic Mean	$20\ \mu g/m^3$	Non-attainment	--	--
Fine Particulate Matter ($PM_{2.5}$)	24-hour	--	--	$35\ \mu g/m^3$	Non-attainment
	Annual Arithmetic Mean	$12\ \mu g/m^3$	Non-attainment	$12\ \mu g/m^3$	Non-attainment
Carbon Monoxide (CO)	1-hour	20 ppm ($23\ \mu g\ /m^3$)	Attainment	35 ppm ($40\ \mu g\ /m^3$)	Maintenance
	8-hour	9.0 ppm ($10\ \mu g\ /m^3$)	Attainment	9 ppm ($10\ \mu g\ /m^3$)	Maintenance
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm ($338\ \mu g/m^3$)	Attainment	100 ppb ($188\ \mu g/m^3$)	Maintenance
	Annual Arithmetic Mean	0.030 ppm ($57\ \mu g/m^3$)	Attainment	53 ppb ($100\ \mu g/m^3$)	Maintenance
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm ($655\ \mu g/m^3$)	Attainment	75 ppb ($196\ \mu g/m^3$)	Attainment
	24-hour	0.04 ppm ($105\ \mu g/m^3$)	Attainment	--	--
Lead (Pb)	30-day average	$1.5\ \mu g/m^3$	Attainment	--	--
	Calendar Quarter	--	--	$0.15\ \mu g/m^3$	Non-attainment
Visibility Reducing Particles	8-hour	Extinction of 0.07 per kilometer	N/A	No Federal Standards	
Sulfates (SO_4)	24-hour	$25\ \mu g/m^3$	Attainment	No Federal Standards	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm ($42\ \mu g/m^3$)	Unclassified	No Federal Standards	
Vinyl Chloride	24-hour	0.01 ppm ($26\ \mu g/m^3$)	N/A	No Federal Standards	

[1]N/A = not available
Source: CARB, Ambient Air Quality Standards, and attainment status, 2021
https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations

CAA Title II pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline and automobile pollution control devices are examples of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have been strengthened in recent years to improve air quality. For example, the standards for NO_X emissions have been lowered substantially and the specification requirements for cleaner burning gasoline are more stringent.

The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. USEPA has jurisdiction over emission sources outside state waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet stricter emission standards established by CARB. USEPA adopted multiple tiers of emission standards to reduce emissions from non-road diesel engines (e.g., diesel-powered construction equipment) by integrating engine and fuel controls as a system to gain the greatest emission reductions.

The first federal standards (Tier 1) for new non-road (or off-road) diesel engines were adopted in 1994 for engines over 50 horsepower, to be phased-in from 1996 to 2000. On August 27, 1998, USEPA introduced Tier 1 standards for equipment under 37 kW (50 horsepower) and increasingly more stringent Tier 2 and Tier 3 standards for all equipment with phase-in schedules from 2000 to 2008. The Tier 1 through 3 standards were met through advanced engine design, with no or only limited use of exhaust gas after-treatment (oxidation catalysts). Tier 3 standards for NO_X and hydrocarbon are similar in stringency to the 2004 standards for highway engines. However, Tier 3 standards for particulate matter were never adopted.

On May 11, 2004, USEPA signed the final rule introducing Tier 4 emission standards, which were phased-in between 2008 and 2015. The Tier 4 standards require that emissions of particulate matter and NO_X be further reduced by about 90 percent. Such emission reductions are achieved through the use of control technologies—including advanced exhaust gas after-treatment.

7.1.2 State

7.1.2.1 California Clean Air Act

In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). In California, CCAA is administered by CARB at the state level and by the air quality management districts and air pollution control districts at the regional and local levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting the state requirements of the CAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

CARB regulates mobile air pollution sources, such as motor vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications in March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels. The State standards are summarized in **Table 7-1**.

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS thresholds have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the non-desert Los Angeles County portion of the Basin is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$.

7.1.2.2 Toxic Air Contaminant Identification and Control Act

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. CARB's statewide comprehensive air toxics program was established in the early 1980s. The Toxic Air Contaminant Identification and Control Act created California's program to reduce exposure to air toxics. Under the Toxic Air Contaminant Identification and Control Act, CARB is required to use certain criteria in the prioritization for the identification and control of air toxics. In selecting substances for review, CARB must consider criteria relating to "the risk of harm to public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community" [Health and Safety Code Section 39666(f)].

The Toxic Air Contaminant Identification and Control Act also requires CARB to use available information gathered from the Air Toxics "Hot Spots" Information and Assessment Act program to include in the prioritization of compounds. CARB identified particulate emissions from diesel-fueled engines (diesel PM) TACs in August 1998. Following the identification process, CARB was required by law to determine if there is a need for further control, which led to the risk management phase of the program.

For the risk management phase, CARB formed the Diesel Advisory Committee to assist in the development of a risk management guidance document and a risk reduction plan. With the assistance of the Diesel Advisory Committee and its subcommittees, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines. The Board approved these documents on September 28, 2000, paving the way for the next step in the regulatory process: the control measure phase. During the control measure phase, specific Statewide regulations designed to further reduce diesel particulate matter (PM) emissions from diesel-fueled engines and vehicles have and continue to be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions. Breathing Hydrogen Sulfide (H_2S) at levels above the state standard could result in exposure to a disagreeable rotten eggs odor. The State does not regulate other odors.

7.1.2.3 California Air Toxics Program

The California Air Toxics Program was established in 1983, when the California Legislature adopted Assembly Bill (AB) 1807 to establish a two-step process of risk identification and risk management to address potential health effects from exposure to toxic substances in the air.[61] In the risk identification step, CARB and the Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified, or "listed," as a TAC in California. Since inception of the program, a number of such substances have been listed, including benzene, chloroform, formaldehyde, and particulate emissions from diesel-fueled engines, among others.[62] In 1993, the California Legislature amended the program to identify the 189 federal hazardous air pollutants as TACs.

In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce risk. Based on results of that review, CARB has promulgated a number of airborne toxic control measures (ATCMs), both for mobile and stationary sources. In 2004, CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given time.

In addition to limiting exhaust from idling trucks, CARB adopted regulations on July 26, 2007 for off-road diesel construction equipment such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles to reduce emissions by installation of diesel particulate filters and encouraging the replacement of older, dirtier engines with newer emission-controlled models. Implementation is staggered based on fleet size, with the largest operators having begun compliance in 2014.[63]

7.1.2.4 Assembly Bill 2588 Air Toxics "Hot Spots" Program

The AB 1807 program is supplemented by the AB 2588 Air Toxics "Hot Spots" program, which was established by the California Legislature in 1987. Under this program, facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks if present. In 1992, the AB 2588 program was amended by Senate Bill (SB) 1731 to require facilities that pose a significant health risk to the community to reduce their risk through implementation of a risk management plan.

7.1.2.5 Air Quality and Land Use Handbook: A Community Health Perspective

CARB published the *Air Quality and Land Use Handbook* (CARB Handbook) on April 28, 2005 to serve as a general guide for considering health effects associated with siting sensitive receptors proximate to sources of TAC emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts.

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61 CARB, California Air Toxics Program, https://ww2.arb.ca.gov/our-work/topics/airborne-toxics

62 CARB, Toxic Air Contaminant Identification List, https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants

63 CARB, In-Use Off-Road Diesel-Fueled Fleets Regulation, https://ww2.arb.ca.gov/our-work/programs/use-road-diesel-fueled-fleets-regulation

The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); and (3) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene and within 500 feet of operations with two or more machines.

7.1.2.6 California Code of Regulations

The California Code of Regulations (CCR) is the official compilation and publication of regulations adopted, amended or repealed by the state agencies pursuant to the Administrative Procedure Act. The CCR includes regulations that pertain to air quality emissions. Specifically, Section 2485 in CCR Title 13 states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) used during construction shall be limited to five minutes at any location. In addition, Section 93115 in CCR Title 17 states that operation of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emission standards.

7.1.3 Regional

7.1.3.1 South Coast Air Quality Management District

The SCAQMD was created in 1977 to coordinate air quality planning efforts throughout Southern California. SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain the CAAQS and NAAQS in the district. SCAQMD has jurisdiction over an area of 10,743 square miles consisting of Orange County; the non-desert portions of Los Angeles, Riverside, and San Bernardino counties; and the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin. The Basin portion of SCAQMD's jurisdiction covers an area of 6,745 square miles. The Basin includes all of Orange County and the non-desert portions of Los Angeles (including the Project Area), Riverside, and San Bernardino counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east; and the San Diego County line to the south.

Programs that were developed by SCAQMD to attain and maintain the CAAQS and NAAQS include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases. All projects in the SCAQMD jurisdiction are subject to SCAQMD rules and regulations, including, but not limited to the following:

- Rule 401 Visible Emissions – This rule prohibits an air discharge that results in a plume that is as dark or darker than what is designated as No. 1 Ringelmann Chart by the United States Bureau of Mines for an aggregate of three minutes in any one hour.

- Rule 402 Nuisance – This rule prohibits the discharge of "such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of people or 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."

- Rule 403 Fugitive Dust – This rule requires that future projects reduce the amount of particulate matter entrained in the ambient air as a result of fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions from any active operation, open storage pile, or disturbed surface area.

7.1.3.2 Air Quality Management Plan

SCAQMD adopted the 2022 Air Quality Management Plan (AQMP) on December 2, 2022, updating the region's air quality attainment plan to address the "extreme" ozone non-attainment status for the Basin and the severe ozone non-attainment for the Coachella Valley Basin by laying a path for attainment by 2037. This includes reducing NOx emissions by 67 percent more than required by adopted rules and regulations in 2037. The AQMP calls on strengthening many stationary source controls and addressing new sources like wildfires, but still concludes that the region will not meet air quality standards without a significant shift to zero emission technologies and significant federal action. The 2022 AQMP relies on the growth assumptions in SCAG's 2020-2045 RTP/SCS.

7.1.3.3 Multiple Air Toxics Exposure Study V

To date, the most comprehensive study on air toxics in the Basin is the Multiple Air Toxics Exposure Study V, released in August 2021.[64] The report included refinements in aircraft and recreational boating emissions and diesel conversion factors. The report finds a Basin average cancer risk of 455 in a million (population-weighted, multi-pathway), which represents a decrease of 54 percent compared to the number in MATES IV (2012) (page ES-13). The monitoring program measured more than 30 air pollutants, including both gases and particulates. The monitoring study was accompanied by a computer modeling study in which the SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. About 88 percent of the risk is attributed to emissions associated with mobile sources, with the remainder attributed to toxics emitted from stationary sources, which include large industrial operations, such as refineries and metal processing facilities, as well as smaller businesses such as gas stations and chrome plating facilities (page ES-12). The results indicate that diesel PM is the largest contributor to air toxics risk, accounting on average for about 50 percent of the total risk (Figure ES-2).

7.1.3.4 Southern California Association of Governments (SCAG)

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG coordinates with various air

64 South Coast Air Quality Management District, MATES-V Study. https://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-v

quality and transportation stakeholders in Southern California to ensure compliance with the federal and state air quality requirements, including the Transportation Conformity Rule and other applicable federal, state, and air district laws and regulations. As the federally designated Metropolitan Planning Organization (MPO) for the six-county Southern California region, SCAG is required by law to ensure that transportation activities "conform" to, and are supportive of, the goals of regional and state air quality plans to attain the NAAQS. In addition, SCAG is a co-producer, with the SCAQMD, of the transportation strategy and transportation control measure sections of the AQMP for the Air Basin.

SCAG adopted the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) on April 7, 2016.[65,66] The 2016–2040 RTP/SCS reaffirms the land use policies that were incorporated into SCAG's prior 2012–2035 RTP/SCS. These foundational policies, which guided the development of the plan's land use strategies, include the following:

- Identify regional strategic areas for infill and investment;
- Structure the plan on a three-tiered system of centers development;
- Develop "Complete Communities";
- Develop nodes on a corridor;
- Plan for additional housing and jobs near transit;
- Plan for changing demand in types of housing;
- Continue to protect stable, existing single-family areas;
- Ensure adequate access to open space and preservation of habitat; and
- Incorporate local input and feedback on future growth.

The 2016–2040 RTP/SCS recognizes that transportation investments and future land use patterns are inextricably linked, and continued recognition of this close relationship will help the region make choices that sustain existing resources and expand efficiency, mobility, and accessibility for people across the region. In particular, the 2016–2040 RTP/SCS draws a closer connection between where people live and work, and it offers a blueprint for how Southern California can grow more sustainably. The 2016–2040 RTP/SCS also includes strategies focused on compact infill development and economic growth by building the infrastructure the region needs to promote the smooth flow of goods and easier access to jobs, services, educational facilities, healthcare and more.

On September 3, 2020, SCAG's Regional Council adopted the 2020-2045 RTP/SCS. The 2020-2045 RTP/SCS was determined to conform to the federally-mandated state implementation plan (SIP), for the attainment and maintenance of NAAQS standards. On October 30, 2020, CARB also accepted SCAG's determination that the SCS met the applicable state greenhouse gas

65 SCAG, Final 2016–2040 RTP/SCS.

66 CARB, Executive Order G-16-066, SCAG 2016 SCS ARB Acceptance of GHG Quantification Determination, June 2016.

emissions targets. The 2020-2045 RTP/SCS will be incorporated into the forthcoming 2022 AQMP.

The RTP/SCS update addressed the continuing transportation and air quality challenges of adding 3.7 million additional residents, 1.6 additional households, and 1.6 million additional jobs between 2016 and 2045. The Plan calls for $639 billion in transportation investments and reducing VMT by 19 percent per capita from 2005 to 2035. The updated plan accommodates 21.3 percent regional growth in population from 2016 (3,933,800) to 2045 (4,771,300) and a 15.6 percent growth in jobs from 2016 (1,848,300) to 2045 (2,135,900). The regional plan projects several benefits:

- Decreasing drive-along work commutes by three percent
- Reducing per capita VMT by five percent and vehicle hours traveled per capita by nine percent
- Increasing transit commuting by two percent
- Reducing travel delay per capita by 26 percent
- Creating 264,500 new jobs annually
- Reducing greenfield development by 29 percent by focusing on smart growth
- Locating six more percent household growth in High Quality Transit Areas (HQTAs), which concentrate roadway repair investments, leverage transit and active transportation investments, reduce regional life cycle infrastructure costs, improve accessibility, create local jobs, and have the potential to improve public health and housing affordability.
- Locating 15 percent more jobs in HQTAs
- Reducing $PM_{2.5}$ emissions by 4.1 percent
- Reducing GHG emissions by 19 percent by 2035

7.1.3 Local

7.1.3.1 City of Los Angeles General Plan Air Quality Element

The Air Quality Element of the City's General Plan was adopted on November 24, 1992, and sets forth the goals, objectives, and policies, which guide the City in the implementation of its air quality improvement programs and strategies. The Air Quality Element acknowledges the interrelationships among transportation and land use planning in meeting the City's mobility and air quality goals. The Air Quality Element includes six key goals:

Goal 1: Good air quality in an environment of continued population growth and healthy economic structure.

Goal 2: Less reliance on single-occupant vehicles with fewer commute and non-work trips.

Goal 3: Efficient management of transportation facilities and system infrastructure using cost-effective system management and innovative demand management techniques.

Goal 4: Minimize impacts of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation, and air quality.

Goal 5: Energy efficiency through land use and transportation planning, the use of renewable resources and less-polluting fuels and the implementation of conservation measures including passive measures such as site orientation and tree planting.

Goal 6: Citizen awareness of the linkages between personal behavior and air pollution and participation in efforts to reduce air pollution.

7.1.3.2 Clean Up Green Up Ordinance

The City of Los Angeles adopted a Clean Up Green Up Ordinance (Ordinance Number 184,245) on April 13, 2016, which among other provisions, includes provisions related to ventilation system filter efficiency in mechanically ventilated buildings. This ordinance added Sections 95.314.3 and 99.04.504.6 to the Los Angeles Municipal Code (LAMC) and amended Section 99.05.504.5.3 to implement building standards and requirements to address cumulative health impacts resulting from incompatible land use patterns.

7.1.3.3 California Environmental Quality Act

In accordance with CEQA requirements, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation. The City uses the SCAQMD's *CEQA Air Quality Handbook* and SCAQMD's supplemental online guidance/information for the environmental review of plans and development proposals within its jurisdiction.

7.1.3.4 Land Use Compatibility

In November 2012, the Los Angeles City Planning Commission (CPC) issued an advisory notice (Zoning Information 2427) regarding the siting of sensitive land uses within 1,000 feet of freeways. The CPC deemed 1,000 feet to be a conservative distance to evaluate projects that house populations considered to be more at-risk from the negative effects of air pollution caused by freeway proximity. The CPC advised that applicants of projects requiring discretionary approval, located within 1,000 feet of a freeway and contemplating residential units and other sensitive uses (e.g., hospitals, schools, retirement homes) perform a Health Risk Assessment (HRA).

The Project Site is 3,800 feet west of the southbound mainline of the Hollywood Freeway (US-101).

The City of Los Angeles adopted a Clean Up Green Up Ordinance (Ordinance Number 184,245) on April 13, 2016, which among other provisions, includes provisions related to ventilation system filter efficiency in mechanically ventilated buildings located within specified distances from a freeway. This ordinance added Sections 95.314.3 and 99.04.504.6 to the Los Angeles Municipal

Code (LAMC) and amended Section 99.05.504.5.3 to implement building standards and requirements to address cumulative health impacts resulting from incompatible land use patterns.

On April 12, 2018, the City updated its guidance on siting land uses near freeways, resulting in an updated Advisory Notice effective September 17, 2018 requiring all proposed projects within 1,000 feet of a freeway adhere to the Citywide Design Guidelines, including those that address freeway proximity. It also recommended that projects consider avoiding location of sensitive uses like schools, day care facilities, and senior care centers in such projects, locate open space areas as far from the freeway as possible when the size of the site permits, locate non-habitable uses (e.g., parking structures) nearest the freeway, and screen project sites with substantial vegetation and/or a wall barrier. The Advisory Notice also informs project applicants of the regulatory requirements of the Clean Up Green Up Ordinance. Requirements for preparing HRAs were removed.

7.2 Existing Conditions

7.2.1 Pollutants and Effects

7.2.1.1 State and Federal Criteria Pollutants

Air quality is defined by ambient air concentrations of seven specific pollutants identified by the USEPA to be of concern with respect to health and welfare of the general public. These specific pollutants, known as “criteria air pollutants,” are defined as pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants include carbon monoxide (CO), ground-level ozone (O_3), nitrogen oxides (NO_X), sulfur oxides (SO_X), particulate matter ten microns or less in diameter (PM_{10}), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and lead (Pb). The following descriptions of each criteria air pollutant and their health effects are based on information provided by the SCAQMD.[67]

Carbon Monoxide (CO). CO is primarily emitted from combustion processes and motor vehicles due to incomplete combustion of fuel. Elevated concentrations of CO weaken the heart’s contractions and lower the amount of oxygen carried by the blood. It is especially dangerous for people with chronic heart disease. Inhalation of CO can cause nausea, dizziness, and headaches at moderate concentrations and can be fatal at high concentrations.

Ozone (O_3). O_3 is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_X)—both byproducts of internal combustion engine exhaust—undergo slow photochemical reactions in the presence of sunlight. O_3 concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. An elevated level of O_3 irritates the lungs and breathing passages, causing coughing and pain in the chest and throat, thereby increasing susceptibility to respiratory infections and reducing the ability to exercise. Effects are more severe in people with asthma and other

67 SCAQMD, Final Program Environmental Impact Report for the 2016 AQMP, https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp.

respiratory ailments. Long-term exposure may lead to scarring of lung tissue and may lower lung efficiency.

Nitrogen Dioxide (NO_2). NO_2 is a byproduct of fuel combustion and major sources include power plants, large industrial facilities, and motor vehicles. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), which reacts quickly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 absorbs blue light and results in a brownish-red cast to the atmosphere and reduced visibility. NO_2 also contributes to the formation of PM_{10}. Nitrogen oxides irritate the nose and throat, and increase one's susceptibility to respiratory infections, especially in people with asthma. The principal concern of NO_X is as a precursor to the formation of ozone.

Sulfur Dioxide (SO_2). Sulfur oxides (SO_X) are compounds of sulfur and oxygen molecules. SO_2 is the pre- dominant form found in the lower atmosphere and is a product of burning sulfur or burning materials that contain sulfur. Major sources of SO_2 include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Emissions of sulfur dioxide aggravate lung diseases, especially bronchitis. It also constricts the breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. SO_2 potentially causes wheezing, shortness of breath, and coughing. High levels of particulates appear to worsen the effect of sulfur dioxide, and long-term exposures to both pollutants leads to higher rates of respiratory illness.

Particulate Matter (PM_{10} and $PM_{2.5}$). The human body naturally prevents the entry of larger particles into the body. However, small particles, with an aerodynamic diameter equal to or less than 10 microns (PM_{10}), and even smaller particles with an aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$), can enter the body and become trapped in the nose, throat, and upper respiratory tract. These small particulates can potentially aggravate existing heart and lung diseases, change the body's defenses against inhaled materials, and damage lung tissue. The elderly, children, and those with chronic lung or heart disease are most sensitive to PM_{10} and $PM_{2.5}$. Lung impairment can persist for two to three weeks after exposure to high levels of particulate matter. Some types of particulates can become toxic after inhalation due to the presence of certain chemicals and their reaction with internal body fluids.

Lead (Pb). Lead is emitted from industrial facilities and from the sanding or removal of old lead-based paint. Smelting or processing the metal is the primary source of lead emissions, which is primarily a regional pollutant. Lead affects the brain and other parts of the body's nervous system. Exposure to lead in very young children impairs the development of the nervous system, kidneys, and blood forming processes in the body.

7.2.1.2 State-only Criteria Pollutants

Visibility-Reducing Particles. Deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality. Visibility reduction from air pollution is often due to the presence of sulfur and NO_X, as well as PM.

Sulfates (SO_4^{2-}). Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized during the combustion process and subsequently converted to sulfate compounds in the atmosphere. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, due to fact that they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide (H_2S). H_2S is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation. Breathing H_2S at levels above the state standard could result in exposure to a very disagreeable odor.

Vinyl Chloride. Vinyl chloride is a colorless, flammable gas at ambient temperature and pressure. It is also highly toxic and is classified as a known carcinogen by the American Conference of Governmental Industrial Hygienists and the International Agency for Research on Cancer. At room temperature, vinyl chloride is a gas with a sickly-sweet odor that is easily condensed. However, it is stored at cooler temperatures as a liquid. Due to the hazardous nature of vinyl chloride to human health, there are no end products that use vinyl chloride in its monomer form. Vinyl chloride is a chemical intermediate, not a final product. It is an important industrial chemical chiefly used to produce polyvinyl chloride (PVC). The process involves vinyl chloride liquid fed to polymerization reactors where it is converted from a monomer to a polymer PVC. The final product of the polymerization process is PVC in either a flake or pellet form. Billions of pounds of PVC are sold on the global market each year. From its flake or pellet form, PVC is sold to companies that heat and mold the PVC into end products such as PVC pipe and bottles. Vinyl chloride emissions are historically associated primarily with landfills.

7.2.2 Toxic Air Contaminants

TACs refer to a diverse group of “non-criteria” air pollutants that can affect human health but have not had ambient air quality standards established for them. This is not because they are fundamentally different from the pollutants discussed above but because their effects tend to be local rather than regional. TACs are classified as carcinogenic and noncarcinogenic, where carcinogenic TACs can cause cancer and noncarcinogenic TAC can cause acute and chronic impacts to different target organ systems (e.g., eyes, respiratory, reproductive, developmental, nervous, and cardiovascular). CARB and OEHHA determine if a substance should be formally identified, or “listed,” as a TAC in California. A complete list of these substances is maintained on CARB’s website.[68]

Diesel particulate matter (DPM), which is emitted in the exhaust from diesel engines, was listed by the state as a TAC in 1998. DPM has historically been used as a surrogate measure of exposure for all diesel exhaust emissions. DPM consists of fine particles (fine particles have a diameter less than 2.5 micrometer (μm)), including a subgroup of ultrafine particles (ultrafine particles have a diameter less than 0.1 μm). Collectively, these particles have a large surface area which makes them an excellent medium for absorbing organics. The visible emissions in diesel exhaust include carbon particles or “soot.” Diesel exhaust also contains a variety of harmful gases and cancer-causing substances.

68 CARB, Toxic Air Contaminant Identification List, www.arb.ca.gov/toxics/id/taclist.htm.

Exposure to DPM may be a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. DPM levels and resultant potential health effects may be higher in close proximity to heavily traveled roadways with substantial truck traffic or near industrial facilities. According to CARB, DPM exposure may lead to the following adverse health effects: (1) aggravated asthma; (2) chronic bronchitis; (3) increased respiratory and cardiovascular hospitalizations; (4) decreased lung function in children; (5) lung cancer; and (6) premature deaths for people with heart or lung disease.[69,70]

7.2.4 Project Site

The Project Site is located within the South Coast Air Basin (the Basin); named so because of its geographical formation is that of a basin, with the surrounding mountains trapping the air and its pollutants in the valleys or basins below. The 6,745-square-mile Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. It is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east; and the San Diego County line to the south.

Ambient pollution concentrations recorded in Los Angeles County portion of the Basin are among the highest in the four counties comprising the Basin. USEPA has classified Los Angeles County as nonattainment areas for O_3, $PM_{2.5}$, and lead. This classification denotes that the Basin does not meet the NAAQS for these pollutants. In addition, under the CCAA, the Los Angeles County portion of the Basin is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The air quality within the Basin is primarily influenced by a wide range of emissions sources, such as dense population centers, heavy vehicular traffic, industry, and meteorology.

Air pollutant emissions are generated in the local vicinity by stationary and area-wide sources, such as commercial activity, space and water heating, landscaping maintenance, consumer products, and mobile sources primarily consisting of automobile traffic.

7.2.4.1 Air Pollution Climatology[71]

The topography and climate of Southern California combine to make the Basin an area of high air pollution potential. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cooler surface layer which inhibits the pollutants from dispersing upward. Light winds during the summer further limit ventilation. Additionally, abundant sunlight triggers photochemical reactions which produce O_3 and the majority of particulate matter.

7.2.4.2 Air Monitoring Data

The SCAQMD monitors air quality conditions at 38 source receptor areas (SRA) throughout the Basin. The Project Site is located in SCAQMD's Central Los Angeles receptor area. Historical data from the area was used to characterize existing conditions in the vicinity of the Project area.

69 CARB, Overview: Diesel Exhaust and Health, www.arb.ca.gov/research/diesel/diesel-health.htm.

70 CARB, Fact Sheet: Diesel Particulate Matter Health Risk Assessment Study for the West Oakland Community: Preliminary Summary of Results, March 2008.

71 AQMD, Final Program Environmental Impact Report for the 2012 AQMP, December 7, 2012.

Table 7-2 shows pollutant levels, State and federal standards, and the number of exceedances recorded in the area from 2018 through 2020. The one-hour State standard for O_3 was exceeded 16 times during this three-year period, including fourteen times in 2020. The federal standard was exceeded 28 times in that same period. In addition, the daily State standard for PM_{10} was exceeded 58 times, with a substantial reduction in exceedances in 2019. The daily federal standard for $PM_{2.5}$ was exceeded six times. CO and NO_2 levels did not exceed the CAAQS from 2018 to 2020 for 1-hour (and 8-hour for CO).

Table 7-2
Ambient Air Quality Data

Pollutants and State and Federal Standards	Maximum Concentrations and Frequencies of Exceedance Standards		
	2018	**2019**	**2020**
Ozone (O_3)			
Maximum 1-hour Concentration (ppm)	0.098	0.080	0.185
Days > 0.09 ppm (State 1-hour standard)	2	0	14
Days > 0.070 ppm (Federal 8-hour standard)	4	2	22
Carbon Monoxide (CO_2)			
Maximum 1-hour Concentration (ppm)	2.0	2.0	1.9
Days > 20 ppm (State 1-hour standard)	0	0	0
Maximum 8-hour Concentration (ppm)	1.7	1.6	1.5
Days > 9.0 ppm (State 8-hour standard)	0	0	0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour Concentration (ppm)	0.0701	0.0697	0.0618
Days > 0.18 ppm (State 1-hour standard)	0	0	0
PM_{10}			
Maximum 24-hour Concentration (μg/m^3)	81	62	77
Days > 50 μg/m^3 (State 24-hour standard)	31	3	24
$PM_{2.5}$			
Maximum 24-hour Concentration (μg/m^3)	49.2	43.5	47.3
Days > 35 μg/m^3 (Federal 24-hour standard)	3	1	2
Sulfur Dioxide (SO_2)			
Maximum 24-hour Concentration (ppb)	17.9	10.0	3.8
Days > 0.04 ppm (State 24-hour standard)	0	0	0

ppm = parts by volume per million of air.
μg/m^3 = micrograms per cubic meter.
N/A = not available at this monitoring station.
Source: SCAQMD annual monitoring data at Central LA subregion (http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year) accessed September 28, 2022.

7.2.4.3 Existing Health Risk in the Surrounding Area

Based on the MATES-V model, the calculated cancer risk in the Project area (zip code 90038) is approximately 541 in a million.[72] The cancer risk in this area is predominately related to nearby

72 South Coast Air Quality Management District, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-V), MATES V Interactive Carcinogenicity Map, 2021,

sources of diesel particulate matter (e.g., diesel trucks and traffic on the Hollywood Freeway 3,800 feet to the south). In general, the risk at the Project Site is higher than 78 percent of the population across the South Coast Air Basin.

The Office of Environmental Health Hazard Assessment, on behalf of the California Environmental Protection Agency (CalEPA), provides a screening tool called CalEnviroScreen that can be used to help identify California communities disproportionately burdened by multiple sources of pollution. According to CalEnviroScreen, the Project Site (Census tract 6037190801) is located in the 95th percentile, which means the Project Site has an overall environmental pollution burden higher than at least 95 percent of other communities within California.[73]

7.2.4.4 Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The California Air Resources Board (CARB) has identified the following groups who are most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

The Project Site is located on the Vine Street commercial corridor in the Hollywood neighborhood. Sensitive receptors within 0.25 miles of the Project Site include, but are not limited to, the following representative sampling:

- Mental Health Center, 1224 Vine Street, directly north of the Project Site.
- Residences, 6232-6238 La Mirada Avenue, five feet east of the Project Site.
- Residences, 6231-6239 Lexington Avenue, five feet east of the Project Site.
- Residences, 6236-6240 Lexington Avenue, 80 feet south of the Project Site.
- Taglyan Complex special event center, 1201 Vine Street, 90 feet west of the Project Site.
- Early Head Start School, 1147 Vine Street, 160 feet southwest of the Project Site.
- Hotel (residential rentals), 6326 Lexington Avenue, 230 feet west of the Project Site.
- Hampton Inn & Suites Hotel, 1133 Vine Street; 300 feet southwest of the Project Site.
- Episcopal School of Los Angeles, 6235 Santa Monica Boulevard, 585 feet southwest of the Project Site.

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https://experience.arcgis.com/experience/79d3b6304912414bb21ebdde80100b23/page/home/?data_id=dataSource_105-a5ba9580e3aa43508a793fac819a5a4d%3A26&views=view_39%2Cview_1, accessed October 5, 2022.

73 Office of Environmental Health Hazard Assessment, https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40, accessed October 5, 2022.

- Vine Street Elementary School, 955 Vine Street, 1,350 feet southwest of the Project Site.

7.2.4.5 Existing Project Site Emissions

The Project Site is occupied by two buildings totaling 27,011 square feet and a 16,000 square-foot surface parking lot. As both buildings are vacant, there are no emissions of criteria pollutants produced on the Project Site.

7.3 Methodology

The air quality analysis conducted for the Project is consistent with the methods described in the SCAQMD CEQA Air Quality Handbook (1993 edition), as well as the updates to the CEQA Air Quality Handbook, as provided on the SCAQMD website. The SCAQMD recommends the use of the California Emissions Estimator Model (CalEEMod, version 2022.1) as a tool for quantifying emissions of air pollutants that will be generated by constructing and operating development projects. The analyses focuses on the potential change in air quality conditions due to Project implementation. Air pollutant emissions would result from both construction and operation of the Project. Specific methodologies used to evaluate these emissions are discussed below.

7.3.1 Construction

Sources of air pollutant emissions associated with construction activities include heavy-duty off-road diesel equipment and vehicular traffic to and from the Project construction site. Project-specific information was provided describing the schedule of construction activities and the equipment inventory required from the Applicant. Details pertaining to the schedule and equipment can be found in the **Appendix E** to this analysis.

The CalEEMod model provides default values for daily equipment usage rates and worker trip lengths, as well as emission factors for heavy-duty equipment, passenger vehicles, and haul trucks that have been derived by the CARB. Maximum daily emissions were quantified for each construction activity based on the number of equipment and daily hours of use, in addition to vehicle trips to and from the Project Site.

The SCAQMD recommends that air pollutant emissions be assessed for both regional scale and localized impacts. The regional emissions analysis includes both on-site and off-site sources of emissions, while the localized emissions analysis focuses only on sources of emissions that would be located on the Project Site.

Localized impacts were analyzed in accordance with the SCAQMD Localized Significance Threshold (LST) methodology.[74] The localized effects from on-site portion of daily emissions were evaluated at sensitive receptor locations potentially impacted by the Project according to the SCAQMD's localized significance thresholds (LST) methodology, which uses on-site mass emission look-up tables and Project-specific modeling, where appropriate.[75] SCAQMD provides LSTs applicable to the following criteria pollutants: NO_X, CO, PM_{10}, and $PM_{2.5}$. SCAQMD does not provide an LST for SO_2 since land use development projects typically result in negligible

74 South Coast Air Quality Management District, Final Localized Significance Methodology, revised July 2008.

75 South Coast Air Quality Management District, LST Methodology Appendix C-Mass Rate LST Look-Up Table, October 2009.

construction and long-term operation emissions of this pollutant. Since VOCs are not a criteria pollutant, there is no ambient standard or SCAQMD LST for VOCs. Due to the role VOCs play in O_3 formation, it is classified as a precursor pollutant, and only a regional emissions threshold has been established.

LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. The mass rate look-up tables were developed for each source receptor area and can be used to determine whether or not a project may generate significant adverse localized air quality impacts. SCAQMD provides LST mass rate look-up tables for projects with active construction areas that are less than or equal to five acres. If the project exceeds the LST look-up values, then the SCAQMD recommends that project-specific air quality modeling must be performed.

In accordance with SCAQMD guidance, maximum daily emissions of NO_X, CO, PM_{10}, and $PM_{2.5}$ from on-site sources during each construction activity were compared to LST values for a one-acre site having sensitive receptors within 25 meters (82 feet).[76]

This is appropriate given the 0.936-acre site and the proximity of sensitive receptors immediately north and east of the Project Site.

The Basin is divided into 38 SRAs, each with its own set of maximum allowable LST values for on-site emissions sources during construction and operations based on locally monitored air quality. Maximum on-site emissions resulting from construction activities were quantified and assessed against the applicable LST values.

The significance criteria and analysis methodologies in the SCAQMD's CEQA Air Quality Handbook were used in evaluating impacts in the context of the CEQA significance criteria listed below. The SCAQMD localized significance thresholds (LSTs) for NO_2, CO, and PM_{10} were initially published in June 2003 and revised in July 2008.[77] The LSTs for $PM_{2.5}$ were established in October 2006.[78] Updated LSTs were published on the SCAQMD website on October 21, 2009.[79] **Table 7-3** presents the significance criteria for both construction and operational emissions.

76 South Coast Air Quality Management District, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, 2008.

77 South Coast Air Quality Management District, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, 2008.

78 South Coast Air Quality Management District, Final – Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, October 2006.

79 South Coast Air Quality Management District, Final Localized Significance Threshold Methodology Appendix C – Mass Rate LST Look-Up Tables, October 21, 2009.

Table 7-3
SCAQMD Emissions Thresholds

Criteria Pollutant	Construction Emissions		Operation Emissions	
	Regional	Localized /a/	Regional	Localized /a/
Volatile Organic Compounds (VOC)	75	--	55	--
Nitrogen Oxides (NO_X)	100	74	55	74
Carbon Monoxide (CO)	550	680	550	680
Sulfur Oxides (SO_X)	150	--	150	--
Respirable Particulates (PM_{10})	150	5	150	2
Fine Particulates ($PM_{2.5}$)	55	3	55	1

/a/ Localized significance thresholds assumed a 1-acre and 25-meter (82-foot) receptor distance in the Central LA source receptor area. The SCAQMD has not developed LST values for VOC or SO_X. Pursuant to SCAQMD guidance, sensitive receptors closer than 25 meters to a construction site are to use the LSTs for receptors at 25 meters (SCAQMD Final Localized Significance Threshold Methodology, June 2008).

Source: SCAQMD, South Coast AQMD Air Quality Significance Thresholds, 2019

7.3.2 Operation

CalEEMod also generates estimates of daily and annual emissions of air pollutants resulting from future operation of a project. Operational emissions of air pollutants are produced by mobile sources (vehicular travel) and stationary sources (utilities demand). The Project Site is serviced by the Los Angeles Department of Water and Power (LADWP), for which CalEEMod has derived default emissions factors for electricity and natural gas usage that are applied to the size and land use type of the Project in question. CalEEMod also generates estimated operational emissions associated water use, wastewater generation, and solid waste disposal.

Similar to construction, SCAQMD's CalEEMod software was used for the evaluation of Project emissions during operation. CalEEMod was used to calculate on-road fugitive dust, architectural coatings, landscape equipment, energy use, mobile source, and stationary source emissions. To determine if a significant air quality impact would occur, the net increase in regional and local operational emissions generated by the Project was compared against the SCAQMD's significance thresholds.[80]

7.3.3 Toxic Air Contaminants Impacts

Potential TAC impacts are evaluated by conducting a qualitative analysis consistent with the CARB Handbook followed by a more detailed analysis (i.e., dispersion modeling), as necessary. The qualitative analysis consists of reviewing the Project to identify any new or modified TAC emissions sources. If the qualitative evaluation does not rule out significant impacts from a new source, or modification of an existing TAC emissions source, a more detailed analysis is conducted.

80 SCAQMD, SCAQMD Air Quality Significance Thresholds, revised March 2015. SCAQMD based these thresholds, in part on the federal Clean Air Act and, to enable defining "significant" for CEQA purposes, defined the setting as the South Coast Air Basin. (See SCAQMD, CEQA Air Quality Handbook, April 1993, pp. 6-1-6-2.).

7.4 Thresholds of Significance

7.4.1 State CEQA Guidelines

In accordance with CEQA Guidelines Section 15332(d), approval of the project would not result in any significant effects relating to air quality.

7.4.2 SCAQMD Thresholds

In addition, the following criteria set forth in the SCAQMD's *CEQA Air Quality Handbook* serve as quantitative air quality standards to be used to evaluate project impacts under the Appendix G Thresholds. Under these thresholds, a significant threshold would occur when:[81]

7.4.2.1 Construction

- Regional emissions from both direct and indirect sources would exceed any of the following SCAQMD prescribed threshold levels: (1) 100 pounds per day for NO_X; (2) 75 pounds a day for VOC; (3) 150 pounds per day for PM_{10} or SO_X; (4) 55 pounds per day for $PM_{2.5}$; and (5) 550 pounds per day for CO.

- Maximum on-site daily localized emissions exceed the LST, resulting in predicted ambient concentrations in the vicinity of the Project Site greater than the most stringent ambient air quality standards for CO (20 ppm [23,000 $\mu g/m^3$] over a 1-hour period or 9.0 ppm [10,350 $\mu g/m^3$] averaged over an 8-hour period) and NO_2 (0.18 ppm [339 $\mu g/m^3$] over a 1-hour period, 0.1 ppm [188 $\mu g/m^3$] over a three-year average of the 98th percentile of the daily maximum 1-hour average, or 0.03 ppm [57 $\mu g/m^3$] averaged over an annual period).

- Maximum on-site localized PM_{10} or $PM_{2.5}$ emissions during construction exceed the applicable LSTs, resulting in predicted ambient concentrations in the vicinity of the Project Site to exceed the incremental 24-hour threshold of 10.4 $\mu g/m^3$ or 1.0 $\mu g/m^3$ PM_{10} averaged over an annual period.

7.4.2.2 Operation

The City bases the determination of significance of operational air quality impacts on criteria set forth in the SCAQMD's *CEQA Air Quality Handbook.*[82] However, as discussed above, the City has chosen to use Appendix G as the thresholds of significance for this analysis. Accordingly, the following serve as quantitative air quality standards to be used to evaluate project impacts under the Appendix G thresholds. Under these thresholds, a significant threshold would occur when:

- Operational emissions exceed 10 tons per year of volatile organic gases or any of the following SCAQMD prescribed threshold levels: (1) 55 pounds a day for VOC;[83] (2) 55 pounds per day

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81 SCAQMD, SCAQMD Air Quality Significance Thresholds, revised March 2015.

82 SCAQMD, SCAQMD Air Quality Significance Thresholds, revised March 2015.

83 For purposes of this analysis, emissions of VOC and reactive organic compounds (ROG) are used interchangeably since ROG represents approximately 99.9 percent of VOC emissions.

for NO_X; (3) 550 pounds per day for CO; (4) 150 pounds per day for SO_X; (5) 150 pounds per day for PM_{10}; and (6) 55 pounds per day for $PM_{2.5}$.[84]

- Maximum on-site daily localized emissions exceed the LST, resulting in predicted ambient concentrations in the vicinity of the Project Site greater than the most stringent ambient air quality standards for CO (20 parts per million (ppm) over a 1-hour period or 9.0 ppm averaged over an 8-hour period) and NO_2 (0.18 ppm over a 1-hour period, 0.1 ppm over a 3-year average of the 98th percentile of the daily maximum 1-hour average, or 0.03 ppm averaged over an annual period).[85]

- Maximum on-site localized operational PM_{10} and $PM_{2.5}$ emissions exceed the incremental 24-hour threshold of 2.5 $\mu g/m^3$ or 1.0 $\mu g/m^3$ PM_{10} averaged over an annual period.[86]

- The Project causes or contributes to an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9.0 ppm, respectively; or

- The Project creates an odor nuisance pursuant to SCAQMD Rule 402.

7.4.2.3 Toxic Air Contaminants

The following criteria set forth in the SCAQMD's *CEQA Air Quality Handbook* serve as quantitative air quality standards to be used to evaluate project impacts under Appendix G thresholds. Under these thresholds, a significant threshold would occur when:[87]

- The Project results in the exposure of sensitive receptors to carcinogenic or toxic air contaminants that exceed the maximum incremental cancer risk of 10 in one million or an acute or chronic hazard index of 1.0.[88] For projects with a maximum incremental cancer risk between 1 in one million and 10 in one million, a project would result in a significant impact if the cancer burden exceeds 0.5 excess cancer cases.

7.5 Project Impacts

The Project will comply with the applicable Los Angeles Green Building Code (LAGBC, 2023 version effective January 1, 2023)[89] and the applicable California Green Building Standards Code (CalGreen, 2022 version effective January 1, 2023.[90] The applicability is determined when the Project is submitted and accepted by plan check. During construction, the Project will recycle and reuse building and construction materials to the maximum extent feasible.

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84 SCAQMD Air Quality Significance Thresholds, www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf, last updated March 2015.

85 SCAQMD, Final Localized Significance Threshold Methodology, revised July 2008.

86 SCAQMD, Final—Methodology to Calculate Particulate Matter (PM) 2.5 and $PM_{2.5}$ Significance Thresholds, October 2006.

87 SCAQMD, CEQA Air Quality Handbook, April 1993, Chapter 6 (Determining the Air Quality Significance of a Project) and Chapter 10 (Assessing Toxic Air Pollutants).

88 Hazard index is the ratio of a toxic air contaminant's concentration divided by its Reference Concentration, or safe exposure level. If the hazard index exceeds one, people are exposed to levels of TACs that may pose noncancer health risks.

89 City of Los Angeles Department of Building and Safety, Green Building, available at http://ladbs.org/forms-publications/forms/green-building, accessed on November 7, 2022.

90 California Building Codes: https://www.dgs.ca.gov/BSC/CALGreen, accessed on November 7, 2022.

Energy efficiency and sustainability features would include native plants and drip/subsurface irrigation systems, individual metering or sub metering for water use, leak detection systems, and electric vehicle charging capacity. In addition, the landscaping on the outdoor decks will serve to help reduce solar heat gain and facilitate possible stormwater retention on-site.

The Project's infill location would promote the concentration of development in an urban location with extensive infrastructure and access to public transit facilities. The Project's proximity to public transportation would reduce vehicle miles traveled for residents, workers, and visitors who want options to driving cars.

7.5.1 Consistency with Plans

7.5.1.1 Air Quality Management Plan

The air quality plan applicable to the Project area is the 2016 AQMP. The 2016 AQMP is the SCAQMD plan for improving regional air quality in the Basin. The 2016 AQMP is the current management plan for continued progression toward clean air and compliance with State and federal requirements. It includes a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on- and off-road mobile sources and area sources. The 2016 AQMP also incorporates current scientific information and meteorological air quality models. It also updates the federally approved 8-hour O_3 control plan with new commitments for short-term NO_X and VOC reductions. The 2016 AQMP includes short-term control measures related to facility modernization, energy efficiency, good management practices, market incentives, and emissions growth management.

As demonstrated in the following analyses, the Project would not result in significant regional emissions. The 2016 AQMP adapts previously conducted regional air quality analyses to account for the recent unexpected drought conditions and presents a revised approach to demonstrated attainment of the 2006 24-hour $PM_{2.5}$ NAAQS for the Basin. Directly applicable to the Project, the 2016 AQMP proposes robust NO_X reductions from residential appliances. The Project would be required to comply with all new and existing regulatory measures set forth by the SCAQMD. Implementation of the Project would not interfere with air pollution control measures listed in the 2016 AQMP.

The Project Site is classified as "Highway Oriented Commercial" in the General Plan Framework, a classification that allows multi-family housing and commercial uses such as that proposed by the Project. As such, the RTP/SCS' assumptions about growth in the City accommodate the projected population and jobs on the Project Site. As a result, the Project would be consistent with the growth assumptions in the City's General Plan.

Because the AQMP accommodates growth forecasts from local General Plans, the emissions associated with this Project are accounted for and mitigated in the region's air quality attainment plans. The air quality impacts of development on the Project Site are accommodated in the region's emissions inventory for the 2016 RTP/SCS and 2016 AQMP. Therefore, Project impacts with respect to AQMP consistency would be less than significant.

7.5.1.2 City of Los Angeles Policies

The Project Site would offer convenient access to public transit and opportunities for walking and biking (including the provision of bicycle parking), thereby facilitating a reduction in VMT. In addition, the Project would be consistent with the existing land use pattern in the vicinity that concentrates urban density along major arterials and near transit options based on the following:

- The Project Site is within a HQTA, which reflects areas with rail transit service or bus service where lines have peak headways of less than 15 minutes.[91]
- The Project Site is located in a Transit Priority Area, which are locations within one-half mile of a major transit stop with bus or fail transit service with frequencies of 15 minutes or less.
- The Project Site is nearby a qualified Major Transit Stop, which is the intersection of Santa Monica Boulevard and Vine Street, (665 feet south of the Site).[92]
- There is substantial public transit service in the area, including:
    - Metro Line 4 which provides east-west service along Santa Monica Boulevard with a bus stop at Vine Street 680 feet south of the Project Site.
    - Metro Line 210 which provides north-south service along Vine Street with a bus stop at Lexington Avenue directly in front of the Project Site.
    - LADOT DASH (Hollywood) shuttle service on Vine Street, with a bus stop at Fountain Avenue 430 north of the Project Site.
- The Project will provide 14 short- and 106 long-term bicycle parking spaces on-site.
- Metro operates a bikeshare station on Vine Street and Fountain Avenue, 375 feet north of the Project Site.

The City's General Plan Air Quality Element identifies 30 policies with specific strategies for advancing the City's clean air goals. As illustrated in **Table 7-4**, the Project is consistent with the applicable policies in the Air Quality Element, as the Project would implement sustainability features that would reduce vehicular trips, reduce VMT, and encourage the use of alternative modes of transportation. Therefore, the Project would result in a less than significant impact related to consistency with the Air Quality Element.

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91 Southern California Association of Governments Data Portal https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_active-transportation.pdf?1606001530,

92 Major Transit Stop is a site containing a rail station or the intersection of two or more bus routes with a service interval of 15 minutes or less during the morning and afternoon peak commute periods. The stations or bus routes may be existing, under construction or included in the most recent Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP).

Table 7-4
Project Consistency with City of Los Angeles General Plan Air Quality Element

Strategy	Project Consistency
Policy 1.3.1. Minimize particulate emissions from construction sites.	**Consistent.** The Project would minimize particulate emissions during construction through best practices and/or SCAQMD rules (e.g., Rule 403, Fugitive Dust).
Policy 1.3.2. Minimize particulate emissions from unpaved roads and parking lots associated with vehicular traffic.	**Consistent.** The Project would minimize particulate emissions from unpaved facilities through best practices and/or SCAQMD rules.
Policy 2.1.1. Utilize compressed work weeks and flextime, telecommuting, carpooling, vanpooling, public transit, and improve walking/bicycling related facilities in order to reduce vehicle trips and/or VMT as an employer and encourage the private sector to do the same to reduce work trips and traffic congestion.	**Consistent.** The proposed development would provide access to transportation commute options for both workers in the commercial space or for residents. The Project Site is served by public transit options, including Metro Line 4 on Santa Monica Boulevard and Line 210 on Vine Street. LADOT DASH (Hollywood) provides circulator shuttle service at a bus stop on Vine Street. Employees can benefit from the 14 short- and 106 long-term bicycle parking spaces on-site for residents and workers. Metro operates a bikeshare station on Vine Street and Fountain Avenue, 375 north of the Project Site. A co-work center on the second floor promotes telecommuting that would reduce work-related vehicle trips.
Policy 2.1.2. Facilitate and encourage the use of telecommunications (i.e., telecommuting) in both the public and private sectors, in order to reduce work trips.	**Consistent.** Residents could use high-speed telecommunications services as an alternative to driving to work. A June 2020 study by the National Bureau of Economic Research found that 37 percent of jobs can be performed entirely from home (https://www.nber.org/papers/w26948). As such, the Project could help reduce commuting to work through telecommuting.
Policy 2.2.1. Discourage single-occupant vehicle use through a variety of measures such as market incentive strategies, mode-shift incentives, trip reduction plans and ridesharing subsidies.	**Consistent.** The Project would discourage single-occupant vehicle use because of the limited parking (93 spaces) for residents and merchants. Residents, workers, and visitors can use public transit, including Metro Line 4 on Santa Monica Boulevard and Line 210 on Vine Street. LADOT DASH (Hollywood) provides circulator shuttle service at a bus stop on Vine Street. Employees can benefit from the 14 short- and 106 long-term bicycle parking spaces on-site for residents and workers. Metro operates a bikeshare station on Vine Street and Fountain Avenue, 375 north of the Project Site. A co-work center on the second floor promotes telecommuting that would reduce work-related vehicle trips.
Policy 2.2.2. Encourage multi-occupant vehicle travel and discourage single-occupant vehicle travel by instituting parking management practices.	**Consistent.** The Project is requesting parking in accordance with AB 2345 standards (Government Code Section 65915) which requires no more than 0.5 parking spaces per dwelling unit. The

Table 7-4
Project Consistency with City of Los Angeles General Plan Air Quality Element

Strategy	Project Consistency
	development would provide transportation options to residents and workers as an option to driving.
Policy 2.2.3. Minimize the use of single-occupant vehicles associated with special events or in areas and times of high levels of pedestrian activities.	**Not Applicable.** The residential and commercial development would not host special events. The Project would not impede the advancement of this Citywide policy.
Policy 3.2.1. Manage traffic congestion during peak hours.	**Consistent.** The Project is a low traffic generator because of the nature of residential uses, which generate peak hour vehicle trips that are lower than commercial, retail, and restaurant uses. Further, the Project would also minimize traffic congestion based on its location near transit opportunities, which would encourage the use of alternative modes of transportation. Residents, workers, and visitors can use public transit, including Metro Line 4 on Santa Monica Boulevard and Line 210 on Vine Street. LADOT DASH (Hollywood) provides circulator shuttle service at a bus stop on Vine Street. Employees can benefit from the 14 short- and 106 long-term bicycle parking spaces on-site for residents and workers. Metro operates a bikeshare station on Vine Street and Fountain Avenue, 375 north of the Project Site. A co-work center on the second floor promotes telecommuting that would reduce work-related vehicle trips.
Policy 4.1.1. Coordinate with all appropriate regional agencies on the implementation of strategies for the integration of land use, transportation, and air quality policies.	**Consistent.** The Project is being entitled through the City of Los Angeles, which coordinates with SCAG, Metro, and other regional agencies on the coordination of land use, air quality, and transportation policies.
Policy 4.1.2. Ensure that project level review and approval of land use development remains at the local level.	**Consistent.** The Project would be entitled and environmentally cleared at the local level.
Policy 4.2.1. Revise the City's General Plan/Community Plans to achieve a more compact, efficient urban form and to promote more transit-oriented development and mixed-use development.	**Not Applicable.** This policy calls for City updates to its General Plan.
Policy 4.2.2. Improve accessibility for the City's residents to places of employment, shopping centers and other establishments.	**Consistent.** The Project would be a mixed-use, infill development that would provide residents with proximate access to jobs, shopping, and other uses.
Policy 4.2.3. Ensure that new development is compatible with pedestrians, bicycles, transit, and alternative fuel vehicles.	**Consistent**. The Project would promote public transit, active transportation, and alternative fuel vehicles for residents, workers, and visitors, who can use public transit, including Metro Line 4 on Santa Monica Boulevard and Line 210 on Vine Street. LADOT DASH (Hollywood) provides circulator shuttle service at a bus stop on Vine Street.

Table 7-4
Project Consistency with City of Los Angeles General Plan Air Quality Element

Strategy	Project Consistency
	Employees can benefit from the 14 short- and 106 long-term bicycle parking spaces on-site for residents and workers. Metro operates a bikeshare station on Vine Street and Fountain Avenue, 375 north of the Project Site. A co-work center on the second floor promotes telecommuting that would reduce work-related vehicle trips. The Project would also include 29 spaces with conduits and supplies for future charging stations, of which ten would have electric vehicle charging stations.
Policy 4.2.4. Require that air quality impacts be a consideration in the review and approval of all discretionary projects.	**Consistent.** The Project's air quality impacts are analyzed in this document, and as discussed herein, all impacts with respect to air quality would be less than significant.
Policy 4.2.5. Emphasize trip reduction, alternative transit and congestion management measures for discretionary projects.	**Consistent.** The Project would support use of alternative transportation modes. The Project Site is well-served by public transit, including Metro Line 4 on Santa Monica Boulevard and Line 210 on Vine Street. LADOT DASH (Hollywood) provides circulator shuttle service at a bus stop on Vine Street. Employees can benefit from the 14 short- and 106 long-term bicycle parking spaces on-site for residents and workers. Metro operates a bikeshare station on Vine Street and Fountain Avenue, 375 north of the Project Site. A co-work center on the second floor promotes telecommuting that would reduce work-related vehicle trips.
Policy 4.3.1. Revise the City's General Plan/Community Plans to ensure that new or relocated sensitive receptors are located to minimize significant health risks posed by air pollution sources.	**Not Applicable.** This policy calls for City updates to its General Plan.
Policy 4.3.2. Revise the City's General Plan/Community Plans to ensure that new or relocated major air pollution sources are located to minimize significant health risks to sensitive receptors.	**Not Applicable.** This policy calls for City updates to its General Plan.
Policy 5.1.1. Make improvements in Harbor and airport operations and facilities in order to reduce air emissions.	**Not Applicable.** This policy calls for cleaner operations of the City's water port and airport facilities.
Policy 5.1.2. Effect a reduction in energy consumption and shift to non-polluting sources of energy in its buildings and operations.	**Not Applicable.** This policy calls for cleaner operations of the City's buildings and operations.
Policy 5.1.3. Have the Department of Water and Power make improvements at its in-basin power plants in order to reduce air emissions.	**Not Applicable.** This policy calls for cleaner operations of the City's Water and Power energy plants.

Table 7-4
Project Consistency with City of Los Angeles General Plan Air Quality Element

Strategy	Project Consistency
Policy 5.1.4. Reduce energy consumption and associated air emissions by encouraging waste reduction and recycling.	**Consistent.** The Project would be consistent with this policy by complying with Title 24, CALGreen, and other requirements to reduce solid waste and energy consumption. This includes the City's March 2010 ordinance (Council File 09-3029) that requires all mixed construction and demolition waste be taken to City-certified waste processors.
Policy 5.2.1. Reduce emissions from its own vehicles by continuing scheduled maintenance, inspection and vehicle replacement programs; by adhering to the State of California's emissions testing and monitoring programs; by using alternative fuel vehicles wherever feasible, in accordance with regulatory agencies and City Council policies.	**Not Applicable.** This policy calls for the City to gradually reduce the fleet emissions inventory from its vehicles through use of alternative fuels, improved maintenance practices, and related operational improvements. The Project's support of electric vehicles will continue the State's conversion to zero emission fleets that do not required engine inspections.
Policy 5.3.1. Support the development and use of equipment powered by electric of low-emitting fuels.	**Consistent.** The Project would be designed to meet the applicable requirements of the States Green Building Standards Code and the City of Los Angeles' Green Building Code, both of which promote a shift from natural gas use toward electrification of buildings. The Project would also include 29 spaces with conduits and supplies for future charging stations, of which ten would have electric vehicle charging stations.
Policy 6.1.1. Raise awareness through public-information and education programs of the actions that individuals can take to reduce air emissions.	**Not Applicable.** This policy calls for the City to promote clean air awareness through its public awareness programs.
Source: DKA Planning, 2022.	

7.5.2 Emissions

7.5.2.1 Construction

Construction-related emissions were estimated using the SCAQMD's CalEEMod 2022.1 model and a projected construction schedule of approximately 35 months. **Table 7-5** summarizes the estimated construction schedule that was modeled for air quality impacts.

Table 7-5
Construction Schedule Assumptions

Phase	Duration	Notes
Demolition	Months 1-3	Removal of 27,011 square feet of building floor area and 16,000 square feet of asphalt/concrete parking lot hauled 30 miles to landfill in 10-cubic yard capacity trucks.

Table 7-5
Construction Schedule Assumptions

Grading	Months 4-5	Approximately 10,000 cubic yards of soil (including swell factors for topsoil and dry clay) hauled 30 miles to landfill in 10-cubic yard capacity trucks.[93]
Trenching	Month 6-7 (6 weeks)	Trenching for utilities, including gas, water, electricity, and telecommunications.
Building Construction	Months 6-31	Footings and Foundation work (e.g., pouring concrete pads), framing, welding; installing mechanical, electrical, and plumbing. Floor assembly, cabinetry and carpentry, elevator installations, low voltage systems, trash management.
Architectural Coatings	Months 27-35	Application of interior and exterior coatings and sealants.
Source: DKA Planning, 2022.		

The Project would be required to comply with the following regulations, as applicable:

- SCAQMD Rule 403, would reduce the amount of particulate matter entrained in ambient air as a result of anthropogenic fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

- SCAQMD Rule 1113, which limits the VOC content of architectural coatings.

- SCAQMD Rule 402, which states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials 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.

- In accordance with Section 2485 in Title 13 of the California Code of Regulations, the idling of all diesel-fueled commercial vehicles (with gross vehicle weight over 10,000 pounds) during construction would be limited to five minutes at any location.

- In accordance with Section 93115 in Title 17 of the California Code of Regulations, operation of any stationary, diesel-fueled, compression-ignition engines would meet specific fuel and fuel additive requirements and emissions standards.

Construction activity creates air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated by construction workers traveling to and from the Project Site. NO_X emissions would primarily result from the use of construction equipment and truck trips.

Fugitive dust emissions would peak during grading activities, where approximately 10,000 cubic yards of soil (including swell factors) would be exported from the Project Site. All construction projects in the Basin must comply with SCAQMD Rule 403 for fugitive dust. Rule 403 control requirements include measures to prevent the generation of visible dust plumes. Measures

93 Estimates provided by the Applicant, July 2022. Assumes 8,439 cy with a soil swell percent of 18.5% = 10,000 cy.

include, but are not limited to, applying water and/or soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system or other control measures to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project Site, and maintaining effective cover over exposed areas. Compliance with Rule 403 would reduce regional $PM_{2.5}$ and PM_{10} emissions associated with construction activities by approximately 61 percent.

During the building finishing phase, the application of architectural coatings (e.g., paints) would potentially release VOCs (regulated by SCAQMD Rule 1113). The assessment of construction air quality impacts considers each of these potential sources. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions.

As shown in **Table 7-6**, construction of the Project would produce VOC, NO_X, CO, SO_X, PM_{10} and $PM_{2.5}$ emissions that do not exceed the SCAQMD's regional thresholds. As a result, construction of the Project would not contribute substantially to an existing violation of air quality standards for regional pollutants (e.g., ozone). This impact is less than significant.

Table 7-6
Estimated Daily Construction Emissions

Construction Phase Year	Daily Emissions (Pounds Per Day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
2024	1.5	17.0	19.2	<0.1	4.0	1.9
2025	1.1	6.6	16.3	<0.1	2.1	0.7
2026	5.9	7.2	18.4	<0.1	2.4	0.7
Maximum Regional Total	5.9	17.0	19.2	<0.1	4.0	1.9
Regional Threshold	75	100	550	150	150	55
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Maximum Localized Total	5.4	11.4	10.7	<0.1	2.6	1.5
Localized Threshold	N/A	74	680	N/A	5	3
Exceed Threshold?	**N/A**	**No**	**No**	**N/A**	**No**	**No**

The construction dates are used for the modeling of air quality emissions in the CalEEMod software. If construction activities commence later than what is assumed in the environmental analysis, the actual emissions would be lower than analyzed because of the increasing penetration of newer equipment with lower certified emission levels. Assumes implementation of SCAQMD Rule 403 (Fugitive Dust Emissions)
Source: DKA Planning, 2022 based on CalEEMod 2022.1 model runs. LST analyses based on 1-acre site with 25-meter distances to receptors in Central LA source receptor area. Estimates reflect the peak summer or winter season, whichever is higher. Totals may not add up due to rounding. Modeling sheets included in the Technical Appendix.

In addition to maximum daily regional emissions, maximum localized (on-site) emissions were quantified for each construction activity. The localized construction air quality analysis was conducted using the methodology promulgated by the SCAQMD. Look-up tables provided by the

SCAQMD were used to determine localized construction emissions thresholds for the Project.[94] LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard and are based on the most recent background ambient air quality monitoring data (2018-2020) for the Project area.

Maximum on-site daily construction emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ were calculated using CalEEMod and compared to the applicable SCAQMD LSTs for the Central Los Angeles SRA based on construction site acreage that is less than or equal to one acre. Potential impacts were evaluated at the closest off-site sensitive receptor, which are the mental health center directly north of the Project Site and the residences five feet to the east on La Mirada and Lexington Avenues. The closest receptor distance on the SCAQMD mass rate LST look-up tables is 25 meters.

As shown in **Table 7-6**, above**,** the Project would produce emissions that do not exceed the SCAQMD's recommended localized standards of significance for NO_2 and CO during the construction phase. Similarly, construction activities would not produce PM_{10} and $PM_{2.5}$ emissions that exceed localized thresholds recommended by the SCAQMD. These estimates assume the use of Best Available Control Measures (BACMs) that address fugitive dust emissions of PM_{10} and $PM_{2.5}$ through SCAQMD Rule 403. This would include watering portions of the site that are disturbed during grading activities and minimizing tracking of dirt onto local streets. Therefore, construction impacts on localized air quality is less than significant.

7.5.2.2 Operation

Operational emissions of criteria pollutants would come from area, energy, and mobile sources. Area sources include hearths, consumer products such as household cleaners, architectural coatings for routine maintenance, and landscaping equipment. Energy sources include electricity and natural gas use for space heating and water heating. The CalEEMod program generates estimates of emissions from energy use based on the land use type and size. The Project would also produce long-term air quality impacts to the region primarily from motor vehicles that access the Project Site. The Project could add up to 892 vehicle trips to the local roadway network on a weekday at the start of operations in 2027.[95]

As shown in **Table 7-7**, the Project's emissions would not exceed the SCAQMD's regional or localized significance thresholds. Therefore, the operational impacts of the Project on regional and localized air quality are considered less than significant.

Table 7-7
Estimated Daily Operations Emissions

Emissions Source	Daily Emissions (Pounds Per Day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Sources	4.4	0.1	10.6	<0.1	<0.1	<0.1
Energy Sources	<0.1	0.6	0.3	<0.1	<0.1	<0.1
Mobile Sources	2.6	1.6	17.9	<0.1	1.5	0.3

94 South Coast Air Quality Management District, LST Methodology Appendix C-Mass Rate LST Look-up Table, revised October 2009.

95 Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

Table 7-7
Estimated Daily Operations Emissions

Net Regional Total	7.1	2.3	28.9	<0.1	1.6	0.3
Regional Significance Threshold	55	55	550	150	150	55
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Net Localized Total	4.4	0.7	10.9	<0.1	<0.1	<0.1
Localized Significance Threshold	N/A	74	680	N/A	2	1
Exceed Threshold?	**N/A**	**No**	**No**	**N/A**	**No**	**No**

LST analyses based on 1-acre site with 25-meter distances to receptors in Central Los Angeles SRA
Source: DKA Planning, 2022 based on CalEEMod 2022.1 model runs (included in the Technical Appendix). Totals reflect the summer season maximum and may not add up due to rounding.

7.5.3 Sensitive Receptors

7.5.3.1 Construction

Construction of the Project could expose sensitive receptors to substantial pollutant concentrations if maximum daily emissions of regulated pollutants generated by sources located on and/or near the Project Site exceeded the applicable LST values presented in **Table 7-3**, or if construction activities generated significant emissions of TACs that could result in carcinogenic risks or non-carcinogenic hazards exceeding the SCAQMD Air Quality Significance Thresholds of 10 excess cancers per million or non-carcinogenic Hazard Index greater than 1.0, respectively. As discussed above, the LST values were derived by the SCAQMD for the criteria pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$ to prevent the occurrence of concentrations exceeding the air quality standards at sensitive receptor locations based on proximity and construction site size.

As shown in **Table 7-6**, during construction of the Project, maximum daily localized unmitigated emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ from sources on the Project Site would remain below each of the respective LST values. Unmitigated maximum daily localized emissions would not exceed any of the localized standards for receptors that are within 25 meters of the Project's construction activities. Therefore, based on SCAQMD guidance, localized emissions of criteria pollutants would not have the potential to expose sensitive receptors to substantial concentrations that would present a public health concern.

The primary TAC that would be generated by construction activities is diesel PM, which would be released from the exhaust stacks of construction equipment. The construction emissions modeling conservatively assumed that all equipment present on the Project Site would be operating simultaneously throughout most of the day, while in all likelihood this would rarely be the case. Average daily emissions of diesel PM would be less than one pound per day throughout the course of Project construction. Therefore, the magnitude of daily diesel PM emissions, would not be sufficient to result in substantial pollutant concentrations at off-site locations nearby.

Furthermore, according to SCAQMD methodology, health risks from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 30-year period will contract cancer based on the use of standard risk-assessment methodology. The entire duration of construction activities associated with implementation of the Project is anticipated to be approximately 35 months, and the magnitude of daily diesel PM emissions will vary over this time period. No residual emissions and corresponding individual cancer risk are anticipated after construction. Because there is such a short-term exposure period, construction TAC emissions would result in a less than significant impact. Therefore, construction of the Project would not expose sensitive receptors to substantial diesel PM concentrations, and this impact would be less than significant.

7.5.3.2 Operation

The Project Site would be redeveloped with multi-family residences and commercial uses, land uses that are not typically associated with TAC emissions. Typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes (e.g., chrome plating, electrical manufacturing, petroleum refinery). The Project would not include these types of potential industrial manufacturing process sources. It is expected that quantities of hazardous TACs generated on-site (e.g., cleaning solvents, paints, landscape pesticides) for the types of proposed land uses would be below thresholds warranting further study under California Accidental Release Program.

When considering potential air quality impacts under CEQA, consideration is given to the location of sensitive receptors within close proximity of land uses that emit TACs. CARB has published and adopted the Air Quality and Land Use Handbook: A Community Health Perspective, which provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities).[96] The SCAQMD adopted similar recommendations in its Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning.[97] Together, the CARB and SCAQMD guidelines recommend siting distances for both the development of sensitive land uses in proximity to TAC sources and the addition of new TAC sources in proximity to existing sensitive land uses.

The primary sources of potential air toxics associated with Project operations include DPM from delivery trucks (e.g., truck traffic on local streets and idling on adjacent streets) and to a lesser extent, facility operations (e.g., natural gas fired boilers). However, these activities, and the land uses associated with the Project, are not considered land uses that generate substantial TAC emissions. It should be noted that the SCAQMD recommends that health risk assessments (HRAs) be conducted for substantial individual sources of DPM (e.g., truck stops and warehouse distribution facilities that generate more than 100 trucks per day or more than 40 trucks with operating transport refrigeration units) and has provided guidance for analyzing mobile source diesel emissions.[98] Based on this guidance, the Project would not include these types of land uses and is not considered to be a substantial source of DPM warranting a refined HRA since daily truck trips to the Project Site would not exceed 100 trucks per day or more than 40 trucks with operating transport refrigeration units. In addition, the CARB-mandated airborne toxic control

96 California Air Resources Board, Air Quality and Land Use Handbook, a Community Health Perspective, April 2005.

97 South Coast Air Quality Management District, Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, May 6, 2005.

98 South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, 2002.

measures (ATCM) limits diesel-fueled commercial vehicles (delivery trucks) to idle for no more than five minutes at any given time, which would further limit diesel particulate emissions.

As the Project would not contain substantial TAC sources and is consistent with the CARB and SCAQMD guidelines, the Project would not result in the exposure of off-site sensitive receptors to carcinogenic or toxic air contaminants that exceed the maximum incremental cancer risk of 10 in one million or an acute or chronic hazard index of 1.0, and potential TAC impacts would be less than significant.

The Project would generate long-term emissions on-site from area and energy sources that would generate negligible pollutant concentrations of CO, NO_2, $PM_{2.5}$, or PM_{10} at nearby sensitive receptors. While long-term operations of the Project would add traffic to local roads that produces off-site emissions, these would not result in exceedances of CO air quality standards at roadways in the area due to three key factors. First, CO hotspots are extremely rare and only occur in the presence of unusual atmospheric conditions and extremely cold conditions, neither of which applies to this Project area. Second, auto-related emissions of CO continue to decline because of advances in fuel combustion technology in the vehicle fleet. Finally, the Project would not contribute to the levels of congestion that would be needed to produce emissions concentrations needed to trigger a CO hotspot, as it would add 892 vehicle trips to the local roadway network on weekdays when the development could be fully leased and operational in 2027.[99] The majority of vehicle-related impacts at the Project Site would come from up to 97 and 95 vehicles entering and exiting the development during the peak A.M. and P.M. hours, respectively.[100] This would represent 3.8 percent of the 2,552 vehicles currently traveling north and south on Vine Street at Lexington Avenue in the A.M. peak hour.[101] Assuming peak hour volumes represent ten percent of daily volumes, this intersection carries 25,520 daily vehicle trips, well below the traffic volumes that would be needed to generate CO exceedances of the ambient air quality standard.[102]

Finally, the Project would not result in any substantial emissions of TACs during the construction or operations phase. During the construction phase, the primary air quality impacts would be associated with the combustion of diesel fuels, which produce exhaust-related particulate matter that is considered a toxic air contaminant by CARB based on chronic exposure to these emissions.[103] However, construction activities would not produce chronic, long-term exposure to diesel particulate matter. During long-term project operations, the Project does not include typical sources of acutely and chronically hazardous TACs such as industrial manufacturing processes and automotive repair facilities. As a result, the Project would not create substantial concentrations of TACs.

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99 Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

100 Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

101 Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

102 South Coast Air Quality Management District; 2003 AQMP. As discussed in the 2003 AQMP, the 1992 CO Plan included a CO hotspot analysis at four intersections in the peak A.M. and P.M. time periods, including Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection was Wilshire and Veteran, used by 100,000 vehicles per day. The 2003 AQMP estimated a 4.6 ppm one-hour concentration at this intersection, which meant that an exceedance (20 ppm) would not occur until daily traffic exceeded more than 400,000 vehicles per day.

103 California Office of Environmental Health Hazard Assessment. Health Effects of Diesel Exhaust. www. http://oehha.ca.gov/public_info/facts/dieselfacts.html

In addition, the SCAQMD recommends that health risk assessments be conducted for substantial sources of diesel particulate emissions (e.g., truck stops and warehouse distribution facilities) and has provided guidance for analyzing mobile source diesel emissions.[104] The Project would not generate a substantial number of truck trips. Based on the limited activity of TAC sources, the Project would not warrant the need for a health risk assessment associated with on-site activities. Therefore, the Project's operational impacts on local sensitive receptors would be less than significant.

7.5.4 Odors

The Project would not result in activities that create objectionable odors. The Project is a residential and commercial development that would not include any activities typically associated with unpleasant odors and local nuisances (e.g., rendering facilities, dry cleaners). SCAQMD regulations that govern nuisances (i.e., Rule 402, Nuisances) would regulate any occasional odors. As a result, any odor impacts from the Project would be considered less than significant.

7.6 Conclusion

For all the foregoing reasons, the Project would not have a significant impact related to air quality, and, therefore, the Project would comply with CCR Section 15332(d).

104 South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions, December 2002.

8 Discussion of CCR Section 15332(d): Water Quality

Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.[105]

This section is based on the following item, included as **Appendix F** of this CE:

F Water Resources Technical Report, Fuscoe Engineering, October 25, 2022

8.1 Regulatory Framework

8.1.1 Surface Water Hydrology

8.1.1.1 County of Los Angeles Hydrology Manual

The Project Site is located within the Ballona Creek Watershed, which covers approximately 130 square miles. The Los Angeles County Flood Control District (LACFCD) is responsible for providing flood protection, water conservation, recreation, and aesthetic enhancement within this entire watershed. The Los Angeles County Flood Control District (LACFCD) is responsible for providing flood protection, water conservation, recreation and aesthetic enhancement within this entire watershed. The Los Angeles County Department of Public Works (LACDPW) developed a Hydrology Manual (January 2006), which establishes the LACDPW hydrologic design procedures based on historic rainfall and runoff data collected within the County.

8.1.1.2 Los Angeles Municipal Code

Any proposed drainage improvements within the street right-of-way or any other property owned by, to be owned by, or under control of the City requires approval through the B-Permit process (LAMC Section 62.105). Through the B-Permit process, storm drain installation plans which include any connections to the City's storm drain system from a property line to a catch basin or storm drainpipe, are subject to review and approval by the City of Los Angeles Department of Public Works, Bureau of Engineering.

8.1.2 Surface Water Quality

8.1.2.1 Clean Water Act

In 1972, the federal Clean Water Act (CWA) was established, which provided the regulatory framework for surface water quality protection. The United States Congress amended the CWA in 1987 to specifically regulate discharges to waters of the United States from public storm drain systems and storm water flows from industrial facilities, including construction sites, and require such discharges be regulated through permits under the National Pollutant Discharge Elimination System (NPDES).[106] CWA regulation calls for the implementation of Best Management Practices (BMPs) to reduce or prevent the discharge of pollutants from these activities to the Maximum

[105] Each of these topic areas (traffic, noise, air quality, and water quality) is discussed in its own section.

[106] CWA Section 402(p).

Extent Practicable (MEP) for urban runoff and meeting the Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) standards for construction storm water. Regulations and permits have been implemented at the federal, state, and local level to form a comprehensive regulatory framework to serve and protect the quality of the nation's surface water resources.

The CWA Federal Anti-Degradation Policy [40 Code of Federal Regulations (CFR) Section 131.12] requires states to develop statewide anti-degradation policies and identify methods for implementing them. Pursuant to the CFR, state anti-degradation policies and implementation methods shall, at a minimum, protect and maintain (1) existing in-stream water uses; (2) existing water quality, where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and (3) water quality in waters considered an outstanding national resource.

8.1.2.2 Board Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

As required by the California Water Code (CWC), the LARWQCB has adopted a plan entitled "Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties" (Basin Plan). Specifically, the Basin Plan designates beneficial uses for surface and groundwaters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's antidegradation policy, and describes implementation programs to protect all waters in the Los Angeles Region. In addition, the Basin Plan incorporates (by reference) all applicable state and regional board plans and policies and other pertinent water quality policies and regulations. Those of other agencies are referenced in appropriate sections throughout the Basin Plan.

8.1.2.3 The General Permit for Construction Activities

SWRCB Order No. 2009-0009-DWQ known as the "Construction General Permit" was adopted on September 2, 2009 and was amended by Order No. 2010-0014-DWQ on February 14, 2011 and Order No 2012-0006-DWQ which became effective on July 17, 2012. This NPDES permit establishes a risk-based approach to stormwater control requirements for construction projects by identifying three project risk levels.

California mandates requirements for all construction activities disturbing more than one acre of land to develop and implement Stormwater Pollution Prevention Plans (SWPPPs). The SWPPP documents the selection and implementation of BMPs for a specific construction project, charging owners with stormwater quality management responsibilities. A construction site subject to the General Permit must prepare and implement a SWPPP that meets the requirements of the General Permit.

8.1.2.4 Los Angeles County Municipal Storm Water System (MS4) Permit

As described above, USEPA regulations require that MS4 permittees implement a program to monitor and control pollutants being discharged to the municipal system from both industrial and commercial projects that contribute a substantial pollutant load to the MS4. On December 13, 2001, the NPDES Permit or MS4 permit were adopted for municipal stormwater and urban runoff discharges within Los Angeles County, covering 84 cities and most of the unincorporated areas of Los Angeles County.

8.1.2.5 Los Angeles Municipal Code

Section 64.70 of LAMC sets forth the City's Stormwater and Urban Runoff Pollution Control Ordinance. The ordinance prohibits the discharge of the following items into any storm drain systems:

- Any liquids, solids, or gasses which by reason of their nature or quantity are flammable, reactive, explosive, corrosive, or radioactive, or by interaction with other materials could result in fire, explosion or injury.

- Any solid or viscous materials, which could cause obstruction to the flow or operation of the storm drain system.

- Any pollutant that injures or constitutes a hazard to human, animal, plant or fish life, or creates a public nuisance.

- Any noxious or malodorous liquid, gas, or solid in sufficient quantity, either singly or by interaction with other materials, which creates a public nuisance, hazard to life, or inhibits authorized entry of any person into the storm drain system.

- Any medical, infectious, toxic or hazardous material or waste.

Earthwork activities, including grading, are overseen by the Los Angeles Building Code, which is contained in LAMC, Chapter IX, Article 1. Section 91.7013 contains regulations pertaining to erosion control and drainage devices and Section 91.7014 provide requirements for flood, mudflow protection and general construction requirements.

8.1.2.6 Low Impact Development

LID is a stormwater strategy that is used to mitigate the impacts of runoff and stormwater pollution as close to its source as possible. Urban runoff discharged may contain pollutants such as trash and debris, bacteria and viruses, oil and grease, sediments, nutrients, metals, and toxic chemicals that can negatively affect the ocean, rivers, plant and animal life, and public health. LID encompasses a set of site design approaches and BMPs that are designed to address runoff and pollution at the source. These LID practices can effectively remove nutrients, bacteria, and metals, while reducing the volume and intensity of stormwater flows.

The Project is subject to runoff mitigation in a manner that captures or treats rainwater at its source, while utilizing natural resources. Stormwater runoff shall either be infiltrated, evapotranspired, captured and used, or treated through high removal efficiency BMPs, onsite, through stormwater management techniques that comply with provisions of the City of Los Angeles Planning and Land Development Handbook for Low Impact Development (May 2016). The LARWQCB has a BMP Hierarchy in which the project must follow when selecting the type or types of BMPs to be constructed on site. The following is the BMP Hierarchy, per Order No. R4-2012-0175 as amended by Order WQ 2015-0075 NPDES NO. CAS004001:

1. On-site infiltration,

2. On-site bioretention and/or harvest and use,

3. On-site biofiltration, off-site ground water replenishment, and/or off-site retrofit

8.1.2.7 Hydromodification

The Project is not required to implement hydrologic control measures as mitigation for hydromodification impacts. In addition, as described below, implementation of the Project will result in a reduction of peak flows and volumes as compared to existing conditions, thereby satisfying hydromodification requirements in addition to the receiving water exemption.

8.1.2.8 Ballona Creek Watershed Enhanced Watershed Management Program

The County of Los Angeles, the City of Los Angeles and all other cities in the Los Angeles Watershed are responsible for the implementation of watershed improvement plans or Enhanced Watershed Management Programs (EWMP) to improve water quality and assist in meeting the Total Maximum Daily Load (TMDL) milestones. An EWMP for the Los Angeles River Watershed (EWMP, June 2014), was prepared with the City of Los Angeles as the lead coordinating agency. The objective of the EWMP Plan is to determine the network of control measures (often referred to as best management practices [BMPs]) that will achieve required pollutant reductions while also providing multiple benefits to the community and leveraging sustainable green infrastructure practices.

The Project Site, located in the Ballona Creek Watershed, falls within the EWMP. The EWMP does not identify any regional BMP projects in the vicinity of the Project. Therefore, LID BMPs will be implemented at the individual parcels associated with the Project to meet the local MS4 Permit requirements.

8.1.3 Groundwater

8.1.3.1 California Groundwater Sustainability Act

On Sept. 16, 2014, California Governor Jerry Brown signed into law a three-bill legislative package, known as the Sustainable Groundwater Management Act of 2014 (SGMA). The SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for state intervention only if necessary, to protect the resource. The SGMA requires the formation of local groundwater sustainability agencies (GSAs) that must assess conditions in their local water basins and adopt locally based management plans. The act provides substantial time – 20 years – for GSAs to implement plans and achieve long-term groundwater sustainability. It protects existing surface water and groundwater rights and does not impact current drought response measures. The California Water Commission (CWC) requires a statewide prioritization of California's groundwater basins using the following eight criteria: 1. Overlying population; 2. Projected growth of overlying population; 3. Public supply wells; 4. Total wells; 5. Overlying irrigated acreage; 6. Reliance on groundwater as the primary source of water; 7. Impacts on the groundwater—including overdraft, subsidence, saline intrusion, and other water quality degradation; 8. Any other information determined to be relevant by the Department.

The Project Site is not located within a high priority California Statewide Groundwater Elevation Monitoring groundwater basin. It is located within the San Fernando Valley basin, which currently does not have any California Statewide Groundwater Elevation Monitoring System wells. The subbasin is under the Los Angeles GSA, but there are currently no GSPs which include this location.[107], [108] GSAs responsible for high-and medium-priority basins must adopt groundwater sustainability plans within five to seven years. Plans must include a physical description of the basin, including groundwater levels, groundwater quality, subsidence, information on groundwater-surface water interaction, data on historical and projected water demands and supplies, monitoring and management provisions, and a description of how the plan will affect other plans, including city and county general plans. Plans will be evaluated every five years.

8.1.3.2 Basin Plan for Coastal Watersheds of Los Angeles and Ventura Counties

As required by the CWC, the LARWQCB has adopted a plan entitled "Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties" (Basin Plan). Specifically, the Basin Plan designates beneficial uses for surface and groundwaters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy, and describes implementation programs to protect all waters in the Los Angeles Region. In addition, the Basin Plan incorporates (by reference) all applicable state and regional board plans and policies and other pertinent water quality policies and regulations. Those of other agencies are referenced in appropriate sections throughout the Basin Plan. The Basin Plan is a resource for the LARWQCB and others who use water and/or discharge wastewater in the Los Angeles Region. Other agencies and organizations involved in environmental permitting and resource management activities also use the Basin Plan. Finally, the Basin Plan provides valuable information to the public about local water quality issues.

8.2 Environmental Setting

8.2.1 Surface Water Hydrology

Stormwater runoff is collected from the Project Site and conveyed through an offsite storm drain facility along Vine Street, with excess stormwater flowing further down to El Centro Avenue. Existing city records per NavigateLA, and per a Project Site visitation, indicate that there is one (1) existing 7-foot diameter storm drain in Vine St resides west of the Project. The storm drain on Vine Street is owned and maintained by the City of Los Angeles. This 84-inch (7-foot) main line in Vine Street flows in a southwesterly direction and discharges into Ballona Creek Reach 1.[109]

There are two (2) existing catch basins at the southwest corner of the project site, the intersection between Vine Street and Lexington Avenue (one on each respective street). Excess flows from Vine Street and along Lexington Avenue discharge towards these catch basins. The two catch basins connect to the 84-inch storm drain pipe along Vine Street through a 12-inch storm drain pipe, which ultimately flow south. These drains eventually discharge into Ballona Creek Reach 1. All the stormwater runoff from the Project Site, which is within Ballona Creek watershed, is

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107 https://sgma.water.ca.gov/portal/#gsa

108 https://sgma.water.ca.gov/portal/#gsp

109 NavigateLA, Stormwater layer: http://navigatela.lacity.org/navigatela/

discharged into Ballona Creek Reach 1 which makes its way to the Ballona Creek Estuary and ultimately into the Pacific Ocean. Ballona Creek Reach 1 is approximately 2 miles long, spanning from Cochran Avenue to National Boulevard and covering areas above National Boulevard. It includes the Los Angeles neighborhoods of West Hollywood and portions of other cities of Los Angeles County.

There are no known existing storm drain deficiencies or capacity issues within the storm drains that collect runoff from the Project Site. The Stormwater Division has mentioned that if the project is reducing the stormwater runoff, the City of Los Angeles does not anticipate conflicts. There are no known existing storm drain deficiencies or capacity issues within the storm drains that collect runoff from the Project Site. If the Project is reducing the stormwater runoff, the City does not anticipate any conflicts.

According to the Federal According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) No. 06037C1605F, dated September 26, 2008, the Project Site is located within Zone X outside of the 0.2% chance of flooding. Zone X depicts areas determined to be outside the 0.2% (500-year) annual chance floodplain. Therefore, the processing of a letter of map revision or conditional letter of map revision (LOMR/CLOMR) through FEMA will not be required for the Project.

8.2.2 Surface Water Quality

Within the urban environment of the Project, stormwater runoff occurs during and shortly after rain events. The volume of runoff depends on the intensity and duration of the storm event and the imperviousness of the drainage area. Typical urban pollutants associated with stormwater runoff following rain events includes sediment, trash, bacteria, metals, nutrients, and potentially organics and pesticides. The source of contaminants is wide ranging and includes all areas where rainfall occurs along with atmospheric deposition. Therefore, sources of contaminants within urban areas include roadways, building tops, parking lots, landscape areas and maintenance areas.

To reduce contaminant loads from entering the storm drain system, the City conducts routine street cleaning operations as well as periodic cleaning and maintenance of the catch basins to reduce stormwater pollution within the storm drain system. The City also installs catch basin screens to reduce trash from entering the catch basins.

Under existing conditions, the Project Site is commercial. Stormwater that leaves the Project Site enters into an existing catch basin or exits onto adjacent streets and remains untreated. Ultimately flows discharge into curbside inlets on southernly edge on Lexington Avenue or westerly edge of Vine Street, where it gets picked up by the public storm drain system. Anticipated pollutants consistent with parking lots, building areas and landscaping include total suspended solids (TSS), oil/grease, heavy metals, nutrients, pesticides and trash.

8.2.3 Groundwater

The Project Site is located within the Hollywood subbasin, which underlies along the northeastern part of the Los Angeles Coastal Plain Groundwater Basin. This subbasin reside in the Los Angeles GSA, which does not currently have a GSP for the basin. The subbasin is bounded on the north by Santa Monica Mountains and the Hollywood fault, on the east by the Elysian Hills, on the west by the Inglewood fault zone, and on the south by the La Brea High, formed by an anticline that brings impermeable rocks close to the surface. Groundwater in the Hollywood Subbasin is mainly produced from Pleistocene age alluvial sands and gravels.[110]

According to the California Department of Water Resources, the annual precipitation throughout the Hollywood subbasin ranges from 12 to 14 inches with an average of around 13 inches. The Hollywood subbasin has a surface area of 10,500 acres and a groundwater storage capacity of approximately 200,000 acre/feet.[111] Historically, groundwater flow is generally westward through the subbasin toward the Inglewood fault. Recharge of the Hollywood Basin occurs primarily by percolation of precipitation and stream flow from the higher areas to the north. Subsurface inflow may take place to a limited extent from underflow through fractured rock of the Santa Monica Mountains and potentially from underflow around the La Brea High.

As noted in the Geotechnical Investigation (included as **Appendix H** to this CE) for the Project dated December 9, 2021, the California Geological Survey Seismic Hazard Evaluation Report 026 Plat 1.2 entitled "Historically Highest Ground Water Contours" indicates that the historically high groundwater level in the area is approximately 37 feet below the ground surface. Groundwater was encountered at depths between 20 and 21.5 feet below the ambient site grade in exploratory excavations. The closest neighboring active monitoring wells to the project site is Well Number 2671A with a groundwater depth of 22 feet and a water surface elevation of 261.60 feet (recorded 01.24.2022), located approximately 0.6 miles southeast of the project site. There is not a high potential for contaminated soils to be encountered, but if the contaminated soils are found within the excavation limits, contaminated soils would be collected within the excavated material, removed from the Project Site, and disposed of in accordance with all applicable regulatory requirements.

8.3 Project Impacts

8.3.1 Construction

8.3.1.1 Surface Water Hydrology and Quality

Implementation of the Project would result in construction activities that includes demolition of the existing building on-site and excavation of existing soils. Construction activities have the potential to temporarily alter the existing drainage patterns of the Project Site and also increase the permeability of the site based on increased pervious surface coverage during construction. Exposed pervious surfaces also have the potential for erosion, scour, and increased sediment and associated pollutants discharging from the Project Site during construction activities. The main pollutant of concern during construction is typically sediment and soil particles that discharge off-site due to wind, rain, and construction patterns.

The Project would be subject to the Construction General Permit and must prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that meets the requirements of the General

[110] California's Groundwater, Bulletin 118. Department of Water Resources. February 2004.

[111] California's Groundwater, Bulletin 118. Department of Water Resources. February 2004.

Permit. In the event exceedances of receiving water quality objectives are observed, measures must be taken and documented within the SWPPP to improve discharge water quality and runoff effluent. This may include but not be limited to increasing the size of existing BMPs, adding more BMPs to the drainage area, additional filtering, and/or a reduction in active grading area.

Prior to commencement of construction activities, the General Permit requires the Project SWPPP to be prepared in accordance with the site-specific information including grading limits, BMPs for each phase, schedule and sediment risk analyses. In accordance with the General Permit, the construction SWPPP must be made available for review upon request, shall describe construction BMPs that address pollutant source reduction, and provide measures/controls necessary to mitigate potential pollutant sources. These measures/controls include, but are not limited to: erosion controls, sediment controls, tracking controls, non-storm water management, materials & waste management, and good housekeeping practices.

The applicant is not required by the City to provide a Notice of Intent, WDID issued from the SWRCB, or SWPPP to ensure the potential for soil erosion and construction are minimized, due to the Project disturbing less than one (1) acre of land. The phases of construction will define the maximum amount of soil disturbed, the appropriately sized sediment basins, and other control measures to accommodate all active soil disturbance areas and the appropriate monitoring and sampling plans.

Through compliance with the General Permit including implementation of BMPs appropriate for each major phase of construction, and compliance with applicable City grading regulations, construction of the Project would not cause flooding, substantially increase or decrease the amount of surface water in a water body, or result in a permanent, adverse change to flow direction. The construction of the Project would also not result in discharges that would cause: (1) pollution that would impact the quality of waters of the state to a degree which negatively impacts beneficial uses of the waters; (2) contamination of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of diseases; or (3) nuisance that would be injurious to health, affect an entire community or neighborhood or any considerable number of persons, and occurs during or as a result of the treatment or disposal of wastes. Lastly, construction of the Project would not result in discharges that would cause regulatory impacts within Ballona Creek.

Therefore, the Project's construction impacts on surface water hydrology and quality would be less than significant.

8.3.1.2 Groundwater Hydrology and Quality

Construction of the Project is not anticipated to impact any water supply wells, as no water supply wells are located at or within half a mile downstream of the Project and the Project will not include the construction of any water supply wells. Construction of the Project is not anticipated to impact any water supply wells, as no active water supply wells are located at or within half a mile downstream of the Project and the Project will not include the construction of any water supply wells. Construction of the Project will include excavation depths of approximately 5 to 7 feet bgs in some of the elevated areas. Based on Geotechnical Investigation (included as **Appendix H** to this CE), the historical high groundwater level in the area is 37 feet bgs. Groundwater was encountered during exploration with boring samples explored between 20 feet and 21.5 feet below grade. Since most of the structure will be above an elevation of 32 feet, it is not expected that groundwater would be encountered during construction that would require temporary or permanent dewatering operations.

In the event perched groundwater is encountered, the Project would be required to obtain a temporary dewatering permit from the City of Los Angeles. If dewatering were to occur on the site, the water quality must first be assessed, and the California State Warning Center (CSWC) should be contacted for assistance. Depending on the quality of water and with the CSWC's assistance, the dewatered water may be managed within this project site, discharged to a sanitary sewer, transported for off-site treatment, used at a separate facility, used on adjacent land, or additional BMPs may be required and the treated water would be discharged into a storm drain or nearing water body. Accordingly, construction of the Project will not adversely impact the rate or direction of flow of groundwater, and the Project potential impacts on groundwater hydrology during construction have been taken into consideration.

Short-term groundwater quality impacts regarding soils and shallow groundwater exposure to construction materials, wastes, and spilled materials will be accounted for and the site will deploy proper housekeeping measures. As previously noted above, construction of the Project will include excavation of approximately 5 to 7 feet bgs. The Project will also result in a net export of existing soil material. There is not a high potential for contaminated soils or groundwater to be encountered, but if contaminated soils are found within the excavation limits, contaminated soils would be collected within the excavated material, removed from the Project Site, and disposed of in accordance with all applicable regulatory requirements.

During on-site grading and building activities, minimal amounts of hazardous materials such as fuels, paints, solvents, and concrete additives could be used, and the presence of such materials provides an opportunity for hazardous materials to be released into groundwater. To protect groundwater resources, the Project will comply with applicable federal, state and local requirements related to the handling, storage, application and disposal of hazardous waste which will reduce the potential for construction activities of the Project to release contaminants into groundwater that could affect existing contamination, mobilize or increase the level of groundwater contamination, or cause a violation of regulatory water quality standards at an existing production well. Therefore, groundwater contamination through hazardous materials releases, and impacts on groundwater quality will be minimized by compliance with applicable regulations.

Therefore, the Project's construction impacts on groundwater hydrology and quality would be less than significant.

8.3.2 Operation

8.3.2.1 Surface Water Hydrology and Quality

Development of the Project would result in an increase in the landscaped areas throughout the Project Site and would increase the impervious surfaces from 99.1 percent to 85.3 percent. This increase in pervious surfaces would result in maintaining in stormwater runoff. Operation of the Project would not result in flooding, impact of the capacity of the existing storm drain system, or worsen an existing flood condition. In addition, the Project would not substantially reduce or increase the amount of surface water in the local water body or result in a permanent adverse change in the drainage system. As flow are predicted to decrease, it is not anticipated that any deficiencies will be created or exacerbated by the Project on the existing open catch basins and the main 84-inch storm drain line on Vine Street. The capacity of the storm drain facilities, which the Project contributes to, will not be adversely impacted by the proposed change in flows. Therefore, operation of the Project should result in a less than significant effect on surface water hydrology.

The Project will comply with the City's LID Manual,[112] which requires that post-construction stormwater runoff from new developments be infiltrated, evapotranspirated, captured and reused, and/or treated through a high efficiency BMP onsite for the 85th percentile storm event or 0.75"—whichever is greater. For the Project, the 85th percentile storm event is 0.98". The LID Manual states that BMPs shall be designed to manage and capture stormwater runoff. Infiltration systems are the first priority type of BMP improvements as they provide for percolation and infiltration of the stormwater into the ground, which not only reduces the volume of stormwater runoff entering the MS4 but also contributes to groundwater recharge in some areas.

The second priority BMP is capturing and reusing stormwater onsite for either landscape irrigation or toilet flushing. Projects that cannot infiltrate or harvest/reuse the water quality volume may implement biofiltration BMPs. Biofiltration BMPs shall be sized to adequately capture 1.5 times the volume not managed through infiltration and/or capture and reuse. The project will develop a LID plan to be submitted to the City as part of the final engineering of the project to satisfy water quality requirements of the Project Site. Infiltration will be implemented if feasible, otherwise capture and use will be assessed. If capture/use is infeasible, biotreatment BMPs will be implemented.

The existing Project Site has no known structural or LID BMPs to treat stormwater. Therefore, implementation of the LID features proposed as part of the Project would result in a significant improvement in surface water quality runoff as compared to existing conditions. Implementation of the proposed BMP system will result in the treatment of the entire required volume for the Project Site and the elimination of pollutant runoff up to the 85th percentile storm event.

Based on the proposed LID plan, operation of the Project would not result in discharges that would cause: an incremental increase in pollution which would alter the quality of the waters of the state (Ballona Creek) to a degree which unreasonably affects beneficial uses of the waters; (2) an incremental increase of contamination of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of diseases; or (3) an incremental increase in the nuisance that would be injurious to health; affect an entire community or neighborhood, or any considerable numbers of persons; and occurs during or as a result of the treatment or disposal of wastes. Lastly, operation of the Project would not result in discharges that would cause regulatory standards to be violated in the Ballona Creek.

Therefore, the Project's operation impacts on surface water hydrology and quality would be less than significant.

[112] Planning and Land Development Handbook for Low Impact Development, Part B Planning Activities, 5th Edition; adopted by the City of Los Angeles, Board of Public Works on May 9, 2016.

8.3.2.2 Groundwater Hydrology and Quality

Under the proposed conditions, regional and local potable water levels and adjacent wells or well fields will not be impacted by the Project. The Project does not include any groundwater pumping and relies on the LADWP for water. In addition, the Project is not anticipated to adversely change the rate of direction of flow of groundwater. Implementation of the Project would also result in an increase in pervious areas over the existing conditions. The increase in pervious areas would improve the groundwater recharge capacity of the Project Site over existing conditions. Since the Project is anticipated to implement LID BMPs to treat the required volume of runoff, the Project shall improve the existing groundwater hydrology. The Project's LID BMP design is for capture and reuse, treated runoff is stored within a cistern, and if to be utilized within the 7-month wet season period (October to April). Therefore, operational effects to groundwater hydrology are considered less than significant.

The SWRCB's Geotracker website indicates there are no significant sources of soil or groundwater pollution within the project area. The proposed LID BMP systems are designed to safely convey stormwater runoff into the sub-surface soil without the threat of contaminant mobilization, and will assist in improving the groundwater quality.

Therefore, the Project's operation impacts on groundwater hydrology and quality would be less than significant.

8.4 Conclusion

For all the foregoing reasons, the Project would not have a significant impact related to water quality, and, therefore, the Project would comply with CCR Section 15332(d).

9 Discussion of CCR Section 15332(e)

The site can be adequately served by all required utilities and public services.[113]

This section is based on the following items, included as **Appendix G** of this CE:

G-1 Parks Response, Los Angeles Department of Recreation and Parks, September 22, 2022

G-2 Water and Wastewater Technical Report, Fuscoe Engineering, November 29, 2022

9.1 Fire Protection

Within the City of Los Angeles, fire prevention and suppression services and emergency medical services are provided by the Los Angeles Fire Department (LAFD). Project impacts regarding fire protection services are evaluated on a project-by-project basis. A project's land use, fire-related needs, and whether the project site meets the recommended response distance and fire safety requirements, as well as project design features that would reduce or increase the demand for fire protection and emergency medical services, are taken into consideration.

Beyond the standards set forth in the Los Angeles Fire Code, consideration is given to the project size and components, required fire-flow, response distance for engine and truck companies, fire hydrant sizing and placement standards, access, and potential to use or store hazardous materials. The evaluation of the Project's impact on fire protection services considers whether the development of the project would create the need for a new fire station or expansion, relocation, or consolidation of an existing facility to accommodate increased demand, the construction of which would cause significant environmental impacts.

The Project would comply with all applicable regulatory standards. In particular, the Project would comply with LAMC fire safety requirements, including those established in the Building Code (Chapter 9), the Fire Code (Chapter 7) and Section 57.507.3.1 of the LAMC regarding fire flow requirements.

LAMC Chapter V, Article 7, Section 57.512.1 provides that response distances, which are based on land use and fire flow requirements and range from 0.75 mile for an engine company to 2 miles for a truck company, shall comply with Section 57.507.3.3. Where a site's response distance is greater than permitted, all structures must have automatic fire sprinkler systems.

According to LAMC Section 57.512.1,[114] response distances based on land use and fire-flow requirements shall comply with Table 57.507.3.3 (recreated below).[115]

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113 Each of these topic areas (public services [fire, police, schools, parks, libraries] and utilities [wastewater, water, solid waste]) are discussed in their own section.

114 LAMC Section 57,512.1, http://library.amlegal.com/nxt/gateway.dll/California/lamc/municipalcode/chaptervpublicsafetyandprotection/article7fireprotectionandpreventionfirec?f=templates$fn=default.htm$3.0$vid=amlegal:losangelescamc$anc=JD57.512.

115 LAMC Table 57,507.3.3, http://library.amlegal.com/nxt/gateway.dll/California/lamc/municipalcode/chaptervpublicsafetyandprotection/article7fireprotectionandpreventionfirec?f=templates$fn=default.htm$3.0$vid=amlegal:losangelescamc$anc=JDTABLE57.507.3.3

This Project would be a high density development. For a high density residential land use, the maximum response distance is 1.5 mile for an engine company and 2 miles for a truck company. The maximum response distances for both fire suppression companies (engine and truck) must be satisfied. According to LAMC Section 57.512.2[116], where a response distance is greater than that shown in Table 57.507.3.3 (table recreated below), all structures shall be constructed with automatic fire sprinkler systems. Additional fire protection shall be provided as required by the Fire Chief per LAMC Section 57.512.2.

Table 57.507.3.3
Response Distances That If Exceeded Require The Installation Of An Automatic Fire Sprinklers System

* Land Use	Required Fire-Flow	Maximum Response Distance	
		Engine Co.	Truck Co.
Low Density Residential	2,000 gpm from three adjacent hydrants flowing simultaneously	1-1/2 miles	2 miles
High Density Residential and Commercial Neighborhood	4,000 gpm from four adjacent hydrants flowing simultaneously	1-1/2 miles	2 miles
Industrial and Commercial	6,000 to 9,000 gpm from four hydrants flowing simultaneously	1 mile	1-1/2 miles
High Density Industrial and Commercial or Industrial (Principal Business Districts or Centers)	12,000 gpm available to any block (where local conditions indicate that consideration must be given to simultaneous fires, an additional 2,000 to 8,000 gpm will be required)	3/4 mile	1 mile
gpm – gallons per minute Land use designations are contained in the community plan elements of the General Plan for the City of Los Angeles. The maximum response distances for both L.A.F.D. fire suppression companies (engine and truck) must be satisfied. LAMC Table 57.507.3.3.			

According to the City, the Project Site is first-served by Station No. 27[117], located at 1327 Cole Avenue, approximately 0.36 miles driving distance away.

As shown in **Table 9-1**, Fire Station No. 27 has a task force (composed of a truck company and engine company).[118] Therefore, the Project Site is located within the maximum distance identified by LAMC Section 57.512.1[119] (i.e. within 1.5 mile for an engine and 2 miles for a truck).

116 LAMC Section 57,512.2, http://library.amlegal.com/nxt/gateway.dll/California/lamc/municipalcode/chaptervpublicsafetyandprotection/article7fireprotectionandpreventionfirec?f=templates$fn=default.htm$3.0$vid=amlegal:losangelescamc$anc=JD57.512.2.

117 LAFD, Find Your Station: https://www.lafd.org/fire-stations/station-results

118 LAFD: http://www.lafd.org/about/about-lafd/apparatus.

119 LAMC Section 57,512.1, http://library.amlegal.com/nxt/gateway.dll/California/lamc/municipalcode/chaptervpublicsafetyandprotection/article7fireprotectionandpreventionfirec?f=templates$fn=default.htm$3.0$vid=amlegal:losangelescamc$anc=JD57.512.

Table 9-1
Fire Stations

No.	Address	Distance	Equipment	Operational Response Time	Incident Counts
27	1327 Cole Avenue	0.36 mile	Task Force Paramedic Ambulance Rescue Ambulance Urban Search/Rescue Battalion Chief	EMS: 6:57 min Non-EMS: 6:11 min	EMS: 5,214 Non-EMS: 1,565
Response Time: (January to September 2022) average time (turnout time + travel time) in the station area. Incident counts: (January to September 2022). Non-EMS is fire emergency. EMS is emergency medical service. http://lafd.org/sites/default/files/pdf_files/11-03-2014_AllStations.pdf Light Force: Truck company and single engine. Task Force: Truck company and two fire engines. LAFD June 2021 Fire Station Directory. Table: CAJA Environmental Services, October 2022.					

The Project Site is in an urbanized area completely surrounded by development. The Project Site is not located in a Very High Fire Hazard Severity Zone[120] or in the wildlands fire hazard Mountain Fire District.[121]

LAMC Section 57.507.3.1 establishes fire water flow standards, which vary from 2,000 gallons per minute (gpm) in low-density residential areas to 12,000 gpm in high-density commercial or industrial areas, with a minimum residual water pressure of 20 pounds per square inch (psi) remaining in the water system. Site-specific fire flow requirements are determined by the LAFD based on land use, life hazard, occupancy, and fire hazard level.

LAMC Section 57.507.3.2 addresses land use-based requirements for fire hydrant spacing and type. Regardless of land use, every first story of a residential, commercial, or industrial building must be within 300 feet of an approved hydrant. The site-specific number and location of hydrants would be determined as part of LAFD's fire/life safety plan review for each development. Final fireflow demands, fire hydrant placement, and other fire protection equipment would be determined for the Project by LAFD during the plan check process. If the Project is determined to require one or more new hydrants during plan check in accordance with city standards, the Project would have to provide them.

The following fire hydrants are near the Project Site:[122]

- Hydrant (ID 4463, size 2½ x 4D, 8-inch main), southeast corner of Vine Street and Lexington Avenue, south of the Site.

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120 ZIMAS search: http://zimas.lacity.org/.

121 Los Angeles Safety Element, Exhibit D, Selected Wildfire Hazard Areas in the City of Los Angeles: https://planning.lacity.org/odocument/31b07c9a-7eea-4694-9899-f00265b2dc0d/Safety_Element.pdf, accessed July 19, 2021.

122 Navigate LA, DWP (Fire Hydrants) Layer: http://navigatela.lacity.org/navigatela/

- Hydrant (ID 35764, size 4D, 10-inch main), northwest corner of Vine Street and Lexington Avenue, west of the Site.
- Hydrant (ID 35765, size 2 4D, 10-inch main), southwest corner of Vine Street and La Mirada Avenue, north of the Site.
- Hydrant (ID 42799, size 4D, 6-inch main), southwest corner of Vine Street and La Mirada Avenue, north of the Site.

If the Project is determined to require one or more new hydrants during plan check, the Project would have to provide them.

The existing fire hydrants will be tested to find if adequate for High Density Residential flows, running four (4) simultaneous hydrants with at least 4,000 total gpm. An Information of Fire Flow Availability report (IFFA) is also conducted by LADWP to determine that there is sufficient hydrant flow from existing or proposed hydrants fronting the project based on the existing infrastructure. Additionally, a LADWP Water Pressure application for Fire Service Pressure Flow Report (SAR) is done for the Project to achieve a preliminary analysis of the existing water mains in Vine Street and Lexington Avenue. The results of the SARs determine if the existing mains can convey water supply for both the proposed Project demand and fire services.

The FFAR was received on September 14, 2022. The existing hydrants were tested at 1,500 gpm each, resulting in residual pressures of 90 to 92 pounds per square inches (psi). The surrounding hydrants on Lexington Avenue, La Mirada Avenue, and Vine Street should serve adequate. The hydrants were analyzed with flows of 1,500 gpm each, resulting in residual pressures of 90 – 92 psi. The existing water mains and hydrants surrounding the Project will adequately service the minimum 4,000 gpm from four (4) hydrants running simultaneously.[123]

In addition to fire hydrant testing, the water main that serves the Site was tested. For a 6-inch pipe, the fire service flow is 1,400 gpm. The Fire Service Pressure Flow report was received on September 16, 2022. The SAR applications confirm that the existing water main in Vine Street was found to be adequate for the proposed required flows of 1,400 gpm having a pressure of 88 psi, however, the existing 4-inch water main in Lexington Avenue would require upsizing to 6-inches to achieve a required flow of 1,400 gpm, if proposing a water connection on Lexington Avenue.

Section 35 of Article XIII of the California Constitution at Subdivision (a)(2) provides: “The protection of public safety is the first responsibility of local government and local officials have an obligation to give priority to the provision of adequate public safety services.” Section 35 of Article XIII of the California Constitution was adopted by the voters in 1993 under Proposition 172. Proposition 172 directed the proceeds of a 0.50-percent sales tax to be expended exclusively on local public safety services. California Government Code Sections 30051-30056 provide rules to implement Proposition 172. Public safety services include fire protection. Section 30056 mandates that cities are not allowed to spend less of their own financial resources on their combined public safety services in any given year compared to the 1992-93 fiscal year. Therefore, an agency is required to use Proposition 172 to supplement its local funds used on fire protection

[123] Water and Wastewater Technical Report, Fuscoe Engineering, October 24, 2022, pages 7, 13.

services, as well as other public safety services. In *City of Hayward v. Board of Trustee of California State University* (2015) 242 Cal. App. 4th 833, the court found that Section 35 of Article XIII of the California Constitution requires local agencies to provide public safety services, including fire protection and emergency medical services, and that it is reasonable to conclude that the city will comply with that provision to ensure that public safety services are provided.[124]

For all the foregoing reasons, the Project would be adequately served with respect to fire protection by the LAFD.

9.2 Police Protection

The Project Site is served by the City of Los Angeles Police Department's (LAPD) West Bureau, Hollywood Community Police Station, located at 1358 Wilcox Avenue.[125] The Community is 17.2 square miles in size, has approximately 300,000 residents, and has approximately 387 sworn officers.[126] The officer to resident ratio is 1:775.[127] The Station is approximately 0.25 mile driving distance from the Project Site.

The Project would add approximately 361 residents.[128] Assuming the same officer to resident ratio, the Project would represent approximately 0.46% of 1 officer.

This increase is negligible and represents less than 1% increase compared to the number of existing officers. The Project will contribute property tax revenue into the City's General Fund, which can be used to fund additional resources per the planning and deployment strategies of the LAPD.

During construction, the open sides on the Project Site would need to be secured to prevent trespass and theft of building materials. The Project Applicant would employ construction security features, such as fencing, which would serve to minimize the need for LAPD services. Temporary construction fencing would be placed along the periphery of the active construction areas to screen as much of the construction activity from view at the local street level and to keep unpermitted persons from entering the construction area.

The potential for crime can be reduced with site-specific designs and features. The Project would include standard security measures such as adequate security lighting, secure access to non-public areas and residential access points. Parking would be in a parking levels integrated into the building. The LAPD will require that the commanding officer of the Station be provided a diagram of each portion of the property showing access routes, and any additional information that might facilitate police response.

Section 35 of Article XIII of the California Constitution at Subdivision (a)(2) provides: "The protection of public safety is the first responsibility of local government and local officials have an

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124 City of Hayward v. Board Trustee of California State University (2015) 242 Cal. App. 4th 833, 847.

125 LAPD, Hollywood Station: https://www.lapdonline.org/lapd-contact/west-bureau/hollywood-community-police-station/

126 https://planning.lacity.org/eir/artisanhollywood/deir/files/App_H.pdf

127 300,000 persons / 387 = 775.

128 LADOT population and employee numbers are shown on Table 1: https://ladot.lacity.org/sites/default/files/documents/vmt_calculator_documentation-2020.05.18.pdf. As shown, multi-family residential is 2.25 persons per unit and affordable housing family is 3.14 persons per unit. (135 x 2.25) + (18 x 3.14) = 361.

obligation to give priority to the provision of adequate public safety services." Section 35 of Article XIII of the California Constitution was adopted by voters in 1993 pursuant to Proposition 172. Proposition 172 directed the proceeds of a 0.50-percent sales tax to be expended exclusively on local public safety services. California Government Code Sections 30051-30056 provide rules to implement Proposition 172. Public safety services include fire protection. Section 30056 mandates that cities are not allowed to spend less of their own financial resources on their combined public safety services in any given year compared to the 1992-93 fiscal year. Therefore, an agency is required to use Proposition 172 to supplement its local funds used on fire protection services, as well as other public safety services. In *City of Hayward v. Board of Trustee of California State University* (2015) 242 Cal. App. 4th 833, the court found that Section 35 of Article XIII of the California Constitution requires local agencies to provide public safety services, including police protection, and that it is reasonable to conclude that the city will comply with Proposition 172 to ensure that public safety services are provided.[129]

For all the foregoing reasons, the Project would be adequately served with respect to police protection by the LAPD.

9.3 Schools

The Project is served by the following Los Angeles Unified School District (LAUSD) schools:[130]

- Hollywood Elementary (grades K-5), 1115 Tamarind Avenue
- Joseph Le Conte Middle (grades 6-8), 1316 Bronson Avenue
- Hollywood High (grades 9-12), 1521 Highland Avenue

The residential units directly generate students and the commercial use employees indirectly generate students through their families. As shown in **Table 9-2**, the Project would generate approximately 57 students. This is a conservative amount that does not take credit for the existing uses on the Site.

Table 9-2
Estimated Student Generation

Land Use	Project Amount	Student Generation			
		Elementary	Middle	High	Total
Multi-Family Dwelling Units	153 units	30	8	16	**54**
Commercial	7,000 sf	1	1	1	**3**
Total		**31**	**9**	**17**	**57**

LAUSD Developer Fee Justification Study, March 2022.
Table 3, LAUSD Student Generation Factors: 0.1953 elementary, 0.0538 middle; 0.1071 high school.
Table 15, LAUSD Student Generation Factors per 1,000 sf: 0.467 for neighborhood shopping centers; 0.826 students for office.
Since the Study does not specify the grade levels of students that are generated from non-residential land uses, such students are assumed to be divided among the residential generation factors (i.e. approximately 55 percent for elementary, 15 percent for middle, and 30 percent for high school.

129 City of Hayward v. Board Trustee of California State University (2015) 242 Cal. App. 4th 833, 847.

130 LAUSD School Finder: https://explorelausd.schoolmint.net/school-finder/home

Table: CAJA Environmental Services, October 2022.

Pursuant to the California Government Code Section 65995[131] and California Education Code Section 17620[132], mandatory payment of the school fees established by LAUSD in accordance with existing rules and regulations regarding the calculation and payment of such fees would, by law, fully address and mitigate any potential direct and indirect impacts to schools as a result of the Project. Therefore, Project impacts to school services would be less than significant with compliance with regulatory requirements to pay school fees pursuant to the Government Code.

For all the foregoing reasons, the Project would be adequately served with respect to schools by the LAUSD.

9.4 Parks

The City of Los Angeles Department of Recreation and Parks (LADRP) manages all municipally owned and operated recreation and park facilities within the City. The Public Recreation Plan, a portion of the Service Element of the City's General Plan sets a goal of a parkland acres-to-population ratio of neighborhood and community parks of 4.0 (or 4 acres per 1,000 persons).

Table 9-3 lists the parks and recreation centers that are located near the Project Site.

Table 9-3
Parks and Recreation Centers

Name	Address	Distance to Site
Hollywood Recreation Center	1122 Cole Avenue	750 feet west
Gordon Street Dog Park	1534 Gordon Street	2,900 feet northeast
De Longpre Park	1350 Cherokee Avenue	2,450 feet northwest
NavigateLA with Recreation and Parks Department layer: http://navigatela.lacity.org/index01.cfm		

The Project would increase the number of residents and employees at the Project Site. However, employees do not typically frequent parks or recreation centers during work hours, but are more likely to use facilities near their homes during non-work hours. The Project would include common open space roof deck, and private open space balconies in compliance with the LAMC requirement. While Project residents would use the on-site open spaces and recreational facilities, it is reasonably foreseeable that Project residents would use nearby parks and recreation facilities.

According to the standards provided in the Public Recreation Plan, the 361 net new residents would require 1.44 acres to maintain the standard of four acres per 1,000 people. The City requires developers to dedicate parkland or pay applicable fees (such as dwelling unit construction tax) in lieu of parkland dedication.

131 California Government Code Section 65995, https://leginfo.legislature.ca.gov/faces/codesdisplaySection.xhtml?lawCode=GOV&sectionNum=65995

132 California Education Code Section, 17620https://leginfo.legislature.ca.gov/faces/codesdisplaySection.xhtml?lawCode=EDC&sectionNum=17620

In September 2016, the City adopted a Park Fee Ordinance (Ordinance), which became effective on January 11, 2017. The aim of the Ordinance is to increase the opportunities for park space creation and expand the Quimby fee program beyond those projects requiring a subdivision map to include a park linkage fee for all net new residential units. The Ordinance amends LAMC Sections 12.21, 12.33, 17.03, 17.12 and 17.58, deletes LAMC Sections 17.07 and 19.01, and adds LAMC Section 19.17. The Ordinance increases Quimby fees, provides a new impact fee for non-subdivision projects, eliminates the deferral of park fees for market rate projects that include residential units, increases the fee spending radii from the site from which the fee is collected, provides for early City consultation for subdivision projects or projects with over 50 units in order to identify means to dedicate land for park space, and updates the provisions for credits against park fees.

Thus, the Project would meet the LAMC's requirement for the provision of usable open space. The Project would be required to pay the in-lieu fee prior to the issuance of a building permit.

While Project residents would use the on-site open spaces and recreational facilities, it is reasonably foreseeable that Project residents would use nearby parks and recreation facilities. However, with the provided on-site and open space and payment of applicable fees, the Project would be adequately served with respect to open space and recreation by area park and recreational facilities.

9.5 Other Public Facilities

The City of Los Angeles Public Library (LAPL) provides library services throughout the City through its Central Library, 8 regional branches, and 64 community branches. The LAPL collection has 7.1 million books, magazines, electronic media, 120 online databases, and 34,000 e-books and related media.[133]

On February 8, 2007, The Board of Library Commissioners approved a new Branch Facilities Plan. This Plan includes Criteria for new Libraries, which recommends new size standards for the provision of LAPL facilities – 12,500 square feet for communities with less than 45,000 people, 14,500 square feet for community with more than 45,000 people, and up to 20,000 square feet for a Regional branch. It also recommends that when a community reaches a population of 90,000, an additional branch library should be considered for the area.

Table 9-4 describes the libraries that would serve the Project.

Table 9-4
Los Angeles Public Libraries

Name	Address	Size (sf)	Collection Size / Circulation	Service Population	Staff
Durant	7140 Sunset Boulevard	12,500	55,206 / 42,923	93,166	9.5
Hollywood	1623 Ivar Avenue	19,000	76,003 / 36,019	100,283	15
Fremont	6121 Melrose Avenue	7,361	37,072 / 46,770	11,518	9
Staffing is full-time equivalent. Current service is estimated from LA Times Mapping LA database and branch library community boundaries.					

133 LAPL website: https://www.lapl.org/sites/default/files/media/pdf/about/LAPLFY2017-18Backgrounder10022018.pdf

Employees do not typically frequent libraries during work hours, but are more likely to use facilities near their homes during non-work hours.

The Project would not directly necessitate the need for a new library facility. This is because the LAPL has indicated that there are no planned improvements to add capacity through expansion. There are no plans for the development of any other new libraries to serve this community. The LAPL uses the most recent Census figures to determine if a branch should be constructed in a given area.

The analysis considers features (on-site library facilities, direct support to LAPL) that would reduce the demand for library services. It is likely that the residents of the Project would have individual access to internet service, which provides information and research capabilities that studies have shown reduce demand at physical library locations.[134],[135],[136] Further, Measure L has provided funds to restore adequate services to the existing library system. In addition, Project residents could use any of the libraries in the area.

For all of these reasons, it is not anticipated that the Project would result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, or need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for library services.

The Hollywood branch would be able to accommodate the Project's 361 residents. Therefore, the Project would be adequately served with respect to library services by the City's libraries.

9.6 Wastewater

The Project Site is located within the service area of the Hyperion Treatment Plant (HTP), which has been designed to treat 450 million gallons per day (mgd) to full secondary treatment. Full secondary treatment prevents virtually all particles suspended in effluent from being discharged into the Pacific Ocean and is consistent with the LARWQCB discharge policies for the Santa Monica Bay. The HTP currently treats an average daily flow of approximately 275 mgd.[137] Thus, there is approximately 175 mgd available capacity.

As shown on **Table 9-5**, the Project would generate a net total of approximately 53,670 gallons of wastewater per day (or 0.054 mgd). This total does not credit for removal of the existing uses (which are vacant). This total does not take any credit for any proposed sustainable and water conservation features of the Project. This is a worst-case, conservative approach.

134 "To Read or Not To Read", see pg. 10: "Literary reading declined significantly in a period of rising Internet use": https://www.arts.gov/sites/default/files/ToRead.pdf.

135 "How and Why Are Libraries Changing?" Denise A. Troll, Distinguished Fellow, Digital Library Federation: http://old.diglib.org/use/whitepaper.htm.

136 "Use and Users of Electronic Library Resources: An Overview and Analysis of Recent Research Studies", Carol Tenopir: http://www.clir.org/pubs/reports/pub120/contents.html.

137 https://www.lacitysan.org/san/faces/wcnavexternalId/s-lsh-wwd-cw-p-hwrp?adf.ctrl state=e9g2enwiy5&afrLoop=2223629005130851#!

Table 9-5
Project Estimated Wastewater Generation

Land Use	Size	Rates [1]	Total (gpd)
Proposed Uses			
Residential – Studio	21 units	75 gallons / unit	1,575
Residential – 1-bedroom	89 units	110 gallons / unit	9,790
Residential – 2-bedroom	43 units	150 gallons / unit	6,450
Restaurant	235 seats[2]	25 gallons / seat	5,875
Fitness	1,000 sf	650 gallons / 1,000 sf	650
Pool[3]	1 pool	29,330 gallons	29,330
		Proposed Total	**53,670**

Note: sf = square feet; gpd = gallons per day
[1] Rates: Los Angeles Bureau of Sanitation, Sewage Generation Factor, effective date April 6, 2012.
[2] High-turnover Sit-down Restaurant. Assumes 50% of Restaurant Space Will be Usable Seating Area and 15 Square Feet per Seat.
[3] The maximum daily pool water use is conservatively assumed to be filled in a single day and is therefore calculated to be the entire volume of the pool, in order to calculate the absolute maximum sewer demands that will be discharged to the public sewer system.
Water and Wastewater Technical Report, Fuscoe Engineering, November 29, 2022.

There are currently four (4) existing sewer mains in the surrounding streets. Two (2) of these mains, a 12-inch and 8-inch, reside in Lexington Avenue and the other two (2), a 10-inch and 33-inch, reside in Vine Street. Beyond the limits of the Project site, the sewer mains on Vine Street continue to flow southerly while the sewer mains on Lexington Avenue flow westerly. Each of these sewer mains that are adjacent to the Project Site connect to a network of sewer lines that ultimately convey wastewater to the City's Hyperion Treatment Plant. Based on available record data from the City, there is currently one existing sewer laterals connecting from the City's public sewer system to the Project Site. The sewer lateral, marked as active, connects to the 8-inch main on Lexington Avenue.

A Sewer Capacity Availability Request (SCAR) was submitted to the Bureau of Sanitation (BOS) to determine whether the existing wastewater infrastructure can accommodate the Project location. Based on the approval of the SCAR, no wastewater service issues have been identified and the Project's wastewater infrastructure would be adequate. The sewer mains in Vine Street and Lexington Avenue will serve the Project, and sewage from the Project Site is conveyed to the City's Hyperion Treatment Plant. The BOS's most current Integrated Resources Plan (IRP) notes that the existing design capacity of the Hyperion Service Area is approximately 550 mgd (consisting of 450 mgd at the Hyperion Treatment Plant, 80 mgd at the Donald C. Tillman Water Reclamation Plant, and 20 mgd at the Los Angeles-Glendale Water Reclamation), and that the existing average daily flow for the system as of 2021 is approximately 275 mgd.

The Project's estimated wastewater generation increase of 0.054 mgd, comprises of less than 0.02 percent of the available capacity in the system and is within the system's remaining capacity of 275 mgd.[138]

[138] Water and Wastewater Technical Report, Fuscoe Engineering, November 29, 2022.

Based on these forecasts, the Project's increase in wastewater generation would be adequately accommodated by the Hyperion Service Area. In addition, the BOS's analysis confirms that the Hyperion Water Reclamation Plant has sufficient capacity and regulatory allotment for the proposed Project. Thus, operation of the Project would have a less than significant impact on wastewater treatment facilities. Therefore, based on the approved SCAR for the Project and the available wastewater treatment capacity, the Project's wastewater infrastructure would be adequate. Due to this, impacts on wastewater infrastructure would be less than significant.

Therefore, the Project would be adequately served with respect to water treatment by the City's wastewater facilities.

9.7 Water Supply

The City receives water from five major sources: 1) the Eastern Sierra Nevada watershed, via the Los Angeles Aqueduct; 2) the Colorado River, via the Colorado River Aqueduct; 3) the Sacramento- San Joaquin Delta, via the State Water Project and the California Aqueduct; 4) local groundwater; and 5) recycled water. The amount of water obtained from these sources varies from year to year and is primarily dependent on weather conditions and demand. Los Angeles Department of Water and Power (LADWP) has adopted the 2015 Urban Water Management Plan to ensure that existing and projected water demand within its service area can be accommodated. According to the LADWP, for any project that is consistent with the City's General Plan, the projected water demand associated with that project is considered to be accounted for in the 2015 Urban Water Management Plan.

As was shown in the Land Use analysis of this Categorical Exemption, the Project would be consistent with the City's General Plan land use designation for the Project Site. Additionally, the Project Applicant would be required to comply with the water efficiency standards outlined in City Ordinance No. 180822[139] and in the LAGBC[140] to minimize water usage. Further, prior to issuance of a building permit, the Project Applicant would be required to consult with LADWP to determine Project-specific water supply service needs and all water conservation measures that shall be incorporated into the Project.

The 2020 UWMP was adopted in May 2021 and projects a demand of 642,600 AFY in 2025 (average weather year).[141] The UWMP forecasts water demand by estimating baseline water consumption by use (single family, multi-family, commercial/government, industrial), then adjusting for projected changes in socioeconomic variables (including personal income, family size, conservation effects) and projected growth of different uses based on SCAG 2020-2045 RTP/SCS.[142] The 2020-2045 RTP/SCS models local and regional population, housing supply and jobs using a model accounting for job availability by wage and sector and demographic trends (including household size, birth and death rates, migration patterns and life expectancy).[143]

139 http://clkrep.lacity.org/onlinedocs/2009/09-0510ord180822.pdf

140 http://www.ladbs.org/forms-publications/forms/green-building

141 2020 Urban Water Management Plan, Los Angeles, Exhibit ES-S.

142 2020 Urban Water Management Plan, Los Angeles, page 1-5.

143 SCAG, 2020-2045 RTP/SCS, Demographic and Growth Forecast, page 3.

Neither the UWMP forecasts, nor the 2020-2045 RTP/SCS include parcel-level zoning and land use designation as an input. The Project does not materially alter socioeconomic variables or projected growth by use. Any shortfall in LADWP controlled supplies (groundwater, recycled, conservation, LA aqueduct) is offset with MWD purchases to rise to the level of demand. The UWMP demonstrates adequate capacity currently and future capacity to accommodate City growth into which the Project will easily fit.

The LADWP owns and operates the Los Angeles Aqueduct Filtration Plant (LAAFP) located in the Sylmar community of the City. The LAAFP treats City water prior to distribution throughout LADWP's Central Water Service Area. The designated treatment capacity of the LAAFP is 600 mgd, with an average plant flow of 550 mgd during the summer months and 450 mgd in the non-summer months. Thus, the facility has between approximately 50 to 150 mgd of remaining capacity depending on the season.

As shown on **Table 9-6**, the Project would demand a net total of approximately 53,670 gallons of water per day (or 0.054 mgd). This total does not takes credit for removal of the existing uses (which are vacant). This total does not take any credit for any proposed sustainable and water conservation features of the Project. This is a worst-case, conservative approach.

Table 9-6
Project Estimated Water Demand

Land Use	Size	Rates[1]	Total (gpd)
Proposed Uses			
Residential – Studio	21 units	75 gallons / unit	1,575
Residential – 1-bedroom	89 units	110 gallons / unit	9,790
Residential – 2-bedroom	43 units	150 gallons / unit	6,450
Restaurant	235 seats[2]	25 gallons / seat	5,875
Fitness	1,000 sf	650 gallons / 1,000 sf	650
Pool[3]	1 pool	29,330 gallons	29,330
		Proposed Total	**53,670**

Note: sf = square feet; gpd = gallons per day
[1] Wastewater generation is assumed to equal water consumption. Per the LADWP: "For estimating a project's indoor water demand, we use applicable sewer generation factors (sgf)."
Rates: Los Angeles Bureau of Sanitation, Sewage Generation Factor, effective date April 6, 2012.
[2] High-turnover Sit-down Restaurant. Assumes 50% of Restaurant Space Will be Usable Seating Area and 15 Square Feet per Seat.
[3] The average daily pool water use is calculated using the volume of the pool and dividing that by 365, assuming that the pool is refilled once a year for maintenance.
Water and Wastewater Technical Report, Fuscoe Engineering, November 29, 2022.

With the remaining capacity of approximately 50 to 150 mgd, the LAAFP would have adequate capacity to serve the Project's projected demand for treatment of 0.054 mgd.

Available record drawings provided by the City show there are current water meters connecting to the 10-inch water main along Vine Street, to the west of the Project Site, and the 4-in water line on Lexington Avenue. The record drawings indicate the following existing water infrastructure: a 10-inch line on Vine Street, 4-inch line on Lexington Avenue.[144]

To determine the ability to provide on-site water service to the Project, a Water Pressure – Flow Report (SAR) was submitted to LADWP to analyze if there is adequate water capacity within both the fire suppression system (i.e. building sprinkler system), and domestic water service. Two locations were analyzed for the capacity to provide water service simultaneously for the onsite domestic water service and fire suppression system. One location was the 10-inch water main on Vine Street and the other was the 4-inch water main on Lexington Avenue.

The SAR analysis received confirmed that there is sufficient water service capacity for the Project demand. Proposed water service can be connected from the existing 10-inch water main in Vine Street that has the capacity for water pipe infrastructure. The expected water demand of the project will require a 6-inch domestic water service and a 6-inch fire water service connection. The location on Lexington Avenue was not able to achieve 1,400 gpm, the maximum flow achieved was 800 gpm at a pressure of 58 psi.

However, per LADWP, the upsizing of the 4-inch pipe to a 6-inch pipe at this location would result in the capacity to achieve flows of 1,400 gpm, if proposing a water connection on Lexington Avenue. The upsizing would allow for there to be adequate water capacity to provide on-site water service to the Project.

Therefore, the Project will plan to connect into the main in Vine Street. The service laterals will be adequately sized to accommodate the on-site fire suppression system demand and domestic demand flowing simultaneously. The new water services will also include backflows and be metered separately per City requirements. Therefore, impacts on water infrastructure would be less than significant.

A Will Serve Letter was also requested to LADWP in order to confirm if the Project demand can be sufficiently supplied. The Will Serve Letter dated August 29, 2022 confirmed that the proposed Project Site can be supplied with water from the municipal system. Therefore, from the Will Serve Letter and SARs, the existing infrastructure can be determined to be adequate to serve the Project.

Therefore, the Project would be adequately served with respect to water supply and treatment by existing LADWP facilities.

9.8 Solid Waste

9.8.1 Environmental Setting

County landfills are categorized as either Class III or unclassified landfills. Non-hazardous municipal solid waste is disposed of in Class III landfills, while inert waste such as construction waste, yard trimmings, and earth-like waste are disposed of in unclassified landfills.[145] Ten Class

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[144] Water and Wastewater Technical Report, Fuscoe Engineering, October 4, 2022.

[145] Inert waste is waste which is neither chemically or biologically reactive and will not decompose. Examples of this are sand and concrete.

III landfills and one unclassified landfill with solid waste facility permits are currently operating within the County.[146]

Based on the information provided in the 2020 Countywide Integrated Waste Management Plan Annual Report, the remaining disposal capacity for the County's Class III landfills is estimated at approximately 142.67 million tons.[147]

In 2020, approximately 6.019 million tons of solid waste were disposed of at the County's Class III landfills, 0.244 million tons of inert waste at the County's inert landfill, and 0.338 million tons at transformation facilities.[148]

Of the remaining Class III landfill capacity in the County, approximately 74.13 million tons are available to the City.[149]

As is the case with solid waste haulers, landfills operate in a free-enterprise system. Their operating funds and profits are obtained by collecting disposal fees from the haulers on a per ton basis. Landfill capacity is regulated primarily through the amount of solid waste that each particular facility is permitted to collect on a daily basis relative to its capacity.

The 2020 Annual Report indicates that the countywide cumulative need for Class III landfill disposal capacity, approximately 154.1 million tons in 2031, will exceed the 2020 remaining permitted Class III landfill capacity of 142.67 million tons.

The County's unclassified landfill generally does not currently face capacity issues. The remaining disposal capacity for Azusa Land Reclamation is estimated at approximately 64.64 million tons. In 2020, approximately 0.244 million tons of inert waste (e.g., soil, concrete, asphalt, and other construction and demolition debris) were disposed of at this unclassified landfill. Given the remaining permitted capacity, this capacity would be exhausted in 25 years.[150] Thus, the unclassified landfill serving the County has adequate long-term capacity.

While the City's Bureau of Sanitation (BOS) generally provides waste collection services to single-family and some small multi-family developments, private haulers permitted by the City provide waste collection services for most multi-family residential and commercial developments within

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[146] County of Los Angeles, Department of Public Works; Los Angeles County Integrated Waste Management Plan 2020 Annual Report, October 2021, Appendix E-2 Table 4: https://dpw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#, accessed April 21, 2022.

[147] County of Los Angeles, Department of Public Works; Los Angeles County Integrated Waste Management Plan 2020 Annual Report, October 2021, Appendix E-2 Table 4: https://dpw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#, accessed April 21, 2022.

[148] County of Los Angeles, Department of Public Works; Los Angeles County Integrated Waste Management Plan 2020 Annual Report, October 2021, Appendix E-2 Table 4: https://dpw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#, accessed April 21, 2022.

[149] Total excludes Class III landfills not open to the City of Los Angeles for disposal (i.e., Scholl Canyon, Whittier, Burbank, Pebbly Beach, and San Clemente). In addition, total excludes the Calabasas Landfill, as its wasteshed does not include the Project Site. The Chiquita Canyon Landfill Expansion permits the facility to operate until it reaches 60 million tons, or after 30 years, whichever comes first. However, since the current volume of the facility's wasteshed is unknown, the volume of waste that it would take to reach 60 million tons cannot be determined. As such, for a conservative analysis, the Chiquita Canyon Landfill Expansion is excluded from the total.

[150] County of Los Angeles, Department of Public Works; Los Angeles County Integrated Waste Management Plan 2020 Annual Report, October 2021, Appendix E-2 Table 4: https://dpw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#, accessed April 21, 2022.

the City. Solid waste transported by both public and private haulers is either recycled, reused, or transformed at a waste-to-energy facility, or disposed of at a landfill.

In 2018, the City disposed of approximately 3.3 million tons of solid waste at the County's Class III landfills, approximately 1,968 tons at transformation facilities, and 214 million tons at the inert landfill.[151] The 3.3 million tons of solid waste accounts for approximately 4.4 percent of the total remaining capacity (74.13 million tons) for the County's Class III landfills open to the City.[152]

The landfills that serve the City and the capacity of these landfills are shown on **Table 9-7**. As shown, the landfills have an approximate available daily intake of 11,839 tons.

Table 9-7
Landfill Capacity

Landfill Facility	2020 Average Daily Disposal (tons/day)	Maximum Daily Disposal (tons/day)	Remaining Daily Capacity (tons/day)	Remaining Capacity (million tons)	Remaining Life (years)
Class III Landfills (Open to the City)					
Antelope Valley	2,468	5,548	3,080	10.18	9
Lancaster	402	5,100	4,698	9.87	21
Sunshine Canyon	8,039	12,100	4,061	54.08	17
Total	**10,909**	**22,748**	**11,839**	**74**	
Inert Landfill (Open to the City)					
Azusa	1,032	8,000	6,968	64.64	25
County of Los Angeles, Department of Public Works; Los Angeles County Integrated Waste Management Plan 2020 Annual Report, October 2021, Appendix E-2 Table 4: https://dpw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#, accessed October 13, 2022.					

9.8.2 Project Impacts

9.8.2.1 Construction

As shown in **Table 9-8**, the Project would result in approximately 3,048 tons of construction and demolition waste, not accounting for any mandatory recycling. For a conservative approach, the modeling included the demolition of the existing building and asphalt.

Pursuant to the requirements of Senate Bill 1374[153], the Project would implement a construction waste management plan to recycle and/or salvage a minimum of 75 percent of non-hazardous demolition and construction debris. Materials that could be recycled or salvaged include asphalt, glass, and concrete. Debris not recycled could be accepted at the unclassified landfill (Azusa Land Reclamation) within Los Angeles County and within the Class III landfills open to the City.

Given the remaining permitted capacity the Azusa Land Reclamation facility, as well as the remaining capacity at the Class III landfills open to the City, the landfills serving the Project Site

151 These numbers represent waste disposal, not generation, and thus do not reflect the amount of solid waste that was diverted via source reduction and recycling programs within the City

152 3.3 million tons ÷ 74.13 million tons x 100% = 4.4%.

153 https://www.calrecycle.ca.gov/lgcentral/library/canddmodel/instruction/sb1374

would have sufficient capacity to accommodate the Project's construction solid waste disposal needs.

Table 9-8
Project Estimated Demolition and Construction Waste Generation

Building	Size	Rate	Total (tons)
Demolition Waste			
Residential	0 sf	127 pounds / sf	0
Non-residential	27,011 sf	158 pounds / sf	2,134
Asphalt	16,000 sf	75 pounds / sf	600
Construction Waste			
Residential	136,295 sf	4.39 pounds / sf	299
Non-residential	7,000 sf	4.34 pounds / sf	15
		Total	**3,048**

Over the entire total schedule of construction. Numbers have been rounded.
sf = square feet, 1 ton = 2,000 lbs
U.S. Environmental Protection Agency, Report No. EPA530-R-09-002, Estimating 2003 Demolition and Materials Amounts, March 2009, Table 2-1, Table 2-2, Table 2-3, Table 2-4: https://www.epa.gov/smm/estimating-2003-building-related-construction-and-demolition-materials-amounts
1 cubic foot of asphalt weighs 150 pounds. The asphalt at the site is assumed to be 6 inches thick.
Table: CAJA Environmental Services, October 2022.

9.8.2.2 Operation

As shown on **Table 9-9**, the Project would generate a net total of approximately 348 tons per year of solid waste. This total does not take credit for removal of the existing uses (which are vacant).

Table 9-9
Project Estimated Solid Waste Generation

Land Use	Size	Rates	Total (Tons per year)
Residential	153 units	2.23 tons / unit	341
Restaurant	7,000 sf	0.91 tons / 1,000 sf	7
		Total	**348**

Note: 1 ton = 2,000 pounds.
Los Angeles Unified School District, 2022 Developer Fee Justification Study, March 2022, Table 14.
Neighborhood Shopping Center land uses, which is 369 sf per employee.
Standard Commercial Office land uses, which is 209 sf per employee.
Residential solid waste factor (City of Los Angeles CEQA Thresholds Guide, 2006, page M.3-2) is based on a rate of 12.23 pounds per household per day (or 2.23 tons per household per year).
Non-residential yearly solid waste generation factors from City of Los Angeles Bureau of Sanitation, City Waste Characterization and Quantification Study, Table 4, July 2002.
https://www2.calrecycle.ca.gov/wastecharacterization/general/rates
Table: CAJA Environmental Services, October 2022.

The estimated solid waste is conservative because the waste generation factors used do not account for recycling or other waste diversion measures such as compliance with Assembly Bill 341, which requires California commercial enterprises and public entities that generate 4 cubic yards or more per week of waste, and multi-family housing with five or more units, to adopt recycling practices.

Likewise, the analysis does not include implementation of the City's Zero Waste Plan, which is expected to result in a reduction of landfill disposal Citywide with a goal of reaching a Citywide recycling rate of 90 percent by the year 2025, 95% by 2035, and zero waste by 2030.[154]

The estimated annual net increase in solid waste that would be generated by the Project represents approximately 0.0004 percent of the remaining capacity for the County's Class III landfills open to the City of Los Angeles.[155]

Based on the above, the landfills that serve the Project Site have sufficient permitted capacity to accommodate the solid waste generated by the construction and operation of the Project. Therefore, the Project would be adequately served with respect to solid waste disposal by existing facilities.

9.9 Conclusion

For all the foregoing reasons, the Project and Project Site would be adequately served by all required utilities and public services, and, therefore, the Project would comply with CCR Section 15332(e).

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154 The recycLA program divides the City into 11 zones and designates a waste collection company for each zone. Source: LA Sanitation, recycLA, Your Plan, and City of Los Angeles, L.A.'s Green New Deal, Sustainable City pLAn 2019. https://plan.lamayor.org/sites/default/files/pLAn2019final.pdf, accessed August 2, 2021.

155 (348 tons per year / 74.13 million tons per year) x 100 = ~0.0004%

10 Guideline 15300.2. Exceptions: (a) Location.

Under CEQA, Categorical Exemption Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply [to] all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

The Project is seeking a Class 32 Exemption, not a Class 3, 4, 5, 6, or 11 exemption. Therefore, this exception to a categorical exemption for the Project does not apply.

11 Guideline 15300.2. Exceptions: (b) Cumulative Impact.

Under CEQA, all Categorical Exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

In order to evaluated cumulative impacts of successive projects, the Transportation Assessment identified 30 projects proposed, under construction, or recently built within a 0.5 mile radius (the Related Projects). **Table 11-1** summarizes the land uses for the Related Projects, including:

- 3,912 residential units
- 848 hotel rooms
- 73,695 square feet of retail
- 2,830,872 square feet of office (including event space and sound stages)
- 171,245 square feet of restaurant

All 30 of these Related Projects were evaluated in the Transportation Assessment to evaluate cumulative traffic impacts.

The following six Related Projects are all within 0.25 miles (1,320 feet) of the Project Site and are considered the nearest Related Projects, as shown in **Figure 11-1**:[156]

- No. 6, 1310 Cole Avenue, 890 feet northwest of the Project Site. This Project is completed and operational as of October 2022. Therefore, there is no construction overlap.
- No. 9, 1341 Vine Street, 780 feet north of the Project Site. This Project is completed and operational as of October 2022. Therefore, there is no construction overlap.
- No. 18, 1400 Vine Street, 1,100 feet north of the Project Site.
- No. 28, 1235 Vine Street, 100 feet northwest of the Project Site.
- No. 29, 1149 Gower Street, 800 feet east of the Project Site.
- No. 30, 1360 Vine Street, 920 feet north of the Project Site.

The other Related Projects (Nos. 1-5, 7-8, 10-17, 19-27) are more than 0.25 miles from the Project Site and have intervening buildings and major roadways between them and the Project Site. These distances and intervening uses ensure that these project's localized impacts would not be likely to combine with the Project's impacts.

As noted above, two of these nearest Related Projects (Nos. 6 and 9) are already built and would not contribute to cumulative construction-related emissions in the local area. Further, each

156 Transportation Assessment, Gibson Transportation Consulting, November 2, 2022.

Related Project would be subject to its own CEQA analysis to evaluate potential impacts and provide mitigation measures where appropriate.

Therefore, only the nearest Related Projects (Nos. 18, 28, 29, and 30) were considered for purposes of the noise cumulative construction noise analysis.

Figure 11-1
Related Projects Map

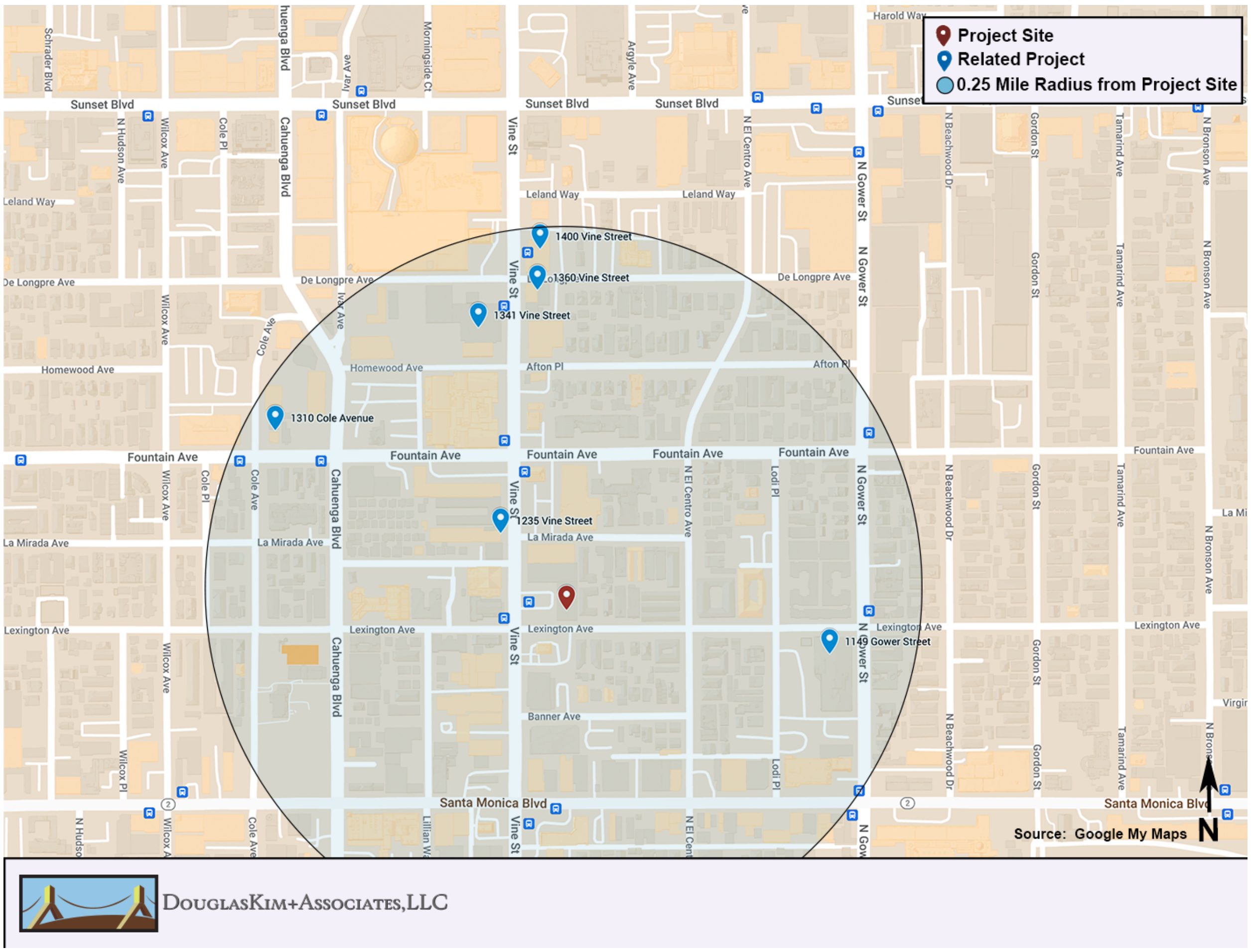

Table 11-1
Related Projects Land Uses

#	Address	Use	Quantity
1	956 N Seward St	office	126,980 sf
2	6201 W Sunset Bl	apartment commercial	731 units 24,000 sf
3	6250 W Sunset Bl	apartment retail	200 units 4,700 sf
4	1525 N Cahuenga Bl	hotel restaurant guest lounge restaurant	64 rooms 3,300 sf 1,200 sf 700 sf
5	901 N Vine St	apartment commercial	70 units 3,000 sf
6	1310 N Cole Ave	apartment	369 units

Table 11-1
Related Projects Land Uses

		office	2,570 sf
7	6409 W Sunset Bl	hotel retail	275 rooms 1,900 sf
8	6200 W Sunset Bl	apartment retail pharmacy restaurant	270 units 8,070 sf 2,300 sf 1,750 sf
9	1341 Vine St	apartment restaurant/office	200 units 301,854 sf
10	1541 N Wilcox Ave	hotel restaurant restaurant	200 rooms 5,125 sf 4,105 sf
11	1400 N Cahuenga Bl	hotel restaurant bar	220 rooms 2,723 sf 1,440 sf
12	6421 W Selma Ave	hotel restaurant	114 rooms 1,993 sf
13	6400 W Sunset Bl	apartment restaurant	200 units 7,000 sf
14	1546 N Argyle Ave	apartment restaurant retail	276 units 15,000 sf 9,000 sf
15	1545 N Wilcox Ave	event space restaurant	16,100 sf 14,800 sf
16	1438 N Gower St	office sound stage production support restaurant	828,339 sf 205,202 sf 65,319 sf 6,516 sf
17	5939 W Sunset Bl	apartment office restaurant retail	299 units 38,440 sf 3,700 sf 3,970 sf
18	1400 Vine St	Apartment restaurant	198 units 16,000 sf
19	6445 Sunset Bl	hotel restaurant	175 rooms 12,500 sf
20	6422 W Selma Ave	apartment	45 units
21	1520 N Cahuenga Bl	Apartment restaurant	270 units 6,805 sf
22	6450 W Sunset Bl	office restaurant	431,032 sf 12,386 sf
23	1125 N Gower St	apartment	155 units
24	6266 W Sunset Bl	Apartment restaurant	150 units 13,130 sf
25	1000 N Seward St	office restaurant retail	136,200 sf 12,200 sf 2,200 sf
26	6007 W Sunset Bl	apartment retail	110 units 14,555 sf

Table 11-1
Related Projects Land Uses

27	6601 W Romaine St	office	106,125 sf
28	1235 Vine St	office restaurant	109,190 sf 7,960 sf
29	1149 N Gower St	apartment	169 units
30	1360 N Vine St	Office restaurant restaurant	463,521 sf 11,914 sf 8,998 sf
Transportation Assessment, Gibson Transportation Consulting, November 2, 2022.			

11.1 Transportation

11.1.1 Plan Consistency

In addition to potential Project-specific impacts, the TAG requires that the Project be reviewed in combination with nearby Related Projects to determine if there may be a cumulatively significant impact resulting from inconsistency with a particular program, plan, policy, or ordinance. In accordance with the TAG, the cumulative analysis must include consideration of any Related Projects within 0.5 miles of the Project Site and any transportation system improvements in the vicinity.

Each of the Related Projects would be separately reviewed and approved by the City, including a check for their consistency with applicable policies. Collectively, the Project and the Related Projects add higher-density development in a high-quality transit area, which would increase pedestrian activity and reduce the need for single occupancy vehicles. Therefore, the Project, together with the Related Projects, would neither create inconsistencies nor result in cumulative impacts with respect to the identified programs, plans, policies, and ordinances.

11.1.2 VMT

The TAG provides that cumulative effects of development projects are determined based on the consistency with the air quality and GHG reduction goals of 2016–2040 Regional Transportation Plan / Sustainable Communities Strategy (Southern California Association of Governments, Adopted April 2016) (RTP/SCS) in terms of development location, density, and intensity. The RTP/SCS presents a long-term vision for the region’s transportation system through Year 2040 and balances the region’s future mobility and housing needs with economic, environmental, and public health goals. The TAG also explains that the RTP/SCS is the regional plan that demonstrates compliance with air quality conformity requirements and GHG reduction targets.

As such, projects that are consistent with this plan in terms of development location, density, and intensity are part of the regional solution for meeting air pollution and GHG goals. Projects that are deemed to be consistent would have a less than significant cumulative impact on VMT. Therefore, based on the conclusions above, the Project would not result in a significant cumulative VMT impact.

Moreover, as previously detailed, the Project is located within a TPA as defined by the City and a High-Quality Transit Area as defined by the RTP/SCS. The Project’s specific location in close proximity to high-quality transit and other off-site retail, restaurant, commercial, and residential areas, along with its highly walkable environment, support the conclusion that the Project would achieve a VMT reduction greater than the average for the area, as concluded in the Project VMT analysis provided above.

Thus, the Project encourages a variety of transportation options and is consistent with the RTP/SCS goal of maximizing mobility and accessibility in the region. The Project would also contribute to the productivity and use of the regional transportation system by providing housing near transit and encourage active transportation by providing new bicycle parking infrastructure and active street frontages, consistent with RTP/SCS goals. Therefore, the Project would not result in a cumulative VMT impact.

11.1.3 Geometric Design Hazards

The TAG indicates that cumulative impacts for geometric design hazards require a review of Related Projects with access points proposed along the same block(s) as a Project in order to determine the combined impact and the Project's contribution. None of the Related Projects identified provides access along the same block as the Project. Thus, the Project and Related Projects would not result in a cumulative impact.

11.2 Noise

11.2.1 Construction

During construction of the Project, there could be other construction activity in the area that contributes to cumulative noise impacts at sensitive receptors. Noise from construction of development projects is localized and can affect noise-sensitive uses within 500 feet, based on the City's screening criteria. As such, noise from two construction sites within 1,000 feet of each other can contribute to cumulative noise impacts for receptors located between.

There are six related projects (Nos. 6, 9, 18, 28, 29, and 30) identified by the City of Los Angeles within 0.25 miles (1,320 feet) of the Project (**Figure 11-1**, above). As noted above, two of these Related Projects (Nos. 6 and 9) are already built and would not contribute to cumulative impacts in the local area. Therefore, this analysis includes the four remaining nearest Related Projects (Nos, 18, 28, 29, and 30).

As with the Project, any Related Projects would comply with the LAMC's restrictions, including restrictions on construction hours and noise from powered equipment. Noise associated with cumulative construction activities would be reduced to the degree reasonably and technically feasible for each individual Related Project through compliance with the noise ordinance.

As illustrated in **Table 11-2**, the cumulative noise impacts at the analyzed sensitive receptors would not be considered significant, as they would not exceed 5.0 dBA L_{eq}. The noise contours from these Related Project are illustrated in **Figure 11-2**. These cumulative noise levels at analyzed sensitive receptors are marginally higher than impacts from the Project alone, as more distant Related Projects have minimal impact on construction noise levels due to intervening structures that shield noise from more distant construction sites. Based on this, there would not be cumulative noise impacts at any nearby sensitive uses located near the Project Site and Related Projects in the event of concurrent construction activities.

Figure 11-2
Construction Noise Contours from Cumulative Development

Table 11-2
Cumulative Construction Noise Impacts at Off-Site Sensitive Receptors

Receptor	Maximum Construction Noise Level (dBA L_{eq})	Existing Ambient Noise Level (dBA L_{eq})	New Ambient Noise Level (dBA L_{eq})	Increase (dBA L_{eq})	Potentially Significant?
1. Taglyan Complex	64.3	68.1	69.6	1.5	No
2. Mental Health Center	63.0	68.1	69.3	1.2	No
3. Early Head Start School	58.9	66.7	67.4	0.7	No
4. Residences – 6231-39 Lexington Ave.	61.4	59.5	63.6	4.1	No
5. Hotel – 1133 Vine St.	54.7	66.7	67.0	0.3	No
6. Residences – 6230-40 Lexington Ave.	61.5	59.5	63.6	4.1	No
7. Hotel – 6326 Lexington Ave.	58.6	57.6	61.1	3.5	No
8. Residences – 6232-38 La Mirada Ave.	52.4	59.5	60.3	0.8	No
* Includes Project traffic on local driveway, outdoor mechanical equipment, outdoor noise sources. See Technical Appendix for inventory of sources. Source: DKA Planning, 2022.					

Other concurrent construction activities from Related Projects can contribute to cumulative off-site impacts if haul trucks, vendor trucks, or worker trips for any Related Projects were to utilize the same roadways. Distributing trips to and from each Related Project construction site substantially reduces the potential that cumulative development could more than double traffic volumes on existing streets, which would be necessary to increase ambient noise levels by 3 dBA. The Project would contribute up to 193 PCE vehicles during a peak, would represent about 7.6 percent of traffic volumes on Vine Street, which carries about 2,552 vehicles at Lexington Avenue in the morning peak hour of traffic.[157]

Any Related Projects would have to add 2,359 peak hour PCE vehicle trips to double volumes on Vine Street or any downstream roadways further from the Project Site. The four nearest Related Projects within 1,000 feet of the Project Site would not be capable of generating this much truck traffic, as they would have to average 590 peak hour PCE vehicle trips.

- No. 18, 1400 Vine Street is comparable in scale to the Project, with 198 apartments and 16,000 square feet of restaurants. As such, it is likely to generate a comparable amount of construction-related traffic (i.e., around 200 PCE vehicles in a peak hour).

- No. 28, 1235 Vine Street is comparable in scale to the Project, with 109,190 square feet of office and 7,900 square feet of restaurants (the Project has 136,295 square feet of residential floor area and 7,000 square feet of restaurant). As such, it is likely to generate a comparable amount of construction-related traffic (i.e., around 200 PCE vehicle in a peak hour).

- No, 29, 1149 Gower Street is comparable in scale to the Project, with 169 apartments. As such, it is likely to generate a comparable amount of construction-related traffic (i.e., around 200 PCE vehicle in a peak hour).

- No. 30, 1360 Vine Street is approximately 3.4 times the floor area as the Project (i.e., 463,521 square feet of office and 20,912 square feet of restaurant), it is unlikely to generate substantially more peak-hour PCE trips than the Project, as the construction duration is likely to be longer, thus moderating any peak-hour construction impacts.

As such, cumulative noise due to construction truck traffic from the Project and Related Projects do not have the potential to exceed the ambient noise levels along the haul route by 5 dBA. As such, cumulative off-site noise impacts from construction traffic would be less than significant.

11.2.2 Operation

The Project Site and Hollywood neighborhood has been developed with residential and commercial land uses that have previously generated, and will continue to generate, noise from a number of operational noise sources, including mechanical equipment (e.g., HVAC systems), outdoor activity areas, and vehicle travel. The four nearest Related Projects in the vicinity of the Project Site are residential or mixed-use in nature and would also generate stationary-source and mobile-source noise due to ongoing day-to-day operations. These types of uses generally do not

[157] Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

involve use of noisy heavy-duty equipment such as compressors, diesel-fueled equipment, or other sources typically associated with excessive noise generation.

Noise from on-site mechanical equipment (e.g., HVAC units) and any other human activities from Related Projects would not be typically associated with excessive noise generation that could result in increases of 5 dBA or more in ambient noise levels at sensitive receptors when combined with operational noise from the Project. The presence of intervening multi-story buildings along Vine Street and the residential neighborhoods that flank it will generally shield noise impacts from one or more projects that may generate operational noise. Therefore, cumulative stationary source noise impacts associated with operation of the Project and Related Projects would be less than significant.

The Project would add up to 892 vehicle trips to the local roadway network on a peak weekday at the start of operations in 2027, including up to 95 peak hour P.M. and 97 peak hour A.M. vehicle trips. The four nearest Related Projects within 1,000 feet of the Project Site are projected to generate about 768 additional vehicle trips in the P.M. peak hour.[158] When combined with the Project, these five developments would add up to 863 P.M. peak hour vehicle trips onto local roadways, which would represent 33.8 percent of the 2,552 vehicles currently using Vine Street at Lexington Avenue in the P.M. peak hour.[159] Therefore, cumulative noise impacts due to off-site traffic would not increase ambient noise levels by 3 dBA to or within their respective “Normally Unacceptable” or “Clearly Unacceptable” noise categories, or by 5 dBA or greater overall. Additionally, the Project would not result in an exposure of persons to or a generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

11.3 Air Quality

SCAQMD recommends that any construction-related emissions and operational emissions from individual development projects that exceed the project-specific mass daily emissions thresholds identified above also be considered cumulatively considerable.[160] Individual projects that generate emissions not in excess of SCAQMD’s significance thresholds would not contribute considerably to any potential cumulative impact. SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to be used to assess the impacts associated with these emissions.

11.3.1 AQMP Consistency

Cumulative development is not expected to result in a significant impact in terms of conflicting with, or obstructing implementation of the 2016 AQMP. As discussed previously, growth considered to be consistent with the AQMP would not interfere with attainment because this growth is included in the projections utilized in the formulation of the AQMP. Consequently, as long as growth in the Basin is within the projections for growth identified in the 2016 RTP/SCS, implementation of the AQMP will not be obstructed by such growth. In addition, as discussed

[158] Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

[159] Gibson Transportation Consulting, Inc. Transportation Assessment for the 1200 Vine Street Project; November 2, 2022.

[160] White Paper on Regulatory Options for Addressing Cumulative Impacts from Air Pollution Emissions, SCAQMD Board Meeting, September 5, 2003, Agenda No. 29, Appendix D, p. D-3.

previously, the population growth resulting from the Project would be consistent with the growth projections of the AQMP. Any Related Project would implement feasible air quality mitigation measures to reduce the criteria air pollutants, if required due to any significant emissions impacts. In addition, each Related Project would be evaluated for its consistency with the land use policies set forth in the AQMP. Therefore, the Project's contribution to the cumulative impact would not be cumulatively considerable and, therefore, would be less than significant.

11.3.2 Construction

SCAQMD recommends that any construction-related emissions and operational emissions from individual development projects that exceed the project-specific mass daily emissions thresholds identified above also be considered cumulatively considerable.[161] Individual projects that generate emissions not in excess of SCAQMD's significance thresholds would not contribute considerably to any potential cumulative impact. SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to be used to assess the impacts associated with these emissions.

As summarized in **Table 7-6** above, the Project would not exceed the SCAQMD's mass emissions thresholds and would not contribute to any potential cumulative impact. If any Related Projects was projected to exceed LST thresholds (after mitigation), it could perform dispersion modeling to confirm whether health-based air quality standards would be violated. The SCAQMD's LST thresholds recognize the influence of a receptor's proximity, setting mass emissions thresholds for PM_{10} and $PM_{2.5}$ that generally double with every doubling of distance.

The Project would comply with regulatory requirements, including the SCAQMD Rule 403 requirements listed above. Based on SCAQMD guidance, individual construction projects that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would cause a cumulatively considerable increase in emissions for those pollutants for which the Air Basin is in non-attainment. As shown above, construction-related daily emissions at the Project Site would not exceed any of the SCAQMD's regional or localized significance thresholds. Therefore, the Project's contribution to cumulative air quality impacts would not be cumulatively considerable and, therefore, would be less than significant.

Similar to the Project, the greatest potential for TAC emissions at each Related Projects would generally involve diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 30-year period will contract cancer, based on the use of standard risk-assessment methodology. Construction activities are temporary and short-term events, thus construction activities at each Related Projects would not result in a long-term substantial source of TAC emissions.

Additionally, the SCAQMD CEQA guidance does not require a health risk assessment for short-term construction emissions. It is therefore not meaningful to evaluate long-term cancer impacts from construction activities, which occur over relatively short durations. As such, given the short-

161 White Paper on Regulatory Options for Addressing Cumulative Impacts from Air Pollution Emissions, SCAQMD Board Meeting, September 5, 2003, Agenda No. 29, Appendix D, p. D-3.

term nature of these activities, cumulative toxic emission impacts during construction would be less than significant.

11.3.3 Operation

As discussed above, the Project's operational air quality emissions and cumulative impacts would be less than significant. According to the SCAQMD, if an individual project results in air emissions of criteria pollutants that exceed the SCAQMD's recommended daily thresholds for project-specific impacts, then the project would also result in a cumulatively considerable net increase of these criteria pollutants. As operational emissions would not exceed any of the SCAQMD's regional or localized significance thresholds, the emissions of non-attainment pollutants and precursors generated by Project operations would not be cumulatively considerable.

With respect to TAC emissions, neither the Project nor any likely Related Projects (which are largely residential, retail/commercial in nature), would represent a substantial source of TAC emissions, which are typically associated with large-scale industrial, manufacturing, and transportation hub facilities. The Project and Related Projects would be consistent with the recommended screening level siting distances for TAC sources, as set forth in CARB's Land Use Guidelines, and the Project and Related Projects would not result in a cumulative impact requiring further evaluation.

However, any Related Projects could generate minimal TAC emissions related to the use of consumer products and landscape maintenance activities, among other things. Pursuant to AB 1807, which directs the CARB to identify substances as TACs and adopt airborne toxic control measures to control such substances, the SCAQMD has adopted numerous rules (primarily in Regulation XIV) that specifically address TAC emissions. These SCAQMD rules have resulted in and will continue to result in substantial Basin-wide TAC emissions reductions. As such, cumulative TAC emissions during long-term operations would be less than significant. Therefore, the Project would not result in any substantial sources of TACs that have been identified by the CARB's Land Use Guidelines, and thus, would not contribute to a cumulative impact

11.4 Water Quality

The Project Site and all Related Projects are located in an urbanized area where most of the surrounding properties are already developed. The existing storm drainage system serving this area has been designed to accommodate runoff from an urban built-out environment. When new construction occurs it generally does not lead to substantial additional runoff, since new developments are required to control the amount and quality of stormwater runoff coming from their respective sites.

Additionally, all new development in the City is required to comply with the City's LID Ordinance and incorporate appropriate stormwater pollution control measures into the design plans to ensure that water quality impacts are minimized. Therefore, the cumulative water quality impact of successive projects of the same type in the same place over time would not be significant.

11.5 Public Service

11.5.1 Fire Protection

The Project, in combination with all Related Projects, could increase the demand for fire protection services in the Project area. Specifically, there could be increased demands for additional LAFD staffing, equipment, and facilities over time. This need would be funded via existing mechanisms (e.g., property taxes, government funding, and developer fees) to which the Project and Related Projects would contribute. Similar to the Project, the Related Projects would be subject to the Fire Code and other applicable regulations of the LAMC including, but not limited to, automatic fire sprinkler systems for high-density buildings and/or residential projects located farther than 1.5 miles from the nearest LAFD Engine or Truck Company to compensate for additional response time, and other recommendations made by the LAFD to ensure fire protection safety. Through the process of compliance with existing regulations and LAMC, the ability of the LAFD to provide adequate facilities to accommodate future growth and maintain acceptable levels of service would be ensured. Therefore, the cumulative impact to fire protection from successive projects of the same type in the same place over time would not be significant.

11.5.2 Police Protection

The Project, in combination with all Related Projects, would increase the demand for police protection services in the Project area. Specifically, there would be an increased demand for additional LAPD staffing, equipment, and facilities over time. This need would be funded via existing mechanisms (e.g., sales taxes, government funding, and developer fees), to which the Project and Related Projects would contribute. Similar to the Project, the Related Projects would be subject to the review and oversight of the LAPD related to crime prevention features, and other applicable regulations of the LAMC. Through the process of compliance with existing regulations and LAMC, the ability of the LAPD to provide adequate facilities to accommodate future growth and maintain acceptable levels of service would be ensured. Therefore, the cumulative impact to police protection from successive projects of the same type in the same place over time would not be significant.

11.5.3 Schools

The Project, in combination with all Related Projects , is expected to result in a cumulative increase in the demand for school services. However, similar to the Project, the applicants of all the Related Projects would be required to pay the state mandated applicable school fees to the LAUSD to ensure that no significant impacts to school services would occur. Therefore, the cumulative impact to schools from successive projects of the same type in the same place over time would not be significant.

11.5.4 Parks

The Project, in combination with all Related Projects, could result in an increase in permanent residents residing in the Project area. Additional cumulative development would contribute to lowering the City's existing parkland to population ratio. However, employees generated by the commercial projects and the commercial portions of mixed-use projects on the Related Projects list would not typically enjoy long periods of time during the workday to visit parks and/or recreational facilities. Therefore these project-generated employees would not contribute to the future demand on park and recreational facility services.

The applicants of Related Projects with residential components would be subject to the City's parkland fees (e.g., Quimby Fees and/or Park and Recreation fees for non-subdivision projects) and to minimum open space requirements, ensuring that any potential impacts to parks and recreational facilities would be less than significant. Therefore, the cumulative impact to parks from successive projects of the same type in the same place over time would not be significant.

11.5.5 Other Public Facilities

Given the geographic range of all Related Projects, they would be served by a variety of libraries.[162] Development of the Related Projects would likely generate additional demands upon library services. However, there are no planned expansions or new libraries by the LAPL that would be considered a significant impact. As such, the demand for library services created by these residential projects could be accommodated, and impacts would be less than significant. Therefore, the cumulative impact to libraries from successive projects of the same type in the same place over time would not be significant.

11.6 Utilities

11.6.1 Wastewater

Implementation of the Project combined with all Related Projects will increase the generation for wastewater treatment, as shown in **Table 11-3**. The remaining treatment capacity of the HTP (175 mgd) will accommodate the wastewater treatment requirements of the Related Projects. The cumulative generation will create the need for 0.63 percent of the remaining capacity of the HTP, and not result in any significant impacts related to sewer treatment.

No new or upgraded treatment facilities will be required to serve the Project, and it is unlikely that any subsequent projects will significantly impact remaining capacity. Therefore, the cumulative wastewater impact from successive projects of the same type in the same place over time will not be significant.

Table 11-3
Project + Related Projects Estimated Wastewater Generation

Land Use	Total Size	Rate	Wastewater (gpd)
Residential	3,912 units	150 gallons / unit	586,800
Retail	73,695 sf	50 gallons / 1,000 sf	3,685
Office	2,830,872 sf	120 gallons / 1,000 sf	339,705
Hotel	848 rooms	120 gallons / room	101,760
Restaurant	171,245 sf	300 gallons / 1,000 sf	51,374
		Related Projects Total	**1,083,324**
		Project Total	53,670
		Cumulative Total	**1,136,994**

gpd = gallons per day
Los Angeles Bureau of Sanitation, Sewage Generation Factor, effective date April 6, 2012.

162 LAPL Locations: http://www.lapl.org/branches

11.6.2 Water

Implementation of the Project combined with all Related Projects will result in a net increase in water consumption within LADWP's service area, as shown in **Table 11-4**. Similar to the Project, the water supply needs of those Related Projects that are consistent with the City's General Plan have been accounted for in the 2020 UWMP.[163] However, the applicants of all projects within LADWP's service area will be required to consult with LADWP to determine the specific water supply needs of each respective project, appropriate water conservation measures to minimize water usage, and LADWP's ability to serve each Related Projects.

Larger developments (e.g., residential projects with 500 or more units) will also be required to prepare and obtain approval of a Water Supply Assessment from LADWP.

In addition, the Project will use a small fraction of one percent of the remaining capacity of the LAAFP, and, therefore, will not result in any significant impacts related to water treatment. No new or upgraded treatment facilities will be required to serve the Project, and it is unlikely that any subsequent projects will significantly impact remaining capacity. As such, the cumulative water impact of successive projects of the same type in the same place over time will not be significant.

Table 11-4
Project + Related Projects Estimated Water Demand

Land Use	Total Size	Rate	Water (gpd)
Residential	3,912 units	150 gallons / unit	586,800
Retail	73,695 sf	50 gallons / 1,000 sf	3,685
Office	2,830,872 sf	120 gallons / 1,000 sf	339,705
Hotel	848 rooms	120 gallons / room	101,760
Restaurant	171,245 sf	300 gallons / 1,000 sf	51,374
		Related Projects Total	**1,083,324**
		Project Total	53,670
		Cumulative Total	**1,136,994**

gpd = gallons per day
Los Angeles Bureau of Sanitation, Sewage Generation Factor, effective date April 6, 2012.

11.6.3 Solid Waste

Implementation of the Project combined with all Related Projects will increase the need for landfill capacity, as shown in **Table 11-5**. All development in the City is required to comply with the City's Curbside Recycling Program and the Construction and Demolition Waste Recycling Ordinance to minimize the amount of solid waste generated and the need for landfill capacity. As discussed previously, the landfills serving the Project area have more than adequate capacity to accommodate the Project. Therefore, cumulative solid waste impact from successive projects of the same type in the same place over time will not be significant.

163 LADWP, UWMP, 2020, page II-20: https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-water/a-w-sourcesofsupply/a-w-sos-uwmpln;jsessionid=0LnWhxdVj2JJg2Vm6Xrr4rmqyLL9GtlpLdJBQxVQgdb53TnwhJRB!-1106340359?_afrLoop=151440072116797&_afrWindowMode=0&_afrWindowId=null#%40%3F_afrWindowId%3Dnull%26_afrLoop%3D151440072116797%26_afrWindowMode%3D0%26_adf.ctrl-state%3Dw319yjmek_4

Table 11-5
Project + Related Projects Estimated Solid Waste Generation

Land Use	Total Size	Rate	Solid Waste (tons/yr)
Residential	3,912 units	2.23 tons / unit	8,724
Retail	73,695 sf	0.91 / 1,000 sf	67
Office	2,830,872 sf	1.095 / 1,000 sf	3,100
Hotel	848 rooms	0.73 / room	619
Restaurant	171,245 sf	0.91 / 1,000 sf	156
		Related Projects Total	**12,666**
		Project Total	**348**
		Cumulative Total	**13.014**
1 ton = 2,000 pounds; 1 year = 365 days https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates			

The Project's contribution to cumulative wastewater, water, and solid waste impacts will not be cumulatively considerable and, therefore, cumulative impacts will be less than significant.

11.7 Conclusion

Therefore, there are no cumulative significant impacts, and this exception does not apply to the Project.

12 Guideline 15300.2. Exceptions: (c) Significant Effect.

A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

This section is based on the following items, included as **Appendix H** of this CE:

H-1 Geotechnical Engineering Investigation, Geotechnologies, Inc., December 9, 2021

H-2 Approval Letter, Los Angeles Department of Building and Safety, July 29, 2022

12.1 Introduction

The Project would not have a significant effect on the environment and there are no unusual circumstances associated with the Project, the Project Site, or the vicinity. The Project Site is in an area that is highly urbanized, currently fully developed with commercial buildings and parking area, and flat. There are no unusual circumstances related to the development of the Project's uses at this location. The Project will be required to comply with all applicable regulatory measures.

The overall mass and scale of the building is compatible with the surrounding built environment. The traditional land use pattern of this section of Vine Street and Lexington Avenue include a mix of commercial uses such as retail strip malls, individual businesses, and some multi-story residential buildings. There are numerous multi-story buildings in the area ranging from two to eight stories. The newly constructed Jardin Residential Building located at 6390 De Longpre Avenue reaches 20 stories, and is complemented by other high-rise construction throughout this Hollywood neighborhood, including the 7-story residential building (Rise Hollywood, 1331 Cahuenga Boulevard) and 5-story office building (Netflix on Vine, 1341 Vine Street). The Project fits in with the context of neighboring buildings and with the pattern of new and proposed construction throughout Hollywood.

12.2 Unusual Circumstances

The Project proposes an infill development that is consistent with the existing zoning, General Plan land use designation, and all objectives of the Community Plan.

The Project Site is not located in a designated significant ecological area[164] or other overlay that would denote special circumstances.

12.3 Methane

The Site is not within a Methane Zone.[165]

164 NavigateLA, Special Areas layer: https://navigatela.lacity.org/navigatela/

165 http://zimas.lacity.org, accessed October 13, 2022.

12.4 Oil and Gas Fields

The Site is not within the limits of the LA City oil field.[166] The closest mapped oil well is the Salt Lake Oil Field approximately 3,300 feet south of the Site.[167] According to a review of the California Department of Geological Energy Management (CalGEM) map, the nearest oil well is identified as API 0403720765, and located 725 feet northeast of the Site at 6220 Afton Place.[168]

12.5 Geotechnical Considerations

According to the California Department of Conservation, the Project Site is:[169]

- not within an earthquake fault zone
- not within a liquefaction zone
- not within a landslide zone

Further, the State of California Seismic Hazard Zone Map for the Hollywood Quadrangle indicates that the Site is not located within an area identified as having a potential for liquefaction. Also, according to the Los Angeles Safety Element, the Site is not located within an area identified as having a potential for liquefaction.

As a conservative measure, the Geotechnical Engineering Investigation conducted a site-specific liquefaction analysis. The site-specific liquefaction analysis, indicates that the site soils would not be prone to liquefaction during the ground motion expected during the design-based seismic event.[170]

The Project will comply with design criteria provided in the Geotechnical Engineering Investigation including the Uniform Building Code Section 1804.5 (Liquefaction Potential and Soil Strength Loss). The Project will be completed in accordance with the provisions of the most current applicable building code and requirements of the LADBS. The Geotechnical Engineering Investigation was reviewed and approved by LADBS.[171]

12.6 Conclusion

There are no unusual circumstances that may result in any significant environmental effects, and this exception does not apply to the Project.

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166 Geotechnical, Oil/Gas Fields layer, https://navigatela.lacity.org/navigatela/, accessed October 13, 2022.

167 California Department of Conservation Wellfinder map: https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-118.35524/34.02773/14, accessed October 13, 2022.

168 California Department of Conservation Wellfinder map: https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-118.36887/34.16208/15, accessed October 13, 2022.

169 California Department of Conservation: https://maps.conservation.ca.gov/cgs/EQZApp/, accessed October 13, 2022.

170 Geotechnical Engineering Investigation, Geotechnologies, Inc., December 9, 2021.

171 Approval Letter, Los Angeles Department of Building and Safety. July 29, 2022.

13 Guideline 15300.2. Exceptions: (d) Scenic Highways.

A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

This exception applies only to projects within a designated state scenic highway. The closest officially designated state scenic highways are:[172]

- State Route 27, Topanga Canyon Boulevard, from Mulholland Highway to Pacific Coast Highway. This is 15 miles west of the Site.

- State Route 2, Angeles Crest Highway, from 3 miles north of I-210 in La Canada to the San Bernardino County Line. This is 12 miles northeast of the Site.

The Project Site is not located within or along a designated scenic highway, corridor, or parkway.[173] Vine Street is not designated scenic highways in the area around the Project Site.[174]

Therefore, the Project would not damage a scenic resource within a scenic highway, and this exception does not apply to the Project.

172 Caltrans State Scenic Highways Map: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa, accessed October 13, 2022.

173 California Scenic Highway Mapping Systems: http://www.dot.ca.gov/hq/LandArch/scenichighways/index.htm

174 Mobility Element 2035: https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf

14 Guideline 15300.2. Exceptions: (e) Hazardous Waste Sites.

A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to section 65962.5 of the government code.

14.1 Cortese List

In meeting the provisions in Government Code Section 65962.5, commonly referred to as the "Cortese List," database resources that provide information regarding identified facilities or sites include EnviroStor, GeoTracker, and other lists compiled by the California Environmental Protection Agency.

According to EnviroStor, there are no cleanup sites, permitted sites, or SLICS (Spills, Leaks, Investigation, and Cleanup) on the Project Site.[175]

According to GeoTracker, there are no other cleanup sites, land disposal sites, military sites WDR sites, permitted UST (Underground Storage Tanks) facilities, monitoring wells, or California Department of Toxic Substance Control (DTSC) cleanup sites or hazardous materials permits on the Project Site.[176]

The Project Site has not been identified as a solid waste disposal site having hazardous waste levels outside of the Waste Management Unit.[177]

There are no active Cease and Desist Orders or Cleanup and Abatement Orders from the California Water Resources Control Board associated with the Project Site.[178]

The Project Site is not subject to corrective action pursuant to the Health and Safety Code, as it has not been identified as a hazardous waste facility.[179]

14.2 Conclusion

The Project would not create a hazard to the public or the environment as a result of being listed on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, this exemption does not apply to the Project.

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175 California Department of Toxic Substance Control, EnviroStor, website: http://www.envirostor.dtsc.ca.gov/public/.

176 California State Water Resources Control Board, GeoTracker, website: http://geotracker.waterboards.ca.gov/map.

177 California Environmental Protection Agency, Cortese List Data Resources, Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit, website: https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-CorteseList-CurrentList.pdf

178 California Environmental Protection Agency, Cortese List Data Resources, List of "Active" CDO and CAO from Water Board, website: http://www.calepa.ca.gov/sitecleanup/corteselist/.

179 California Environmental Protection Agency, Cortese List Data Resources, Cortese List: Section 65962.5(a), website: https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/

15 Guideline 15300.2. Exceptions: (f) Historical Resources.

A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

15.1 Existing Setting

The Site is not subject to a Historic Preservation Review,[180] not listed in HistoricPlacesLA,[181] and not listed in SurveyLA.[182]

15.2 Conclusion

The Project Site has not been listed or eligible for listing in the California Register, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).

Therefore, this exception does not apply to the Project.

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180 http://zimas.lacity.org, accessed October 13, 2022.

181 The Los Angeles Historic Resources Inventory website, HistoricPlacesLA.org, is managed and maintained by the Los Angeles Office of Historic Resources (OHR). It includes properties designated as Los Angeles Historic-Cultural Monuments (HCM) or located within designated Historic Preservation Overlay Zones (HPOZ). http://historicplacesla.org/map, accessed October 13, 2022.

182 The findings of SurveyLA, the citywide historic resource survey of Los Angeles, are also included in HistoricPlacesLA.org as well as individual survey reports for each Community Plan Area (CPA). SurveyLA, Hollywood: https://planning.lacity.org/preservation-design/survey-la-results-hollywood, accessed October 13, 2022.

1200 VINE ST

CONCEPTUAL DESIGN PACKAGE

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A5-0	UNIT PLANS
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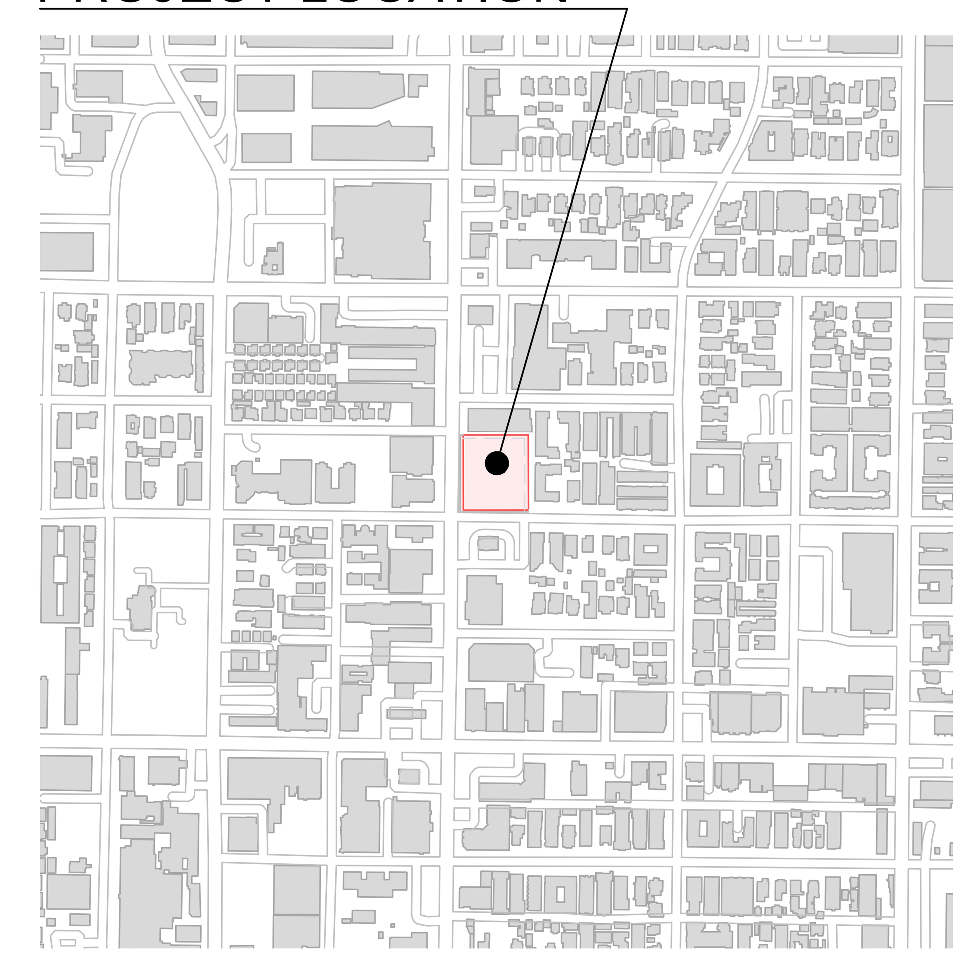
PROJECT LOCATION



VICINITY MAP NTS

PROJECT ZONING

PROJECT NAME	1200 VINE ST	
PROJECT ADDRESS	1200-1218 N. VINE ST 6245-6247 W. LEXINGTON AVE. Los Angeles, CA 90027	
LAND USE	Highway Oriented Commercial	
ASSESSOR PARCEL #	5534-002-023 & 18	
ZONING	[Q] C2-2D-CPIO	
COMMUNITY PLAN	HOLLYWOOD COMMUNITY PLAN - CPIO	
LEGAL DESCRIPTION	Refer to the Site Survey on sheet A0-4: "THE LAND REFERED TO HEREIN BELOW IS SITUATED IN THE CITY OF LOS ANGELES, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS: PARCEL 1: THAT PORTION OF BLOCK 12 OF COLEGROVE, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 53 PAGE 10 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF COUTY RECORDER OF SAID COUNTY. DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE NORTH LINE OF LEXINGTON AVENUE (FORMERLY EMILTA AVENUE) WITH THE EAST LINE OF VINE STREET; THENCE NORTHERLY ALONG SAID EASE LINE OF VINE STREET 150 FEET; THENCE EAST PARALLEL WITH SAID NORTH LINE OF LEXINGTON AVENUE 198 FEET; THENCE SOUTHERLY PARALLEL WITH SAID EAST LINE OF VINE STREET 150 FEET TO THE NORTH LINE OF SAID LEXINGTON AVENUE; THENCE WESTERLY ALONG SAID NORTHERLY LINE TO THE POINT OF BEGINNING. PARCEL 2: THAT PORTION OF BLOCK 12 OF COLEGROVE, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 53 PAGE 10 OF MISCELLANEOUS RECORDS OF SAID COUNTY. DESCRIBED AS PARCELS NO. 2 AND NO. 3 IN DEED TO CITY OF LOS ANGELES RECORDED IN BOOK 7822, PAGE44 OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.	
COMBINED SITE AREA	40,786	0.936 AC
SETBACKS		
	REQUIRED	PROPOSED
FRONT (Lexington)	com. 0' _ Res. 0'	com. 0' _ Res. 0'
SIDE (Vine)	com. 0' _ Res. 0'	com. 0' _ Res. 0'
SIDE (Abutting Prop.)	com. 0' _ Res. 11'	com. 0' _ Res. 11'
REAR (Abutting Prop.)	com. 0' _ Res. 20'	com. 0' _ Res. 10'

PROJECT SUMMARY & DATA

LOT AREA	40,786 SF	0.936 AC
DENSITY		
C2-1D ZONE (BASE) *1/400SF* 102 UNITS	**[Q] C2-2D-CPIO** *1/275SF* 148 UNITS	**DB AB-2345** *50% INCREASE* **153 UNITS** *17% VLI UNITS - 18 UNITS*
PROPOSED DENSITY	**163.4 DU/AC**	
FAR		
PROPOSED FAR	**143,295 SF**	**3.51 :1**
PROGRAM	RETAIL	7,000 SF
	LEASING	2,160 SF
	FITNESS	1,000 SF
	CLUB ROOMS	1,735 SF
	RESIDENTIAL NRSF	**104,533 SF**
PROPOSED MIX		
STUDIO	21 UNITS	14% AVE. 435 SF
1-BED	89 UNITS	58% AVE. 580 SF
2-BED	43 UNITS	28% AVE. 1,018 SF
TOTAL	**153 UNITS**	**100% AVE. 683 SF**
HEIGHT		
PERMITTED	UNLIMITED	
PROPOSED	88'-6" _ 8 STORIES	
PARKING		
REQUIRED	92 SPACES	
PROPOSED	93 SPACES	
OPEN SPACE		
REQUIRED	16,375 SF	
PROPOSED	21,569 SF	

FAR TABLE

LOT SIZE: 40,786 SQFT

	FAR	SQFT PERMITTED
C2-1D ZONE	.5 :1	20,393 SF
[Q]C2-2D-CPIO *(BASE)*	1.5 :1	61,179 SF
[Q]C2-2D-CPIO *(BONUS)*	3.0 :1	122,358 SF
PROPOSED	**3.5 :1**	**143,295 SF**

INCENTIVES

	BASE ZONING (C2-1D ZONE)	HOLLYWOOD CPU [Q] C2-2D-CPIO CORRIDOR 2 SUBAREA	DENSITY BONUS AB 2345	PROVIDED
FAR	0.5:1 20,393 SF	1.5:1 61,179 SF	3.0:1 122,358 SF	**3.5:1** **143,295 SF**
SETBACKS	FRONT: COM. 0' _ RES. 0' SIDE: COM. 0' _ RES. 0' SIDE: COM. 0' _ RES. 11' REAR: COM. 0' _ RES. 20'	FRONT: COM. 0' _ RES. 0' SIDE: COM. 0' _ RES. 0' SIDE: COM. 0' _ RES. 5' REAR: COM. 0' _ RES. 5'	FRONT: COM. 0' _ RES. 0' SIDE: COM. 0' _ RES. 0' SIDE: COM. 0' _ RES. 11' REAR: COM. 0' _ RES. 20'	FRONT: COM. 0' _ RES. 0' SIDE: COM. 0' _ RES. 0' SIDE: COM. 0' _ RES. 11' **REAR: COM. 0' _ RES. 10'** **(50% REDUSTION IN THE REAR SETBACK)**

PARKING

REQUIRED PARKING	**RESIDENTIAL**					
	UNIT COUNT		**AB 2345**		***Included in the total count***	
STUDIO UNITS	21	13.7%	0.5 PER UNIT	11	***ADA REQ'D*** *2% of total standrad stalls + 2% of EV Ready stalls*	***EV READY*** *30% of total, inc. 10% EVCS*
ONE BEDROOM UNITS	89	58.2%	0.5 PER UNIT	45		
TWO BEDROOM UNITS	43	28.1%	0.5 PER UNIT	22		
	153 UNITS		**TOTAL**	**78 SPACES**	*3 SPACES*	*24 SPACES*
REQUIRED PARKING	**COMMERCIAL**					
GROUND FLOOR RETAIL	7,000 SF	2 PER 1,000 SF		**14 SPACES**	*2 SPACES*	*5 SPACES*
TOTAL			**AB 2345:**	**92 SPACES**	*5 SPACES*	*29 SPACES*

PARKING

PROVIDED PARKING	**RESIDENTIAL**					
	COMPACT	STANDARD	EV READY	EV READY ADA	ADA	TOTAL
1st FLOOR	3	3	19	0	1	26
2nd FLOOR	6	39	5	1	1	52
TOTAL OF EACH STALL TYPE	**9**	**42**	**24**	**1**	**2**	
TOTAL PROVIDED	**78 SPACES**					**0.51 SPACE/UNIT**

PROVIDED PARKING	**COMMERCIAL**					
	COMPACT	STANDARD	EV READY	EV READY ADA	ADA	TOTAL
1st FLOOR	3	7	3	1	1	15
2nd FLOOR	0	0	0	0	0	0
TOTAL OF EACH STALL TYPE	**3**	**7**	**3**	**1**	**1**	
TOTAL PROVIDED	**15 SPACES**					**1 SPACE / 400 SF**

BIKE PARKING

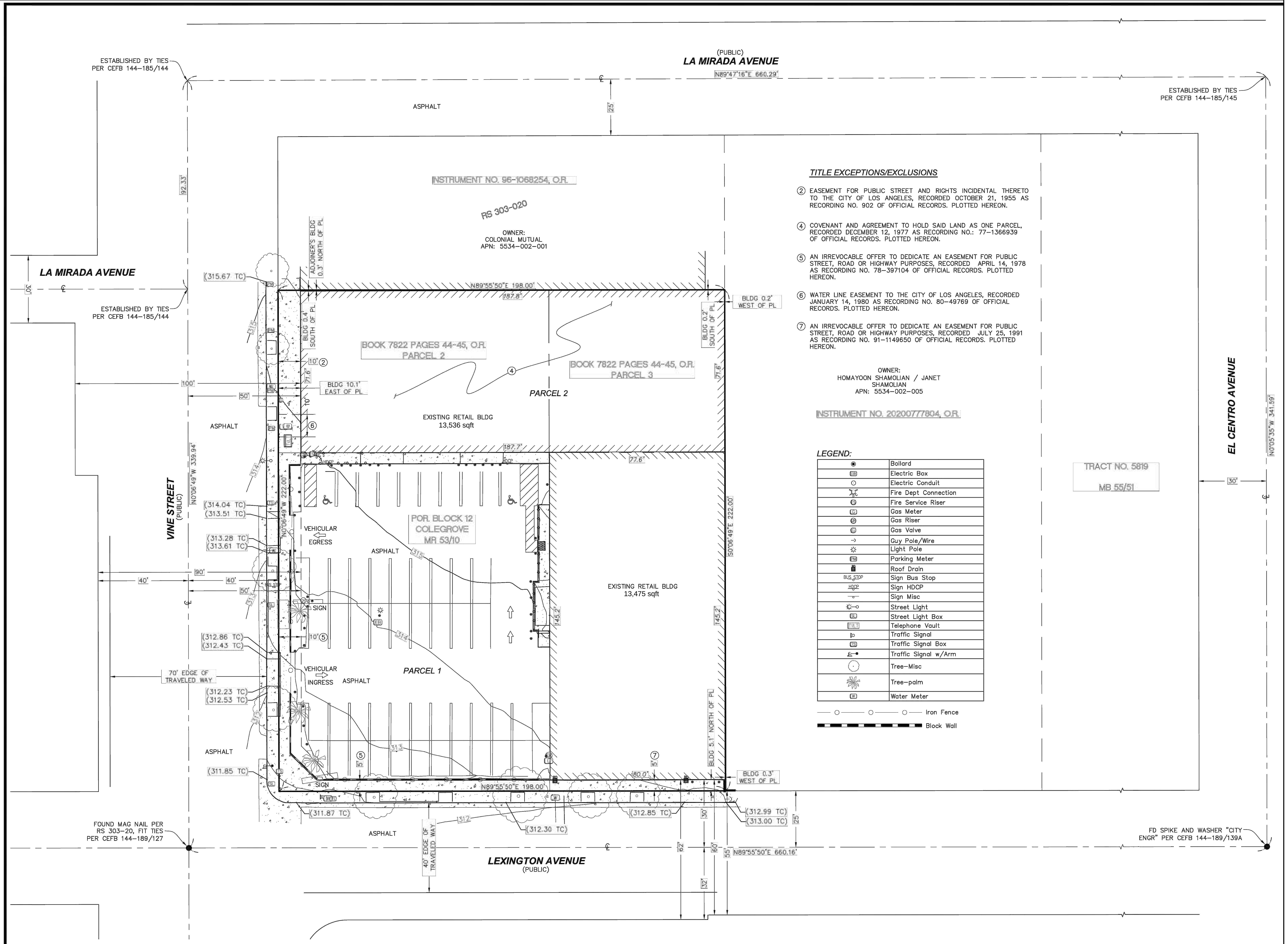
LONG-TERM			
DWELLING UNITS	**RATIO**	**DU**	**TOTAL**
1-25 DU	1	25	25.0
26-100 DU	0.67	75	50.0
101-200 DU	0.5	53	26.5
COMMERCIAL	**RATIO / SQFT**	**SQFT**	**TOTAL**
	2000	7000	3.5
TOTAL REQUIRED			**105.0**
TOTAL PROPOSED			**106**

SHORT-TERM			
DWELLING UNITS	**RATIO**	**DU**	**TOTAL**
1-25 DU	0.10	25	2.5
26-100 DU	0.07	75	5.0
101-200 DU	0.05	53	2.7
COMMERCIAL	**RATIO / SQFT**	**SQFT**	**TOTAL**
	2000	7000	3.5
TOTAL REQUIRED			**13.7**
TOTAL PROPOSED			**14**

OPEN SPACE

REQUIRED	**OPEN SPACE _ PER R4 ZONE**		
STUDIO UNITS	21	100 PER UNIT	2,100
ONE BEDROOM UNITS	89	100 PER UNIT	8,900
TWO BEDROOM UNITS	43	125 PER UNIT	5,375
	153 UNITS	**REQUIRED OPEN SPACE**	**16,375 SF**

PROVIDED	**OPEN SPACE**
PRIVATE DECKS (50sf max.)	7,650 SF
OUTDOOR OPEN SPACE - L1	1,700 SF
CO-WORK DECK - L2	NA
PODIUM COURTYARD - L3	6,255 SF
ROOF DECK A - L8	870 SF
ROOF DECK B - L8	1,000 SF
INDOOR AMENITIES (max. 25% of total req.)	4,094 SF
TOTAL	**21,569 SF**



TITLE EXCEPTIONS/EXCLUSIONS

(2) EASEMENT FOR PUBLIC STREET AND RIGHTS INCIDENTAL THERETO TO THE CITY OF LOS ANGELES, RECORDED OCTOBER 21, 1955 AS RECORDING NO. 902 OF OFFICIAL RECORDS. PLOTTED HEREON.

(4) COVENANT AND AGREEMENT TO HOLD SAID LAND AS ONE PARCEL, RECORDED DECEMBER 12, 1977 AS RECORDING NO.: 77-1366939 OF OFFICIAL RECORDS. PLOTTED HEREON.

(5) AN IRREVOCABLE OFFER TO DEDICATE AN EASEMENT FOR PUBLIC STREET, ROAD OR HIGHWAY PURPOSES, RECORDED APRIL 14, 1978 AS RECORDING NO. 78-397104 OF OFFICIAL RECORDS. PLOTTED HEREON.

(6) WATER LINE EASEMENT TO THE CITY OF LOS ANGELES, RECORDED JANUARY 14, 1980 AS RECORDING NO. 80-49769 OF OFFICIAL RECORDS. PLOTTED HEREON.

(7) AN IRREVOCABLE OFFER TO DEDICATE AN EASEMENT FOR PUBLIC STREET, ROAD OR HIGHWAY PURPOSES, RECORDED JULY 25, 1991 AS RECORDING NO. 91-1149650 OF OFFICIAL RECORDS. PLOTTED HEREON.

OWNER:
HOMAYOON SHAMOLIAN / JANET SHAMOLIAN
APN: 5534-002-005

INSTRUMENT NO. 20200777804, O.R.

LEGEND:

Symbol	Description
	Bollard
	Electric Box
	Electric Conduit
	Fire Dept Connection
	Fire Service Riser
	Gas Meter
	Gas Riser
	Gas Valve
	Guy Pole/Wire
	Light Pole
	Parking Meter
	Roof Drain
BUS STOP	Sign Bus Stop
	Sign HDCP
	Sign Misc
	Street Light
	Street Light Box
TELE	Telephone Vault
	Traffic Signal
	Traffic Signal Box
	Traffic Signal w/Arm
	Tree-Misc
	Tree-palm
	Water Meter

Iron Fence

Block Wall

CERTIFICATION

TO MIG REAL ESTATE AND/OR ITS ASSIGNS AND SUCCESSORS AND CHICAGO TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6A, 7A, 7B1, 8, 9, 10, 11, 13, 14, 16, 17, & 20 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 09/16/2020.

DATE OF PLAT OR MAP: 09/24/2020
DATE OF LAST REVISION: 10/13/2020

JOHN P. GERVAIS
PLS 8674

PROFESSIONAL LAND SURVEYOR
JOHN P. GERVAIS
No.8674
STATE OF CALIFORNIA

SURVEYOR'S NOTES

THIS SURVEY WAS MADE ON THE GROUND UNDER MY SUPERVISION.

INFORMATION SHOWN HEREON IS BASED ON CHICAGO TITLE INSURANCE COMPANY ORDER# 00129357-021-PS4-JC DATED AS OF JULY 31, 2020, AS WELL AS A COPY OF EACH INSTRUMENT LISTED THEREIN, AND THE SUBJECT LAND AND EACH PARCEL THEREOF DESCRIBED IN THIS SURVEY IS THE SAME LAND AS DESCRIBED IN THE TITLE COMMENT INDICATED THEREIN.

THE SUBJECT PROPERTY HAS DIRECT PHYSICAL ACCESS TO VINE STREET AND LEXINGTON AVENUE, BOTH PUBLICLY DEDICATED AND MAINTAINED ROADS.

TABLE "A" ITEMS

2. PROPERTY ADDRESS: 1212-1218 VINE ST., LOS ANGELES, CA PER TITLE REPORT.

3. PROPERTY IS IN ZONE X: 0.2% ANNUAL CHANCE FLOOD HAZARD, PER FEMA MAP 06037C1605F, EFFECTIVE ON 09/26/2008.

4. GROSS AREA = 43,956 S.F. / 1.01 AC. ±

5. VERTICAL RELIEF SHOWN HEREON.

6(a). ZONING: C2-1D

A ZONING REPORT OR LETTER WAS NOT PROVIDED BY THE CLIENT. IT IS THE RESPONSIBILITY OF THE INSURED TO VERIFY THE ZONING INFORMATION.

7(a)(b). EXTERIOR DIMENSIONS OF ALL BUILDINGS & SQUARE FOOTAGE OF EXTERIOR BUILDING AT GROUND LEVEL SHOWN HEREON.

8. SUBSTANTIAL FEATURES OBSERVED IN THE PROCESS OF CONDUCTING THE SURVEY ARE SHOWN HEREON.

9. PARKING: 28 REGULAR, 10 TANDEM, 2 ACCESSIBLE. TOTAL = 50 STALLS.

10. N/A

11. LOCATION OF UTILITIES EXISTING ON OR SERVING THE SURVEYED PROPERTY AS DETERMINED BY OBSERVED EVIDENCE ONLY.

13. ADJACENT OWNERS SHOWN HEREON.

14. DISTANCE TO NEAREST INTERSECTION SHOWN HEREON. (SUBJECT PROPERTY IS ADJACENT TO THE NEAREST INTERSECTION).

16. THERE IS NO OBSERVABLE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS.

17. SURVEYOR IS NOT AWARE OF ANY PROPOSED CHANGES IN STREET RIGHT OF WAY LINES. THERE IS NO EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF LOS ANGELES, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

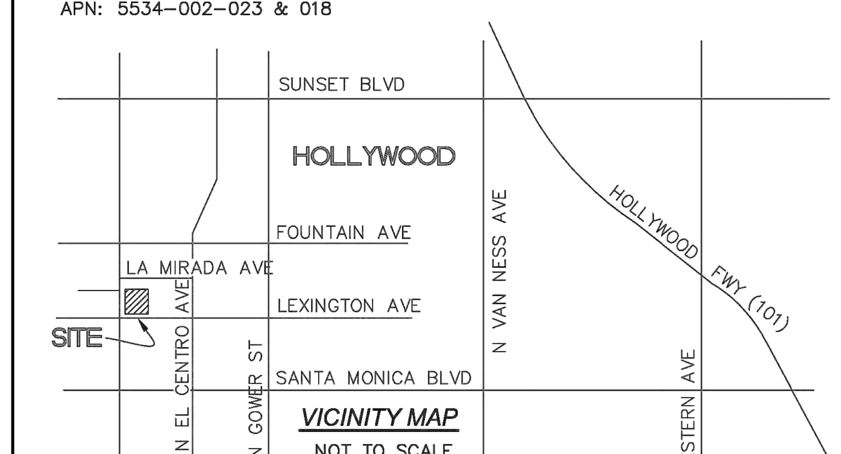
PARCEL 1:

THAT PORTION OF BLOCK 12 OF COLEGROVE, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 53 PAGE 10 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE NORTH LINE OF LEXINGTON AVENUE (FORMERLY EMILITA AVENUE) WITH THE EAST LINE OF VINE STREET; THENCE NORTHERLY ALONG SAID EAST LINE OF VINE STREET 150 FEET; THENCE EAST PARALLEL WITH SAID NORTH LINE OF LEXINGTON AVENUE 198 FEET; THENCE SOUTHERLY PARALLEL WITH SAID EAST LINE OF VINE STREET 150 FEET TO THE NORTH LINE OF SAID LEXINGTON AVENUE; THENCE WESTERLY ALONG SAID NORTHERLY LINE TO THE POINT OF BEGINNING.

PARCEL 2:

THAT PORTION OF BLOCK 12 OF COLEGROVE, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 53, PAGE 10 OF MISCELLANEOUS RECORDS, OF SAID COUNTY, DESCRIBED AS PARCELS NO. 2 AND NO. 3 IN DEED TO CITY OF LOS ANGELES, RECORDED IN BOOK 7822, PAGE 44 OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN: 5534-002-023 & 018



VICINITY MAP
NOT TO SCALE

20 10 0 20 40 60
SCALE: 1"=20'
N

Revisions			
No.	Description	By	Date
1	CLIENT COMMENTS (REVISION TO EXC. ITEM 4)	JPG	10/13/2020

BASIS OF BEARINGS:
THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CENTERLINE OF LEXINGTON AVENUE PER RS 303-20, I.E. N89°55'50"E.

BASIS OF ELEVATIONS:
THE BASIS OF ELEVATIONS FOR THIS SURVEY IS THE CITY OF LOS ANGELES BENCHMARK 12-13650, WIRE SPIKE IN W CURB VINE ST; 9FT N OF LEXINGTON AVE N END CB. EL = 311.692, NAVD 88.

ALTA/NSPS LAND TITLE SURVEY

PORTION BLOCK 12
COLEGROVE, M.R. 53/10
LOS ANGELES, CA

Drawn By: JPG | Project No. 20-121 | Date:
Checked By: | | Sheet 1 of 1

PROJECT NAME:
VINE STREET

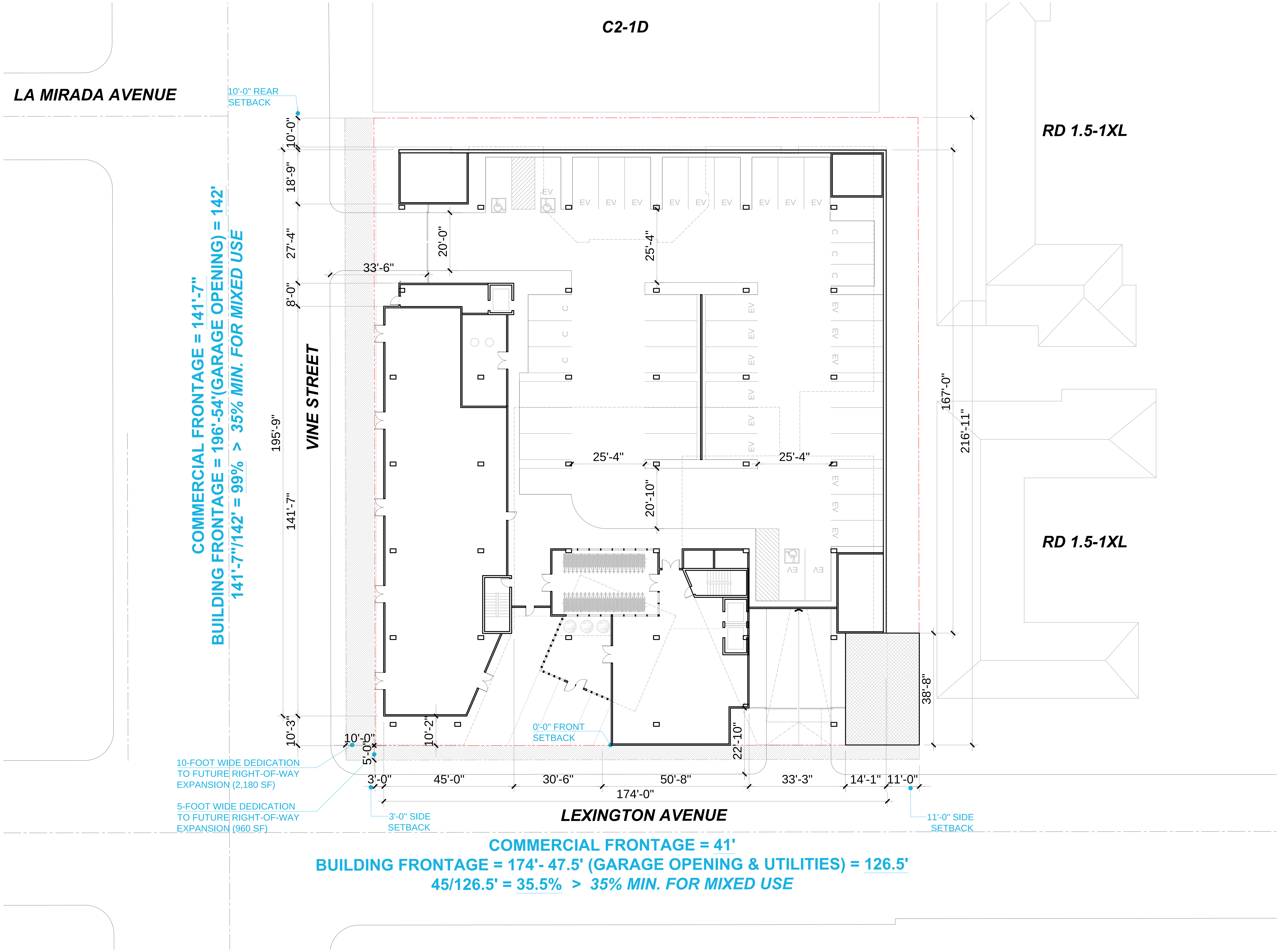
LG LAND SURVEYING, INC.
"Quality Service You Can Count On"
30355 CALLEJO FELIZ TER
VALLEY CENTER, CA 92082
p: 619-535-1172
f: 619-618-1972
www.lglsinc.com

PROJECT SUMMARY
SCHEME A

1200 VINE STREET
LOS ANGELES, CA

ZONING: [Q] C2-2D-CPIO
HOLLYWOOD COMMUNITY PLAN -- TOC TIER 1

AREA: 0.93 ACRES (40,787 SF)
UNITS: 153 DU
DENSITY: 164.5 DU/AC



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Grubb
4601 Park Road, Suite 450
Charlotte, NC 28209

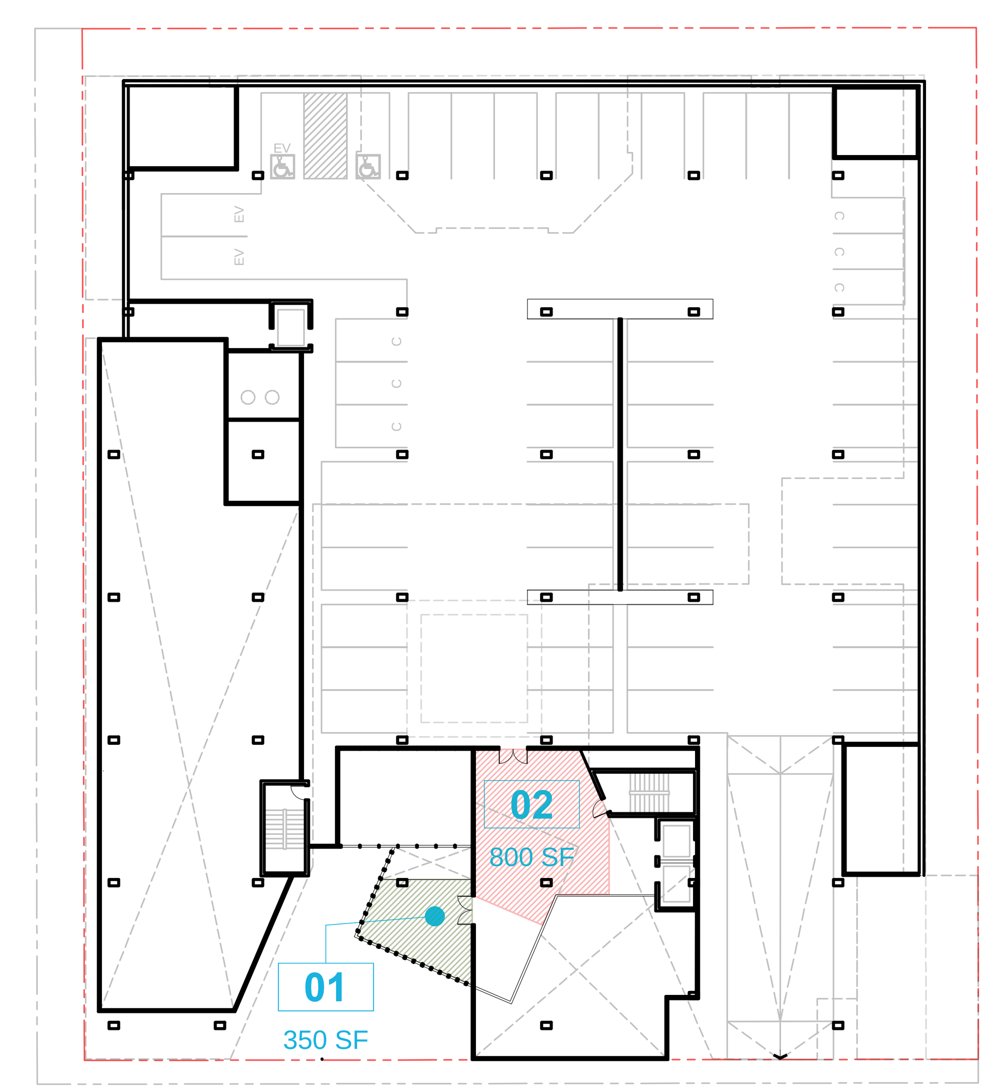
1200 VINE STREET
LOS ANGELES, CA # 2021-1034

CONCEPTUAL DESIGN
JULY 26, 2022

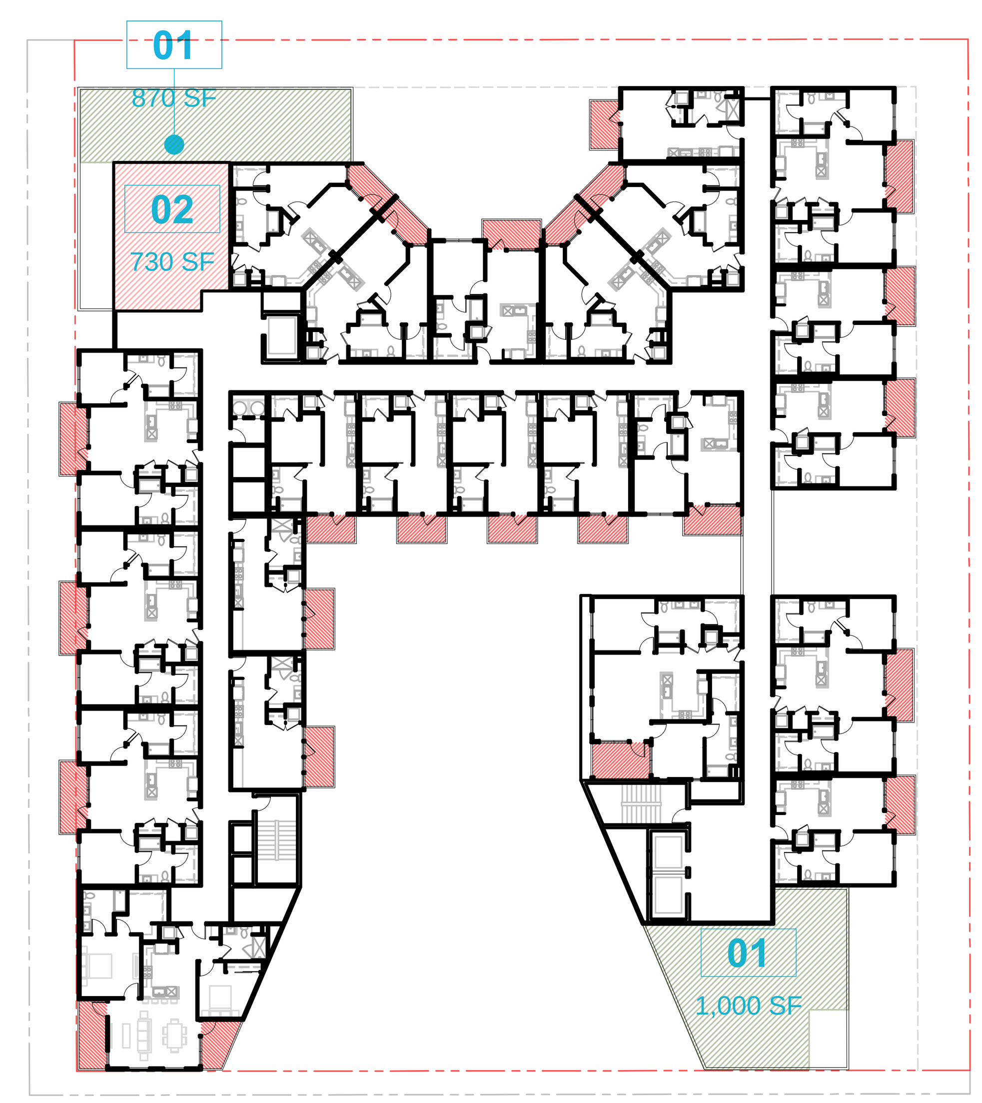
0 8 16 32

SITE PLAN
PROJECT SUMMARY

A1-0



LEVEL 02



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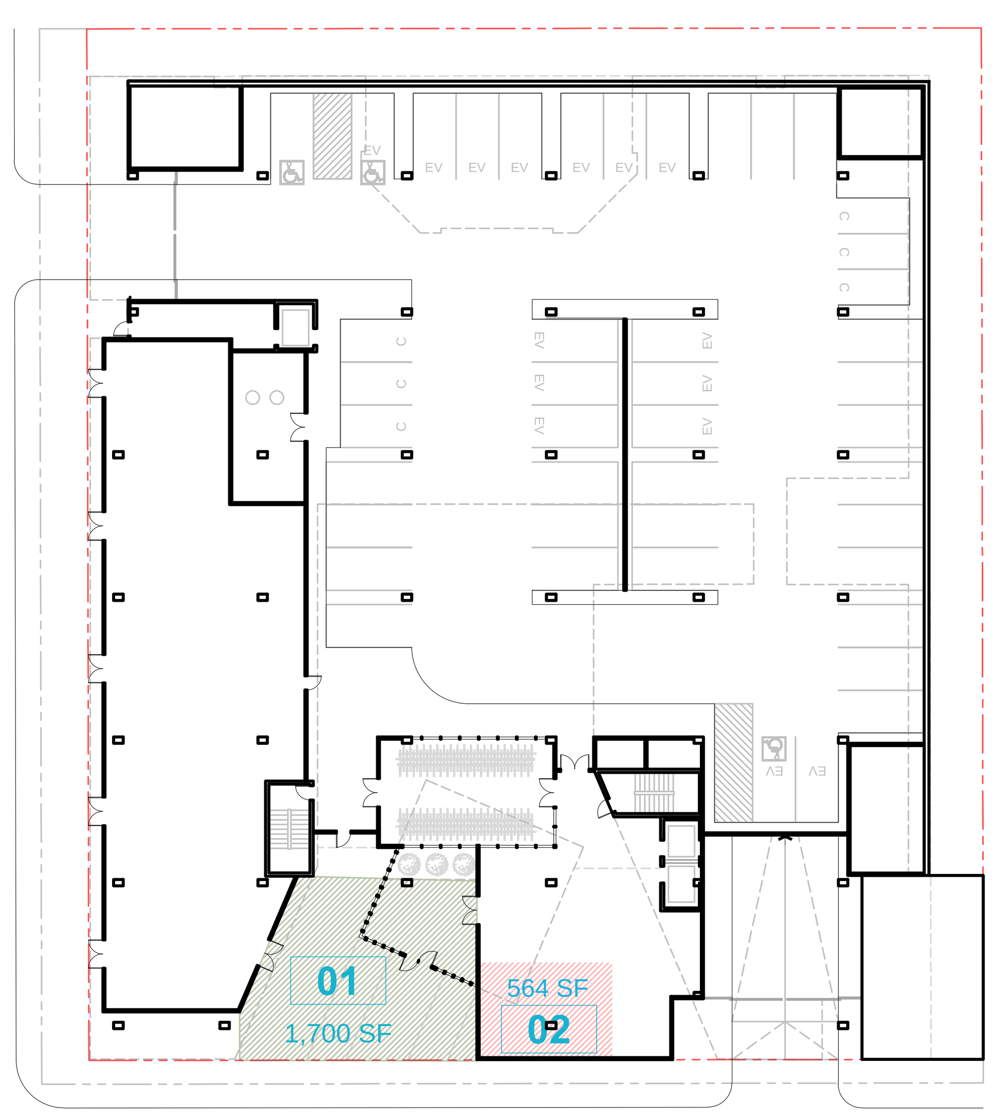
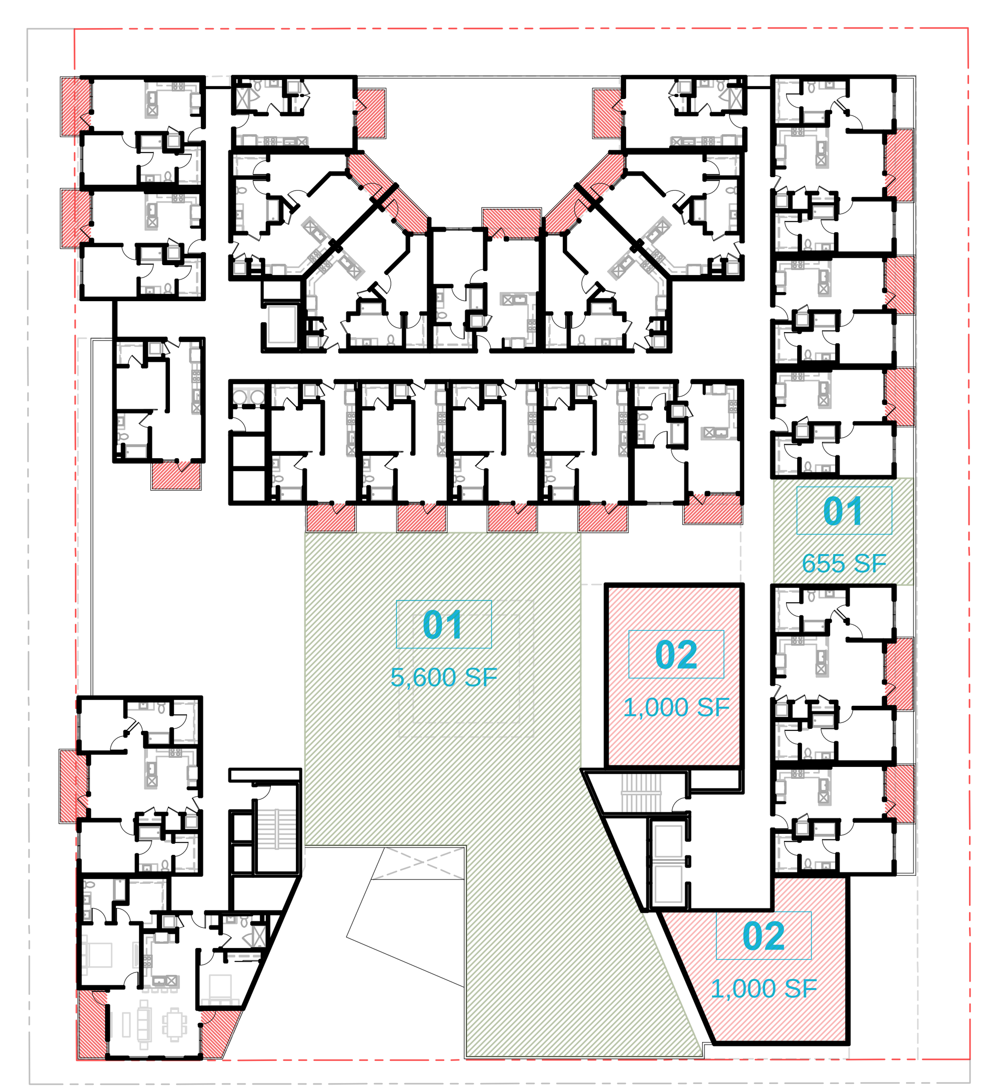


LEVEL 01



LEVEL 03

NOTES

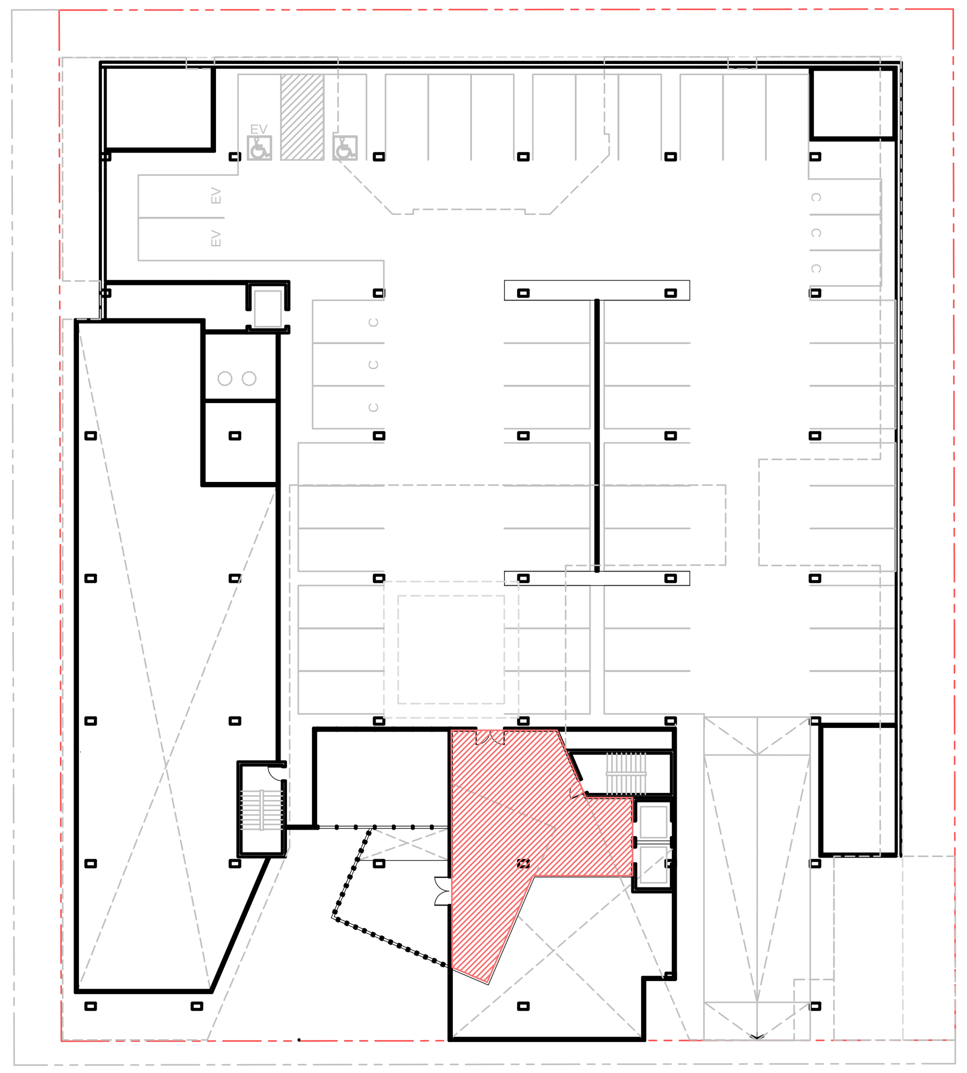
1. 1 TREE PER 4 DU REQUIRED
   153 DU /4 = 39 TREES REQUIRED
   (REFER TO LANDSCAPE DRAWINGS FOR MORE INFO)

SYMBOLS

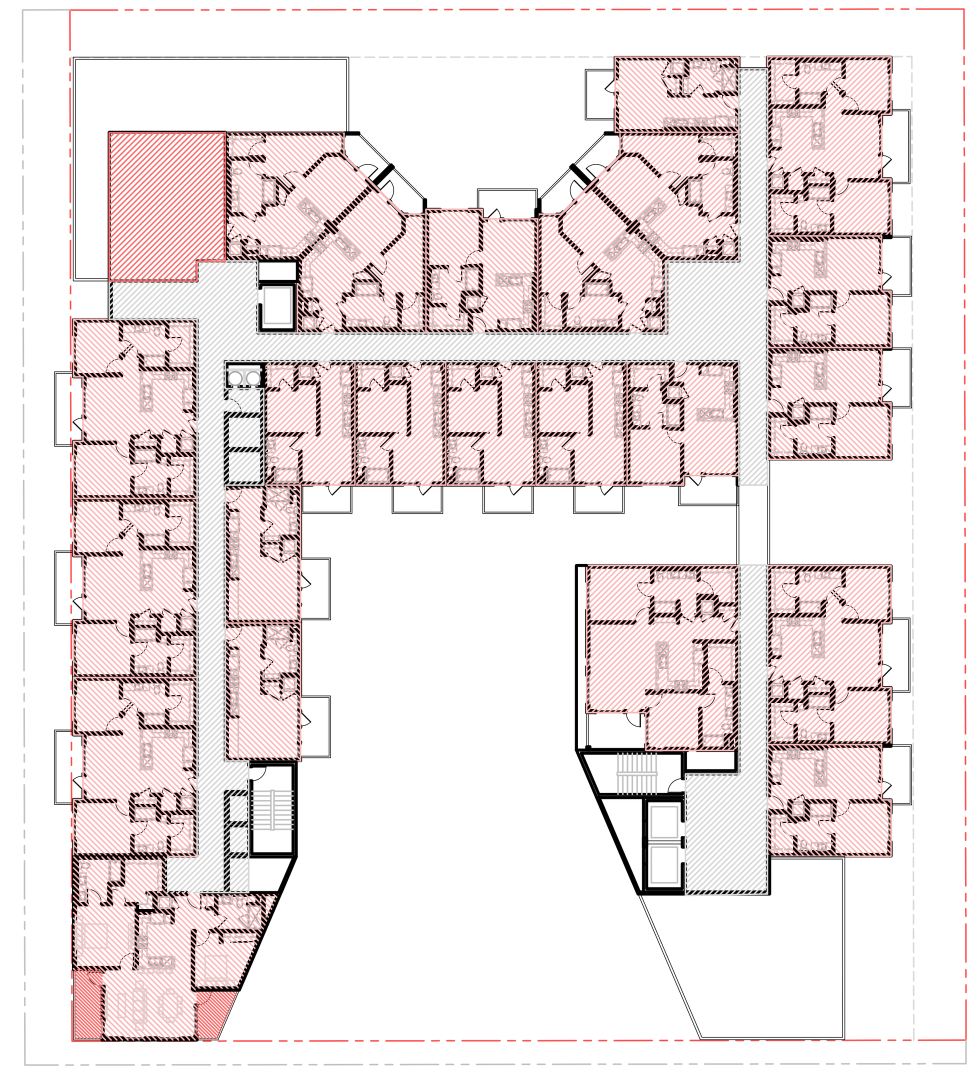
1. OUTDOOR COMMON OPEN SPACE
2. INDOOR COMMON OPEN SPACE
3. PRIVATE OPEN SPACE
   - BALCONIES WITH 6' MIN DIM IN LENGTH AND WIDTH
   - SEE A5-0 UNIT PLAN SHEETS FOR BALCONY DIMS

OPEN SPACE			
REQUIRED	**OPEN SPACE _ PER R4 ZONE**		
STUDIO UNITS	21	100 PER UNIT	2,100
ONE BEDROOM UNITS	89	100 PER UNIT	8,900
TWO BEDROOM UNITS	43	125 PER UNIT	5,375
	153 UNITS	**REQUIRED OPEN SPACE**	**16,375 SF**

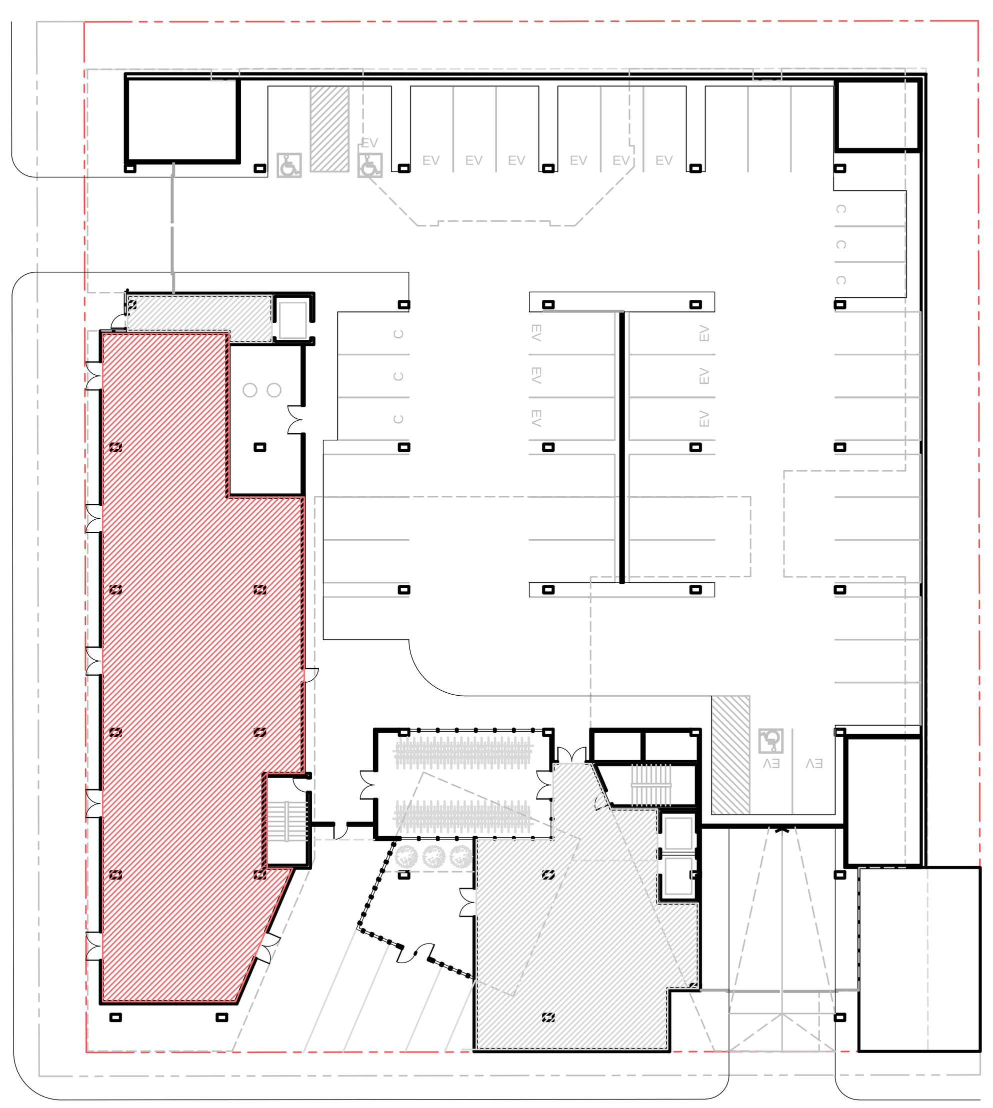
PROVIDED	OPEN SPACE
PRIVATE DECKS (50sf max.)	7,650 SF
OUTDOOR OPEN SPACE - L1	1,700 SF
CO-WORK DECK - L2	NA
PODIUM COURTYARD - L3	6,255 SF
ROOF DECK A - L8	870 SF
ROOF DECK B - L8	1,000 SF
INDOOR AMENITIES (max. 25% of total req.)	4,094 SF
TOTAL	**21,569 SF**



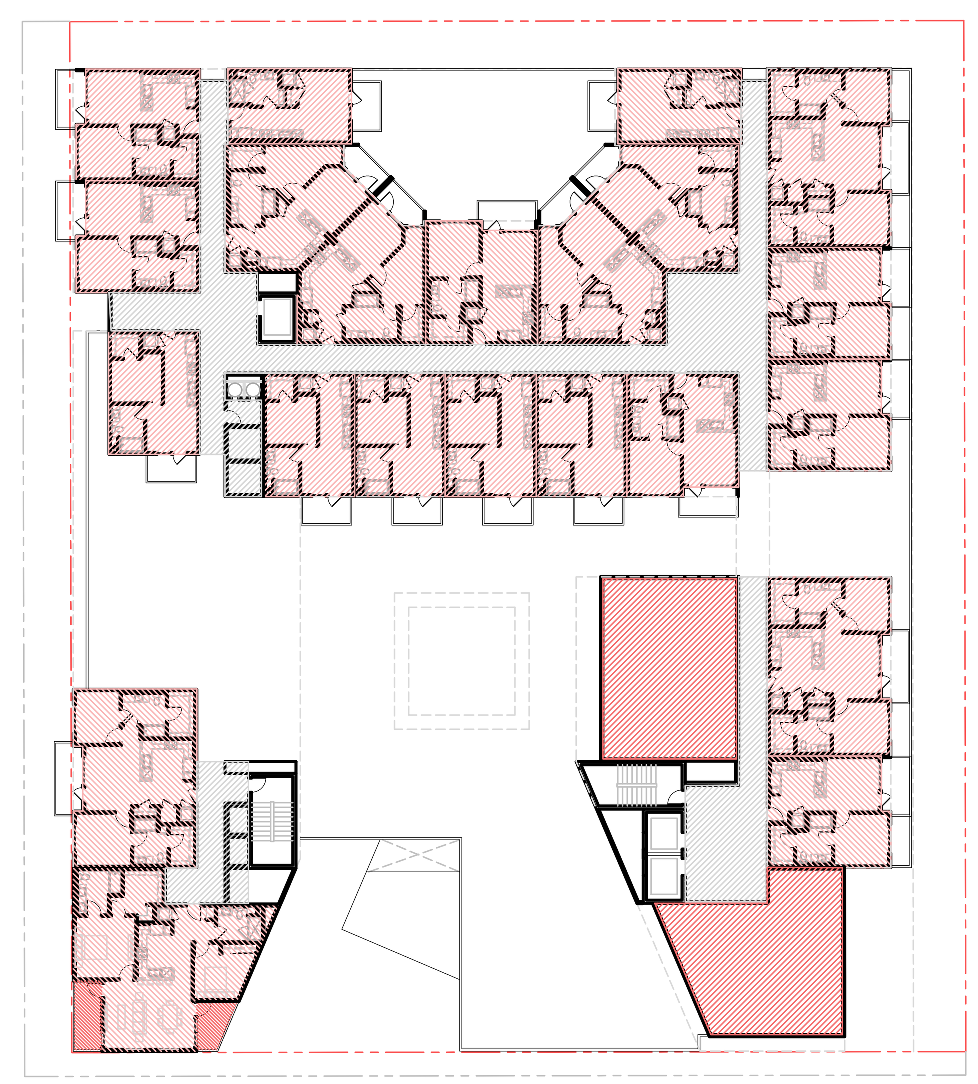
LEVEL 02



LEVEL 08



LEVEL 01



LEVEL 03

SYMBOLS

1. AMENITY SPACE
2. RESIDENTIAL
3. COMMON SPACE

FAR TABLE		
LOT SIZE: 40,786 SQFT		
	FAR	SQFT PERMITTED
C2-1D ZONE	.5 :1	20,393 SF
[Q]C2-2D-CPIO *(BASE)*	1.5 :1	61,179 SF
[Q]C2-2D-CPIO *(BONUS)*	3.0 :1	122,358 SF
PROPOSED	**3.5 :1**	**143,295 SF**

FLOOR AREA SUMMARY

FLOOR / LEVEL	APARTMENT UNITS	RESIDENTIAL UNIT AREA	COMMON AREAS / CIRCULATION	AMENITY/ LOBBY / RETAIL AREA	BALC. AREA (INCL. IN FAR)	TOTAL FLOOR AREA	GARAGE / MECH AREA	GROSS BUILDING AREA
1st FLOOR	0 UNITS	0 SF	950 SF	9,975 SF	0 SF	**10,110 SF**	21,865 SF	**31,975 SF**
2nd FLOOR	0 UNITS	0 SF	101 SF	1,200 SF	0 SF	**1,301 SF**	23,170 SF	**24,471 SF**
3rd FLOOR	22 UNITS	14,033 SF	3,290 SF	2,000 SF	439 SF	**19,762 SF**	0 SF	**19,762 SF**
4th FLOOR	27 UNITS	18,644 SF	3,670 SF	0 SF	578 SF	**22,892 SF**	0 SF	**22,892 SF**
5th FLOOR	27 UNITS	18,644 SF	3,650 SF	0 SF	578 SF	**22,872 SF**	0 SF	**22,872 SF**
6th FLOOR	27 UNITS	18,644 SF	3,650 SF	0 SF	578 SF	**22,872 SF**	0 SF	**22,872 SF**
7th FLOOR	27 UNITS	18,644 SF	3,650 SF	0 SF	578 SF	**22,872 SF**	0 SF	**22,872 SF**
8th FLOOR	23 UNITS	15,924 SF	3,425 SF	735 SF	533 SF	**20,617 SF**	0 SF	**20,617 SF**
Total	**153 UNITS**	104,533 SF	22,386 SF	13,910 SF	3,281 SF	**143,295 SF**	45,035 SF	**188,330 SF**

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4601 Park Road, Suite 450
Charlotte, NC 28209

1200 VINE STREET
LOS ANGELES, CA # 2021-1034

CONCEPTUAL DESIGN
JULY 26, 2022

0 8 16 32

BUILDING PLAN
GROUND FLOOR

A3-0

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1200 VINE STREET
LOS ANGELES, CA # 2021-1034

CONCEPTUAL DESIGN
JULY 26, 2022

0 8 16 32

BUILDING PLAN
SECOND FLOOR

A3-1

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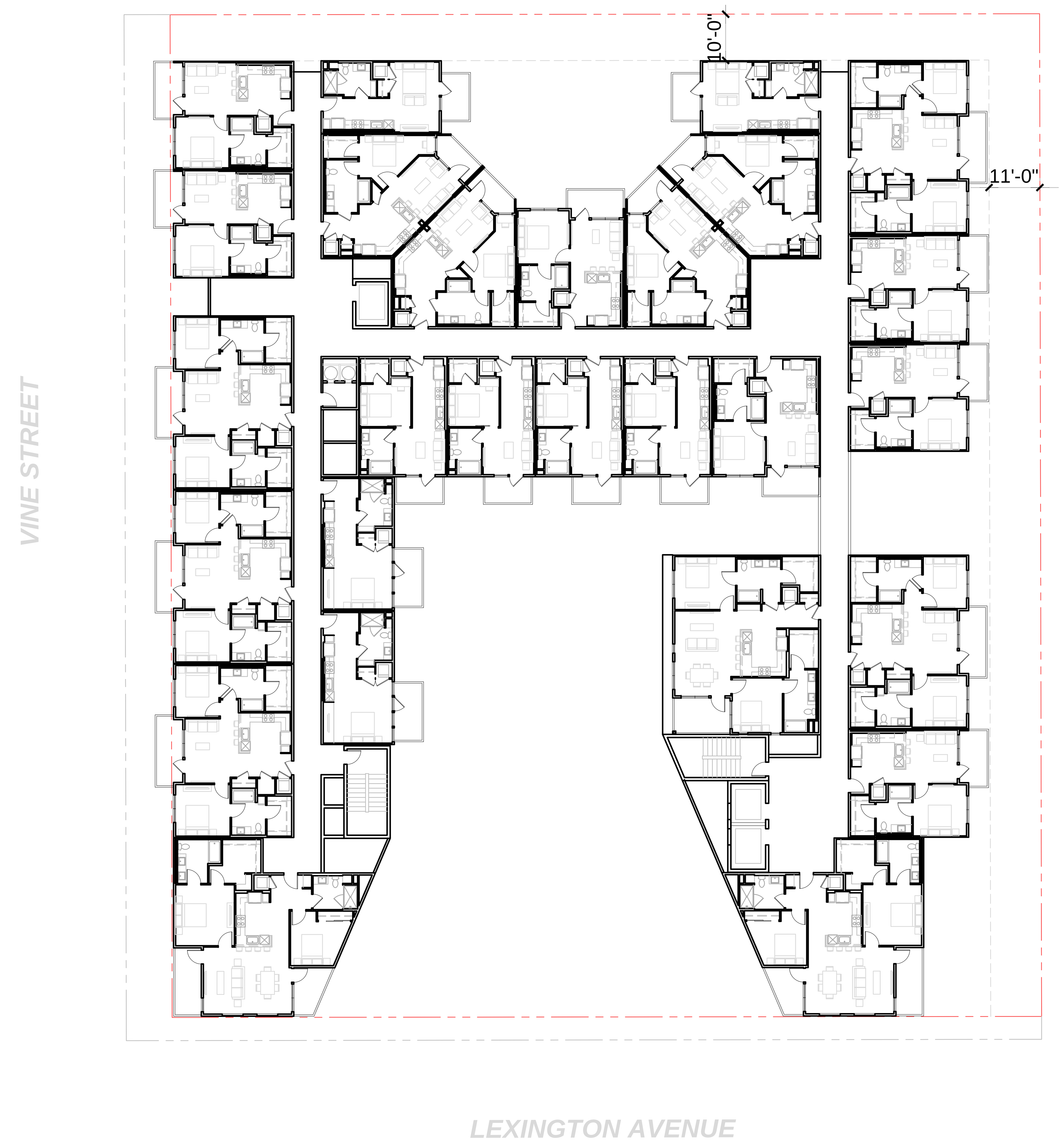
1200 VINE STREET
LOS ANGELES, CA # 2021-1034

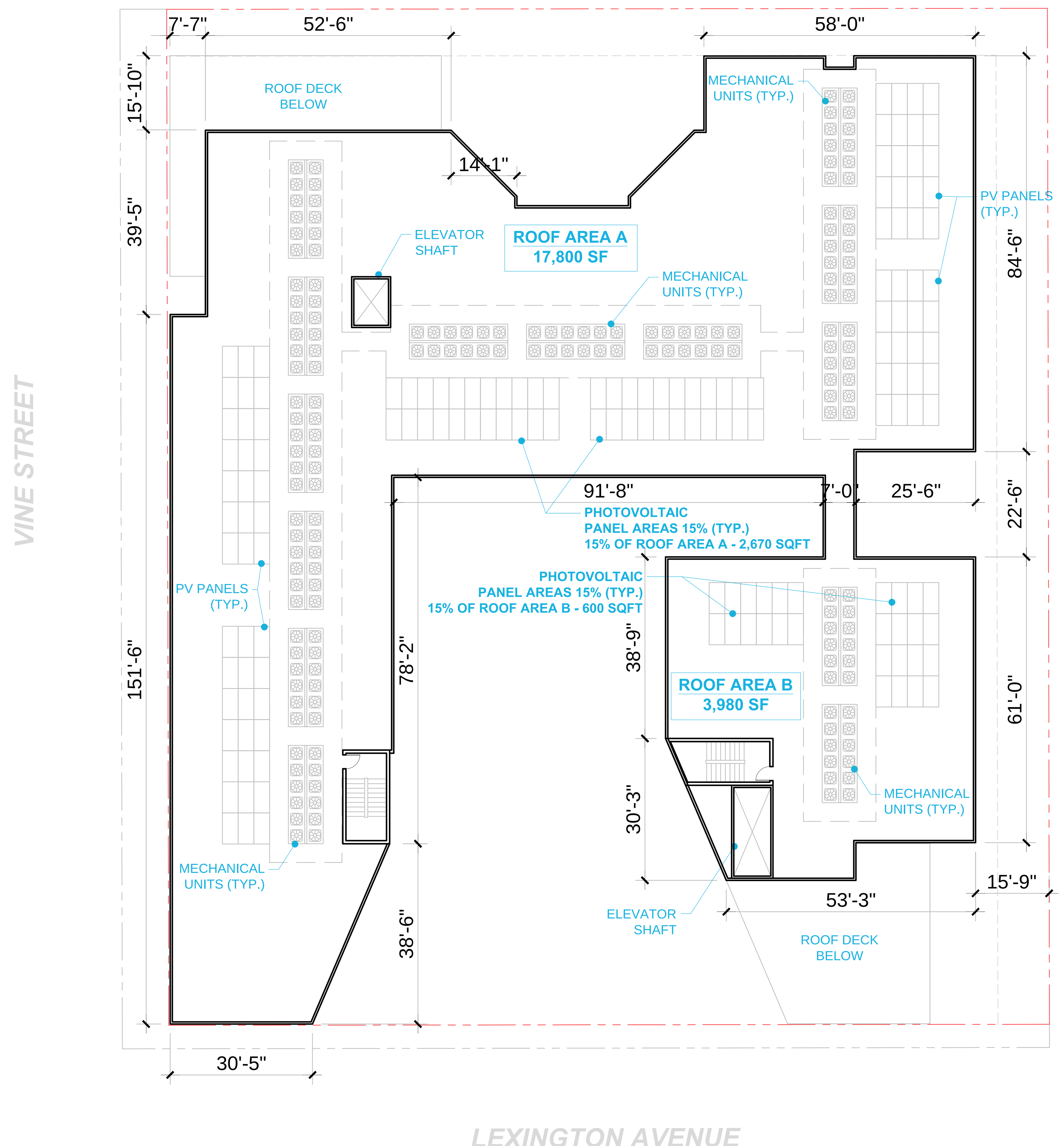
CONCEPTUAL DESIGN
JULY 26, 2022

0 8 16 32

BUILDING PLAN
THIRD FLOOR


10'-0"
11'-0"
VINE STREET
LEXINGTON AVENUE


ROOF DECK
1,100 SF
CLUB ROOM
735 SF
10'-0"
11'-0"
VINE STREET
ROOF DECK
1,200 SF
LEXINGTON AVENUE



PHOTOVOLTAIC REQUIREMENT
15% OF THE ROOF AREA

ROOF AREA A - 17,800 SQFT
_15% OF ROOF AREA A - 2,670 SQFT

ROOF AREA B - 3,980 SQFT
_15% OF ROOF AREA B - 600 SQFT

TOTAL PHOTOVOLTAIC AREA ON ROOF
15% - 3,270 SQFT

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4601 Park Road, Suite 450
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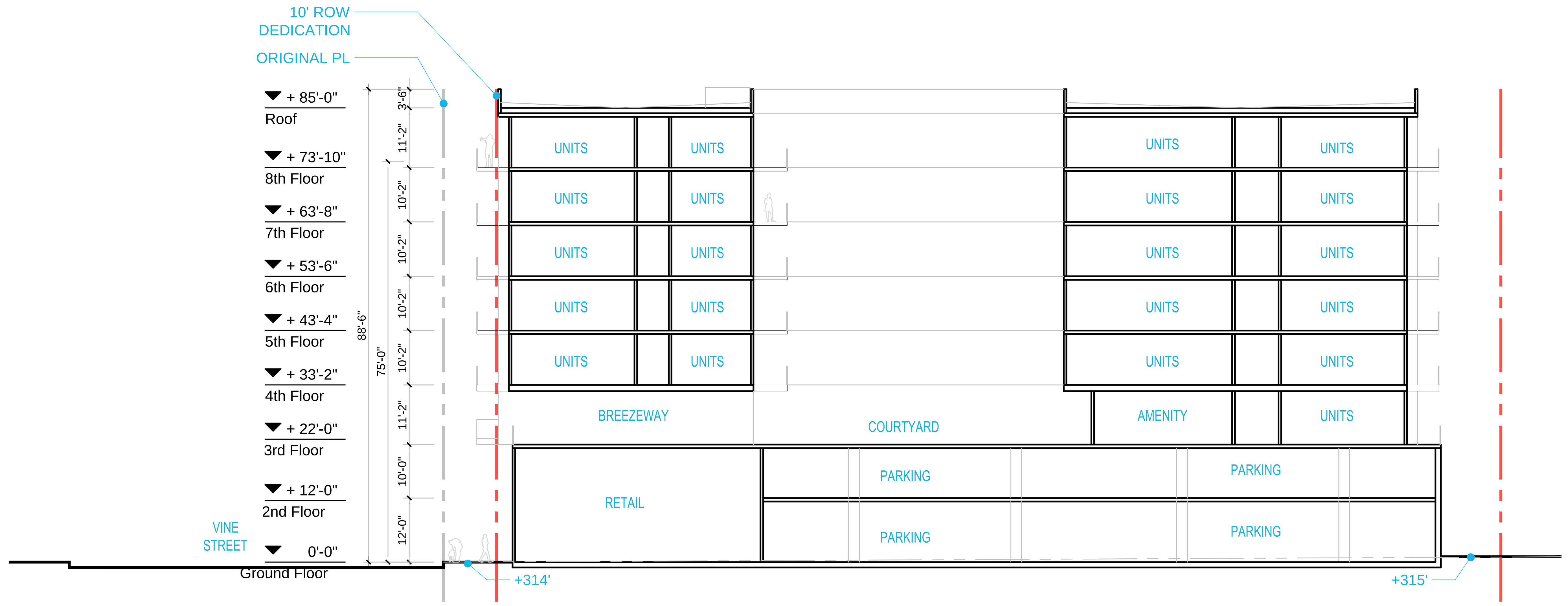
1200 VINE STREET
LOS ANGELES, CA # 2021-1034

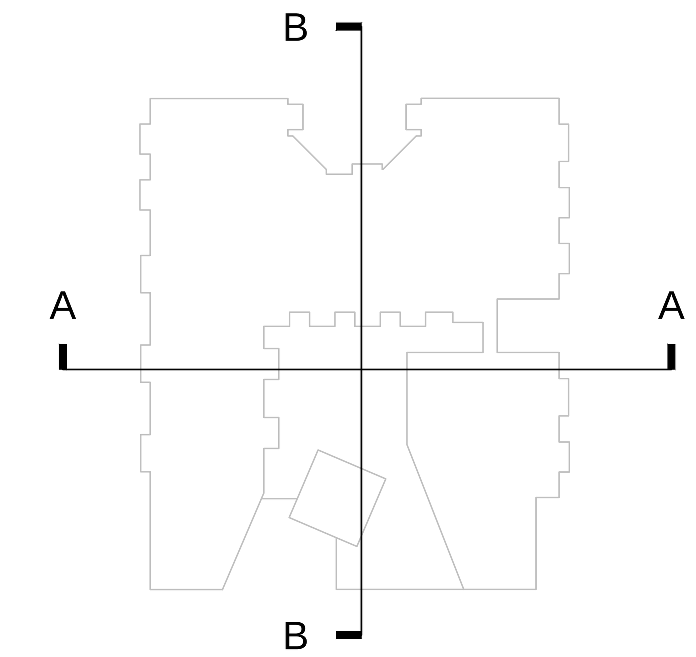
CONCEPTUAL DESIGN
JULY 26, 2022

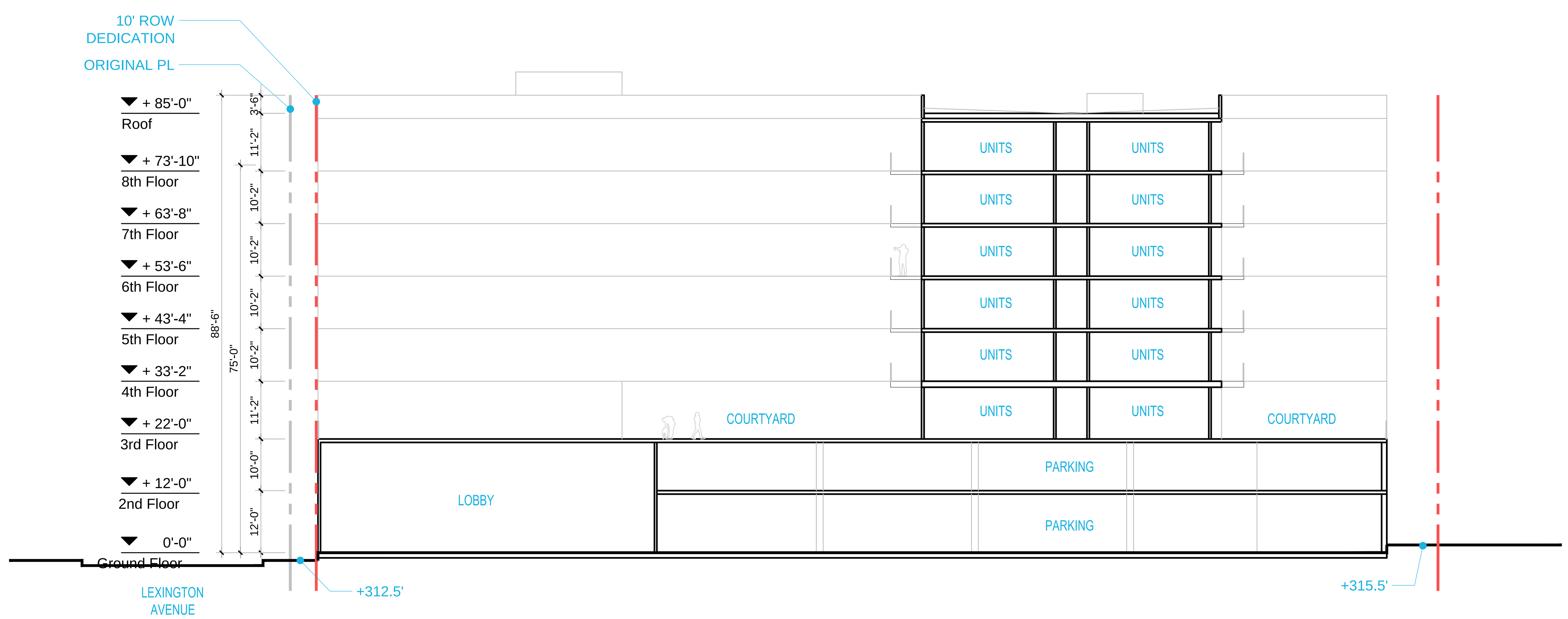
0 8 16 32

BUILDING ROOF PLAN



SECTION 'A-A'





SECTION 'B-B'

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Grubb
4601 Park Road, Suite 450
Charlotte, NC 28209

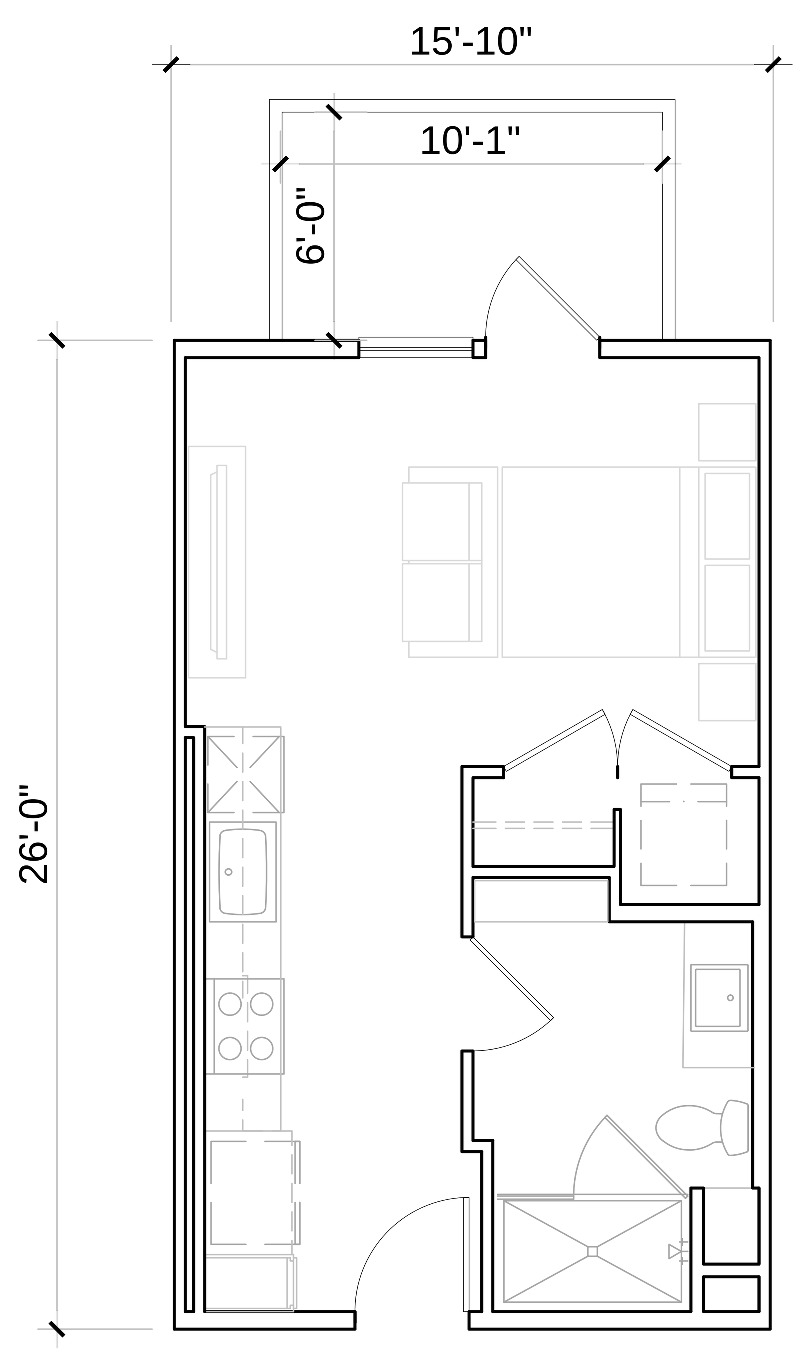
1200 VINE STREET
LOS ANGELES, CA # 2021-1034

CONCEPTUAL DESIGN
JULY 26, 2022

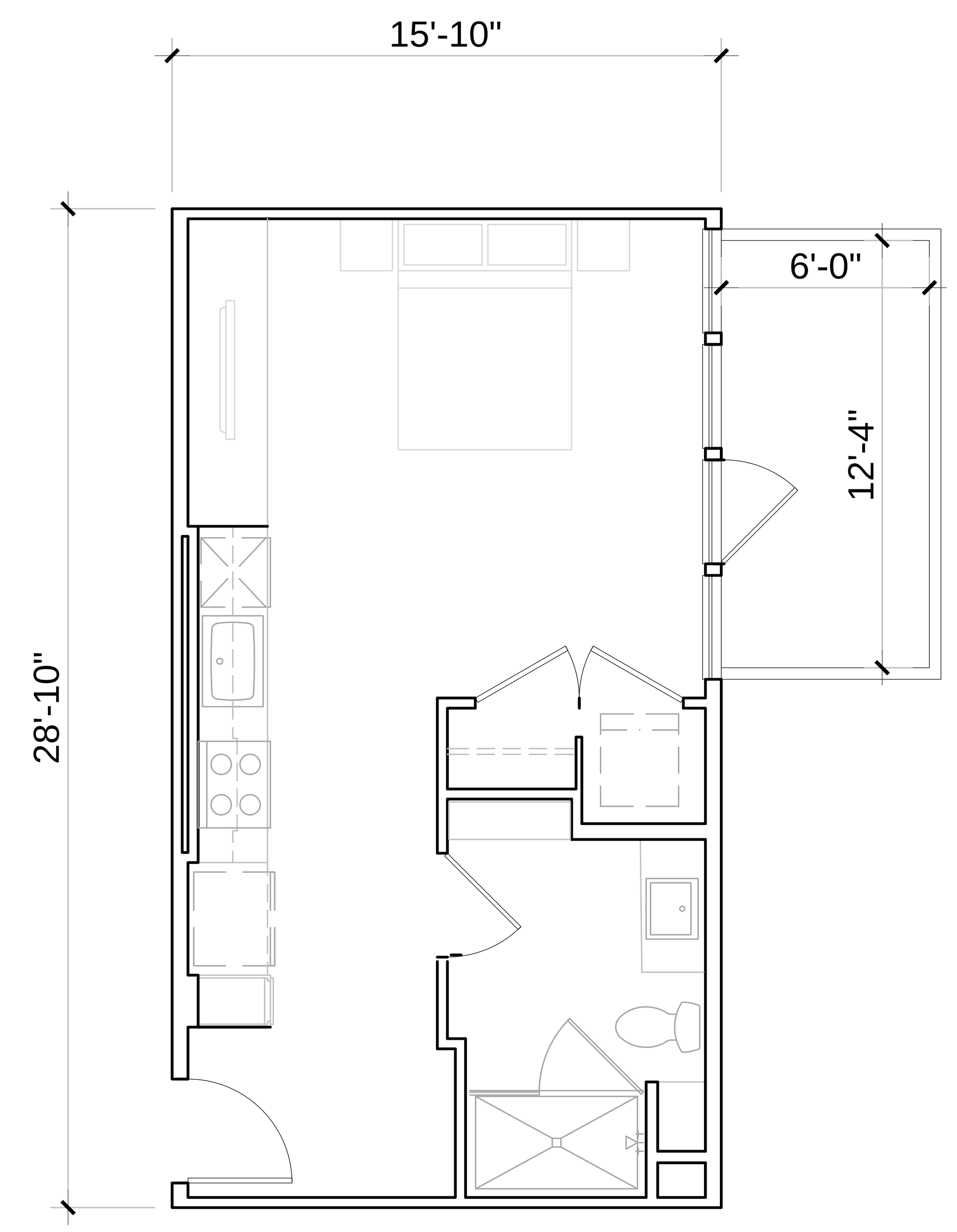
0 8 16 32

BUILDING SECTIONS
SECTION A-A & B-B

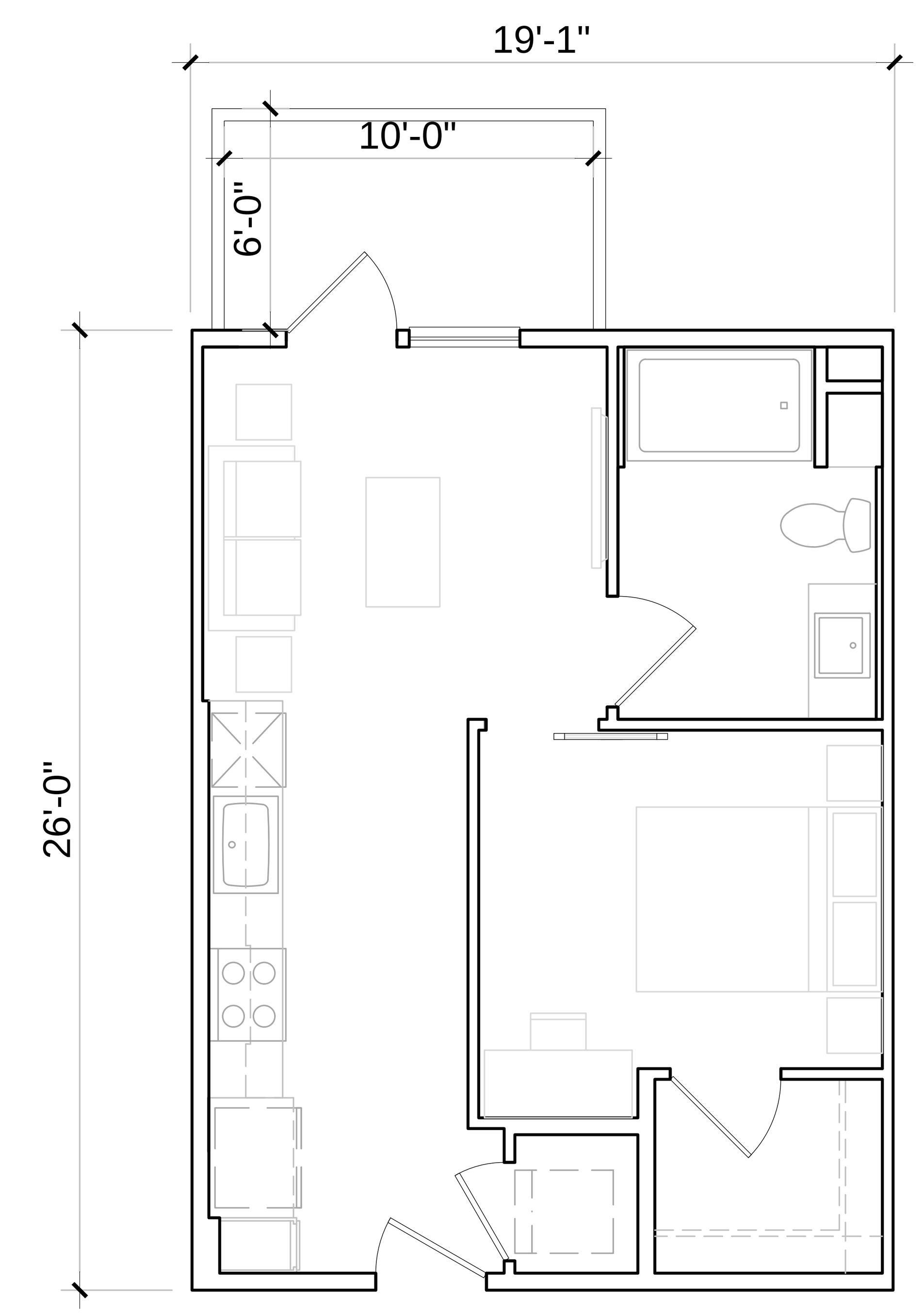
A4-0



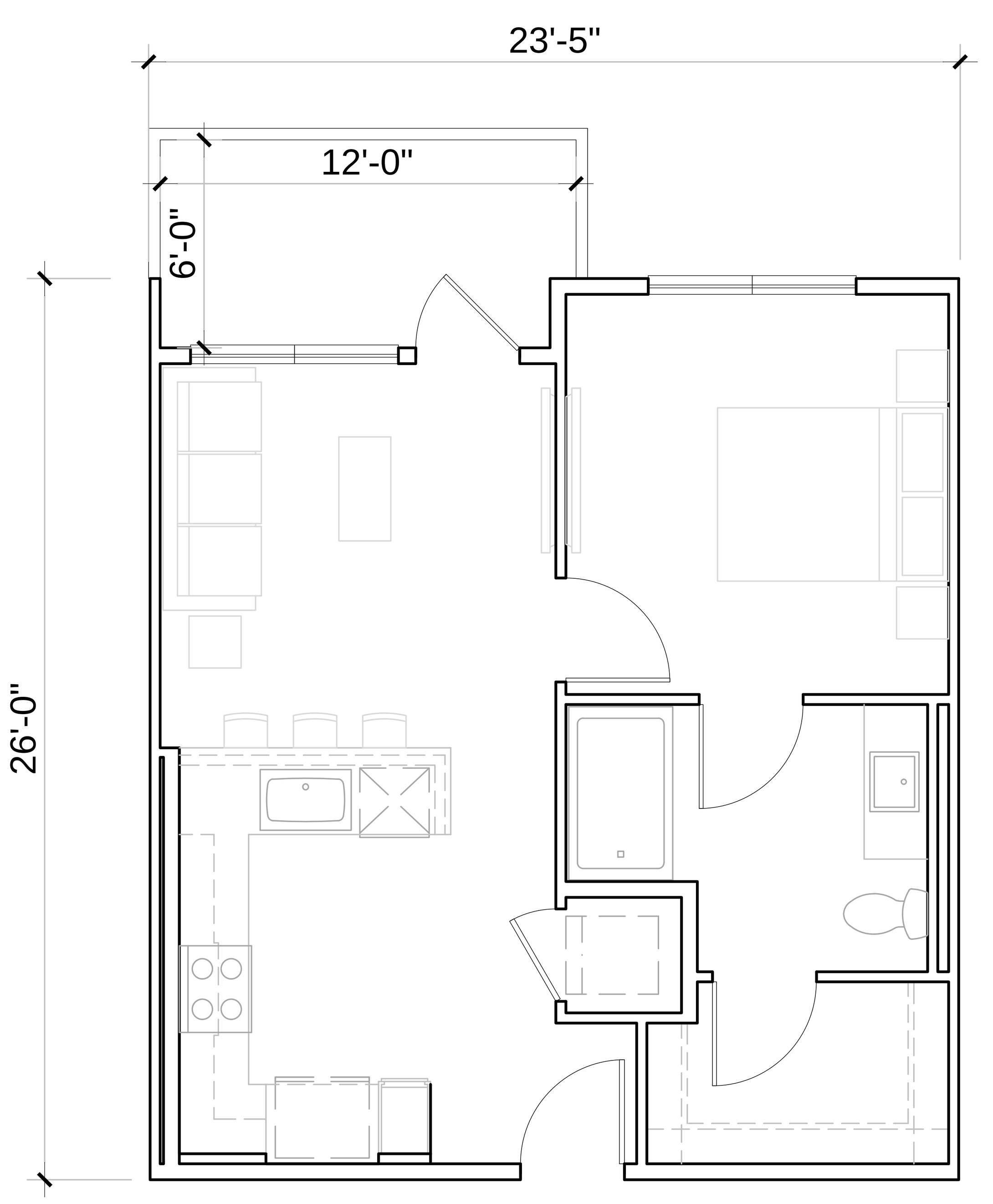
PLAN S1
STUDIO
1 BATH
412 SF



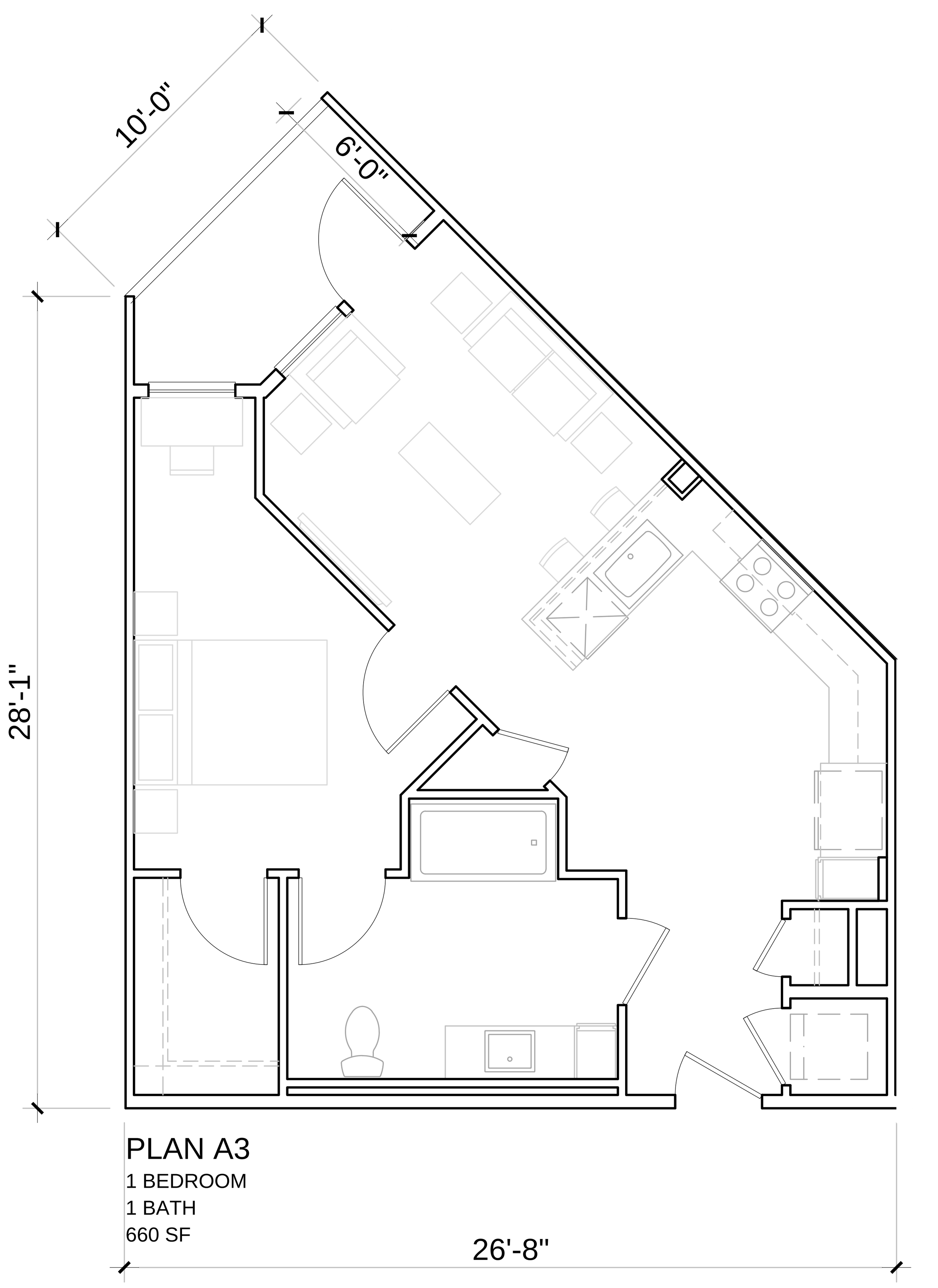
PLAN S1-ALT
STUDIO
1 BATH
460 SF



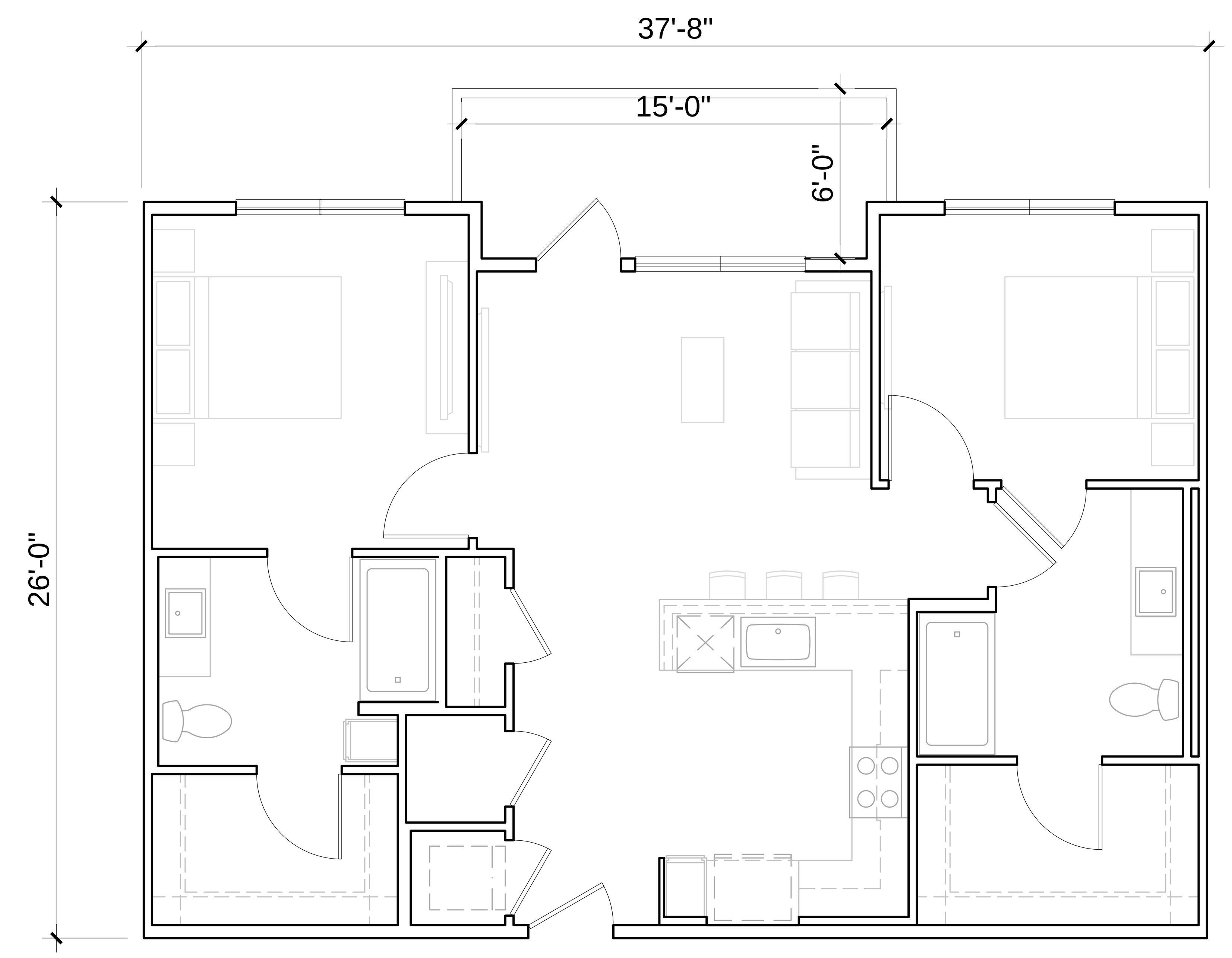
PLAN A1
1 BEDROOM
1 BATH
496 SF



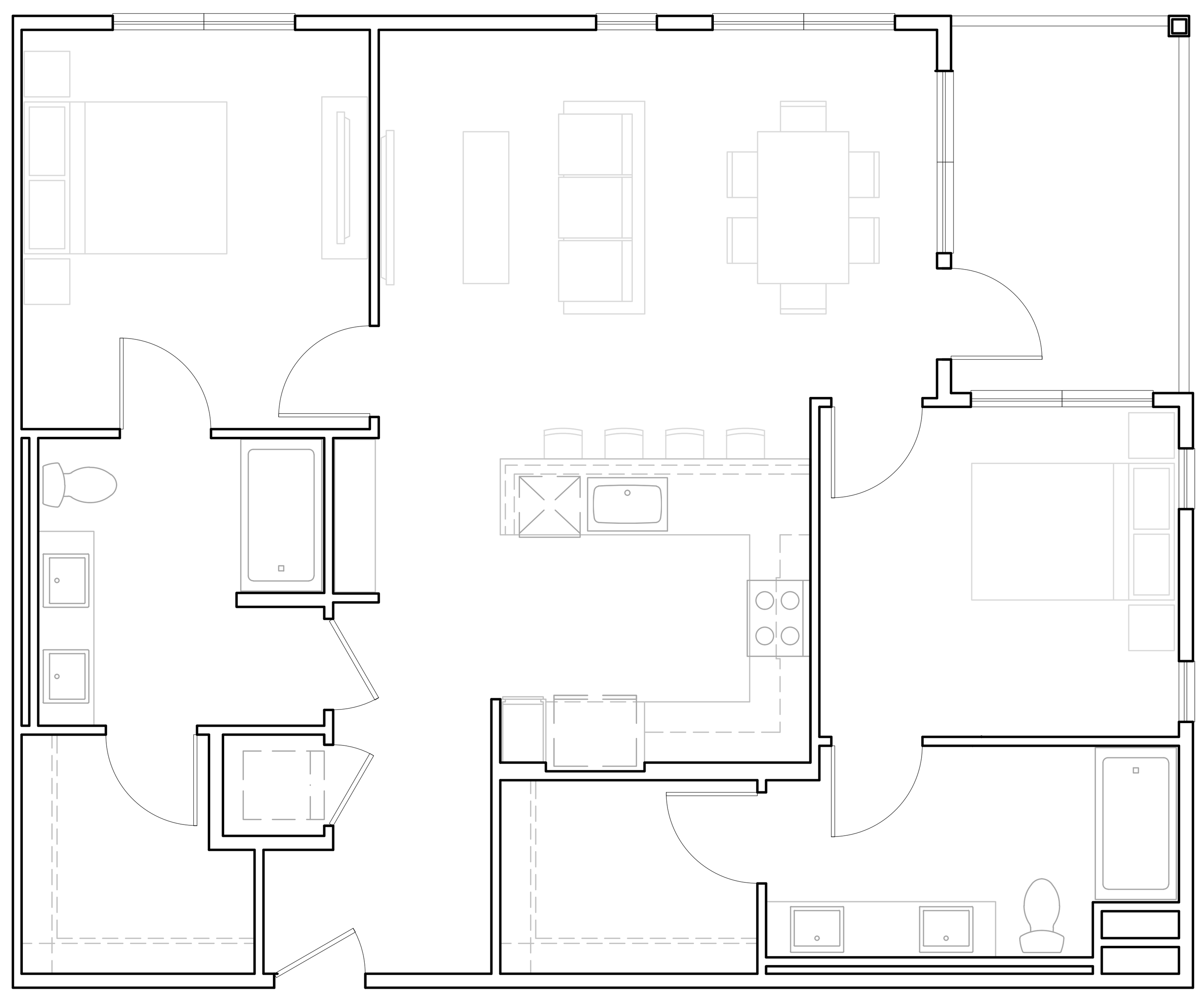
PLAN A2
1 BEDROOM
1 BATH
585 SF



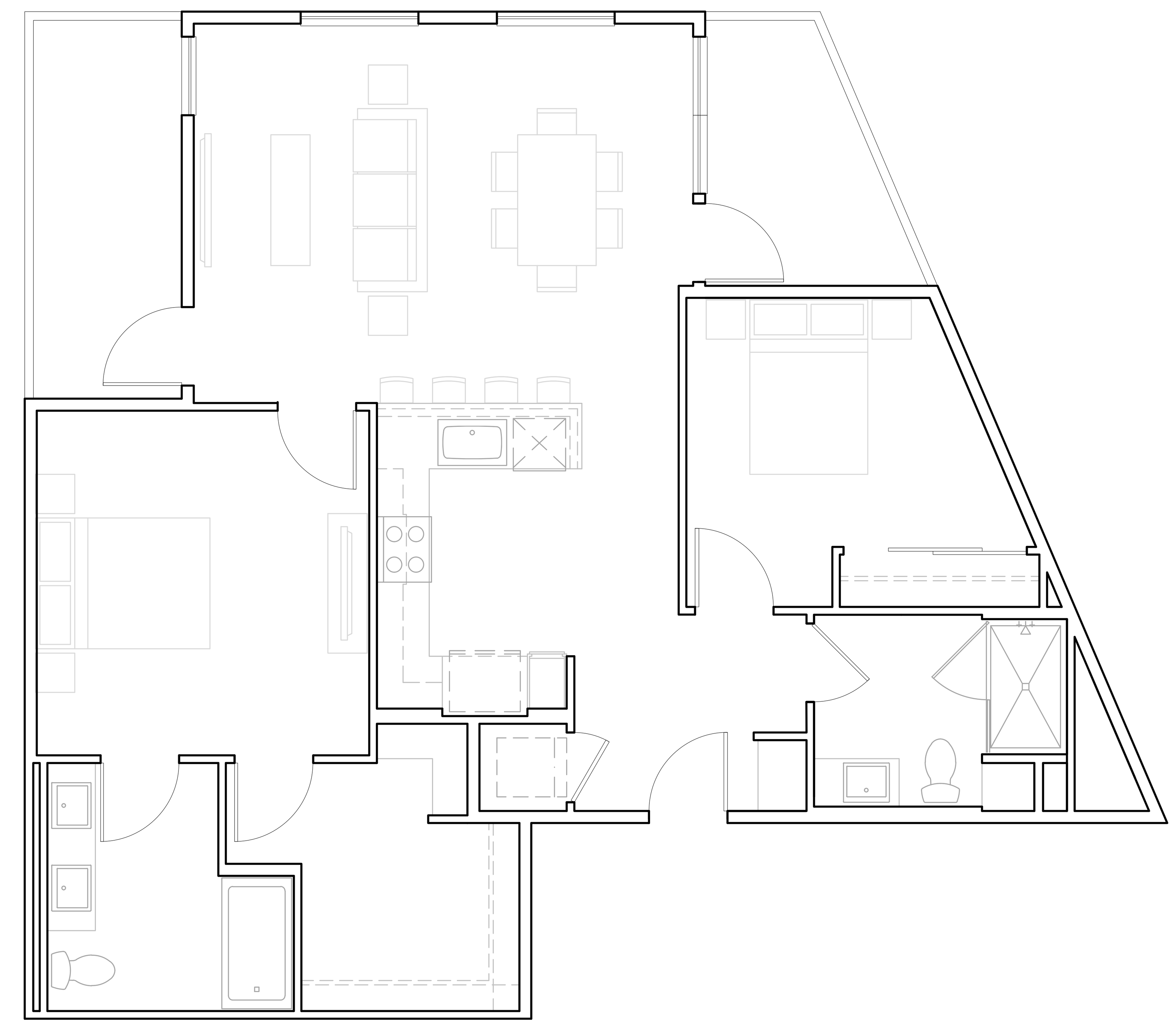
PLAN A3
1 BEDROOM
1 BATH
660 SF



PLAN B1
2 BEDROOM
2 BATH
952 SF



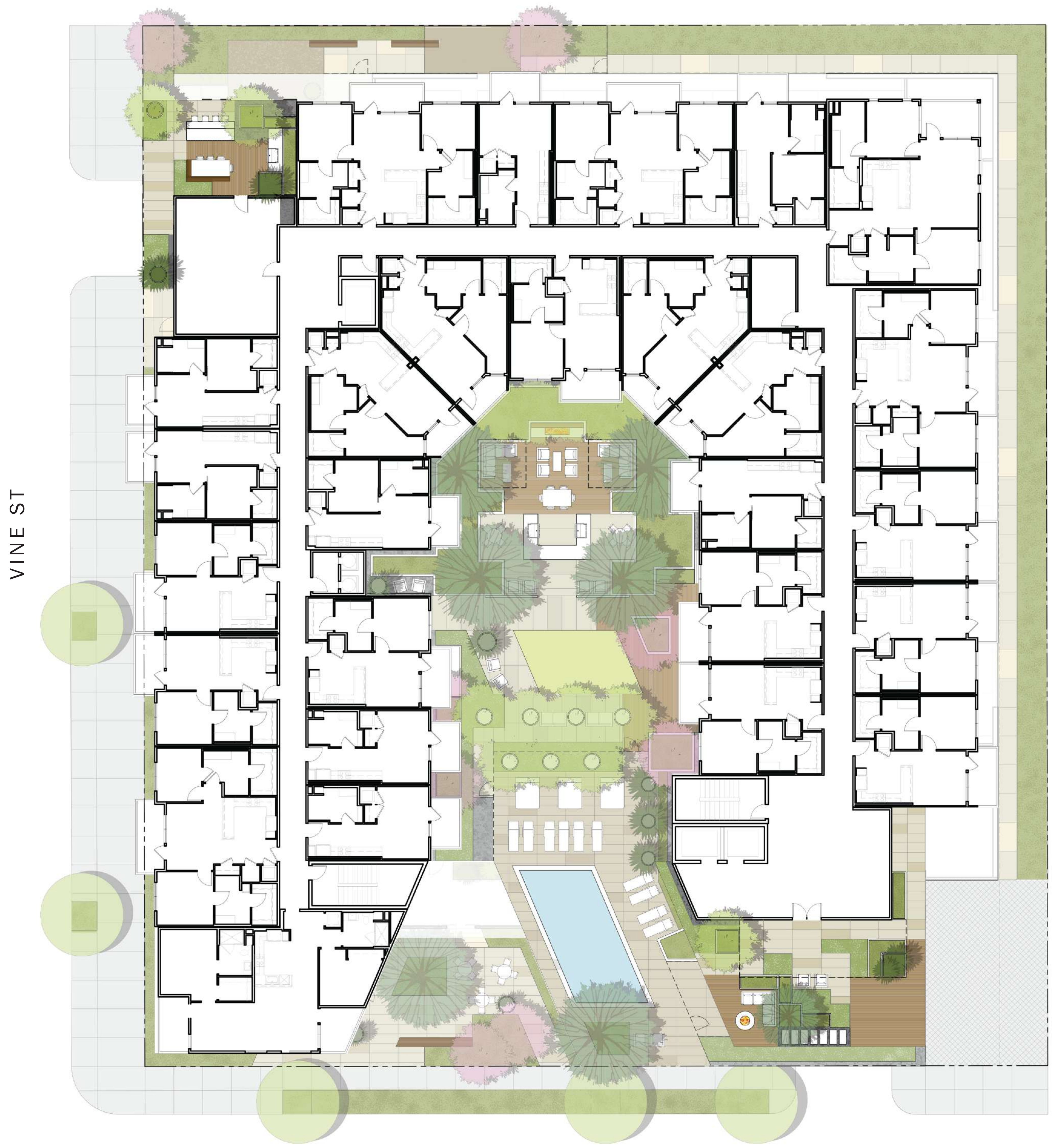
PLAN B3
2 BEDROOM
2 BATH
1,145 SF



PLAN B3-ALT
2 BEDROOM
2 BATH
1,138 SF

A. SOUTH-EAST AERIAL PERSPECTIVE

B. NORTH-WEST AERIAL PERSPECTIVE



COMPOSITE LANDSCAPE PLAN

LANDSCAPE DATA

LANDSCAPE AREA	PROVIDED
Level 1	3213 SF
Level 3 Podium	2129 SF
Level 7	619 SF
Total	5961 SF

HYDROZONE AREA	PROVIDED
Very Low	895 SF
Low	3875 SF
Moderate	1191 SF
Total	5961 SF

EXTERIOR COMMON OPEN SPACE	PROVIDED	REQUIRED LANDSCAPE (25%)	PROPOSED LANDSCAPE
Level 1 Plaza	1200 SF	300 SF	394 SF
Level 3 Podium Courtyard	5970 SF	1493 SF	2129 SF
Level 7 Roof Deck A	1200 SF	300 SF	355 SF
Level 7 Roof Deck B	620 SF	155 SF	264 SF
Total	8990 SF	2248 SF	3142 SF

TREE COUNT	PROVIDED	REQUIRED
Level 1	5	TOTAL UNITS: 151 REQUIRED: (1) 24" BOX MIN. PER 4 UNITS
Level 3 Podium	25	
Level 7	8	
Total	38	38

LEGEND

1. Entry Plaza
2. Bench
3. Planters
4. Decorative Pottery
5. Dog Run
6. Maintenance Path
7. Existing Street Trees
8. Streetscape per City Standards
9. Inner Garden Planting
10. Wood Screen with Vines

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4601 Park Road, Suite 450
Charlotte, NC 28209

1200 VINE STREET
LOS ANGELES, CA #2021-1034

CONCEPTUAL DESIGN
SEPTEMBER 16, 2022

0 8 16 32

LANDSCAPE PLAN
LEVEL 1

L1-1

LEGEND

1. Pool
2. Flush Planter
3. Pool Deck
4. Decorative Pottery
5. Live Roof Planting
6. Lawn
7. Fitness Spillout Space
8. Juice Bar/Countertop
9. Outdoor Kitchen
10. Fire Feature
11. Cabana Rooms
12. Garden Screens
13. Seating Gardens

LEGEND

1. Fiberglasss Planters
2. Live Roof Planting
3. Yoga/Sun Deck
4. Fire Feature
5. Stepping Stones
6. Trellis
7. Amenity Room Spillout Space
8. Outdoor Kitchen
9. Decorative Gravel
10. Countertop w/ Bar Seating
11. Decorative Pottery

HARDSCAPE PALETTE

PAVING | GROUND LEVEL

Integral Color Concrete | Trademark
Color: Mesa Sand
Finish: Ecocast #5

Integral Color Concrete | Davis
Color: Dune
Finish: Sandblast

Precast Concrete Paver | Stepstone
Color: Porcelain
Finish: Medium Sandblast w/Slag

Decomposed Granite | Southwest
Color: Desert Gold

PAVING | PODIUM AND ROOF LEVELS

Integral Color Concrete | Trademark
Color: Mesa Sand
Finish: Ecocast #5

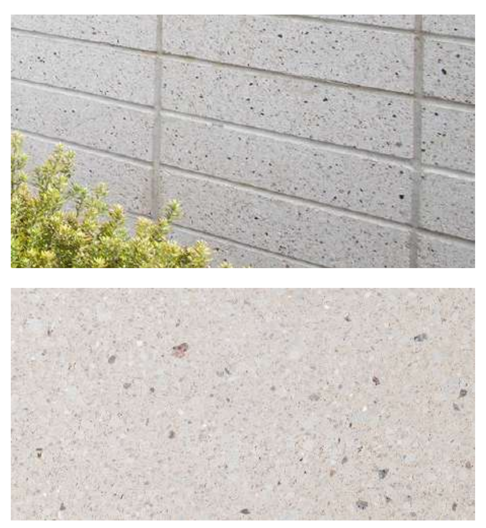
Integral Color Concrete | Davis
Color: Dune
Finish: Sandblast

Porcelain Tile | Belgard
Color: Jurupa - Camp
Finish: N/A

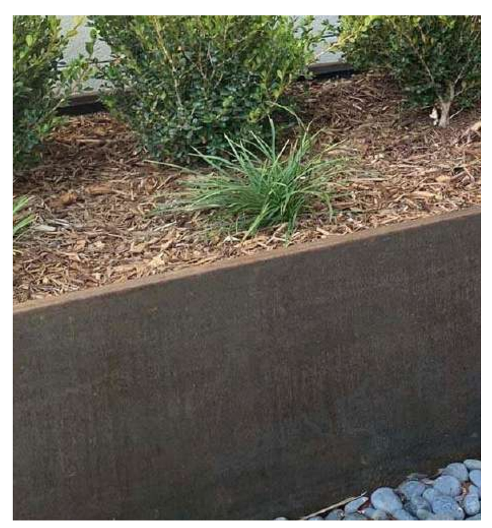
Porcelain Tile | Belgard
Color: Lagoon - Atmosphere
Finish: N/A

WALLS + POTTERY

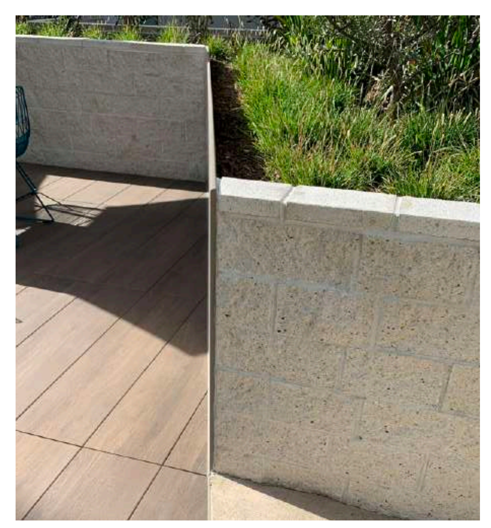
CMU Planter | Orco
Color: Tan
Finish: Precision



CMU Planter | Orco
Color: White
Finish: Burnished



Steel Planter
Color: Bronze
Finish: Matte



CMU to Steel Planter Connection

Fiberglass Pottery | Old Town Fiberglass
Color: Venetian and River Gold
Finish: Matte

Concrete Pottery | Kornegay
Color: Sandstone
Finish: Sandblast

PLANT PALETTE

TREES

Arbutus 'Marina'
Strawberry Tree

Agonis flexuosa 'Burgundy'
Burgundy Peppermint Willow

Chilopsis linearis
Desert Willow

Dracaena draco
Dragon Tree

Ulmus parvifolia 'Drake'
Drake Elm

PLANTING LEGEND

BOTANICAL NAME	COMMON NAME	SIZE (HxW)	WUCOLS
Acacia baileyana	Bailey Acacia	25' x 30'	Low
Agonis flexuosa 'Burgundy'	Burgundy Peppermint Willow	20' x 15'	Low
Chilopsis linearis	Desert Willow	20' x 15'	Very Low
Phoenix dactylifera	Date Palm	50' x 20'	Low
Ulmus parvifolia 'Drake'	Drake Elm	40' x 35'	Moderate
Acacia cognata 'Cousin Itt'	Cousin Itt Acacia	3' x 12'	Moderate
Aloe vera	NCN	2' x 2'	Low
Dianella caerulea 'Cassa Blue'	Cassa Blue Flax Lily	2' x 2'	Moderate
Echium candicans	Pride of Madeira	5' x 5'	Low
Epilobium canum	California Fuchsia	2' x 4'	Very Low
Euphorbia characias 'Glacier Blue'	Glacier Blue Spurge	2' x 2'	Very Low
Fejoia sellowiana	Pineapple Guava	10' x 10'	Low
Kalanchoe beharensis	Velvet Elephant Ear	10' x 6'	Low
Leonotis leonurus	Lion's Ear	5' x 5'	Low
Mahonia eurybracteata 'Soft Caress'	Soft Caress Mahonia	3' x 3'	Moderate
Miscanthus sinensis 'Adagio'	Adagio Maiden Grass	2' x 3'	Moderate
Olea europaea 'Little Ollie'	Little Ollie Olive	5' x 4'	Low
Salvia chamaedryoides	Germander Sage	2' x 4'	Low
Salvia clevelandii	Cleveland Sage	4' x 4'	Low
Westringia fruticosa 'Morning Light'	Morning Light Coast Rosemary	3' x 3'	Low
Yucca whipplei	Our Lord's Candle	2' x 3'	Very Low
Bouteloua gracilis 'Blonde Ambition'	Blonde Ambition Blue Grama	1' x 1'	Low
Juniperus conferta 'Blue Pacific'	Blue Pacific Shore Juniper	1' x 6'	Low
Sedum reflexum 'Blue Spruce'	Blue Spruce Creeping Sedum	6" x 18"	Low
Sesleria autumnalis	Autumn Moor Grass	1'x1'	Moderate

SHRUBS

Acacia cognata 'Cousin Itt'
Cousin Itt Acacia

Aloe vera
NCN

Dianella caerulea 'Cassa Blue'
Cassa Blue Flax Lily

Echium candicans
Pride of Madeira

Epilobium canum
California Fuchsia

Euphorbia characias 'Glacier
Glacier Blue Spurge

Fejoia sellowiana
Pineapple Guava

Kalanchoe beharensis
Velvet Elephant Ear

Leonotis leonurus
Lion's Ear

Mahonia eurybracteata
'Soft Caress'
Soft Caress Mahonia

Miscanthus sinensis 'Adagio'
Adagio Maiden Grass

Olea europaea 'Little Ollie'
Little Ollie Olive

Salvia chamaedryoides
Germander Sage

Salvia clevelandii
Cleveland Sage

Westringia fruticosa
'Morning Light'
Morning Light Coast Rosemary

Yucca whipplei
Out Lord's Candle

GRASSES + GROUNDCOVER

Bouteloua gracilis
'Blonde Ambition'
Blonde Ambition Blue Grama

Juniperus conferta 'Blue Pacific'
Blue Pacific Shore Juniper

Sedum reflexum 'Blue Spruce'
Blue Spruce Creeping Sedum

Sesleria autumnalis
Autumn Moor Grass

Consulting Arborist's Report

Tree Evaluation Report

For: 1200 Vine Street, Los Angeles, Apartments

Prepared for: 1200 Vine Street, Los Angeles Apartments, LLC
c/o Ms. Megan Watson
Grubb Properties
4601 Park Road, Suite 450
Charlotte, NC 28209

Prepared by: Arborgate Consulting, Inc.
Greg Applegate, ASCA, ASLA
1131 Lucinda Way
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Dated: 6/21/2022

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Introduction

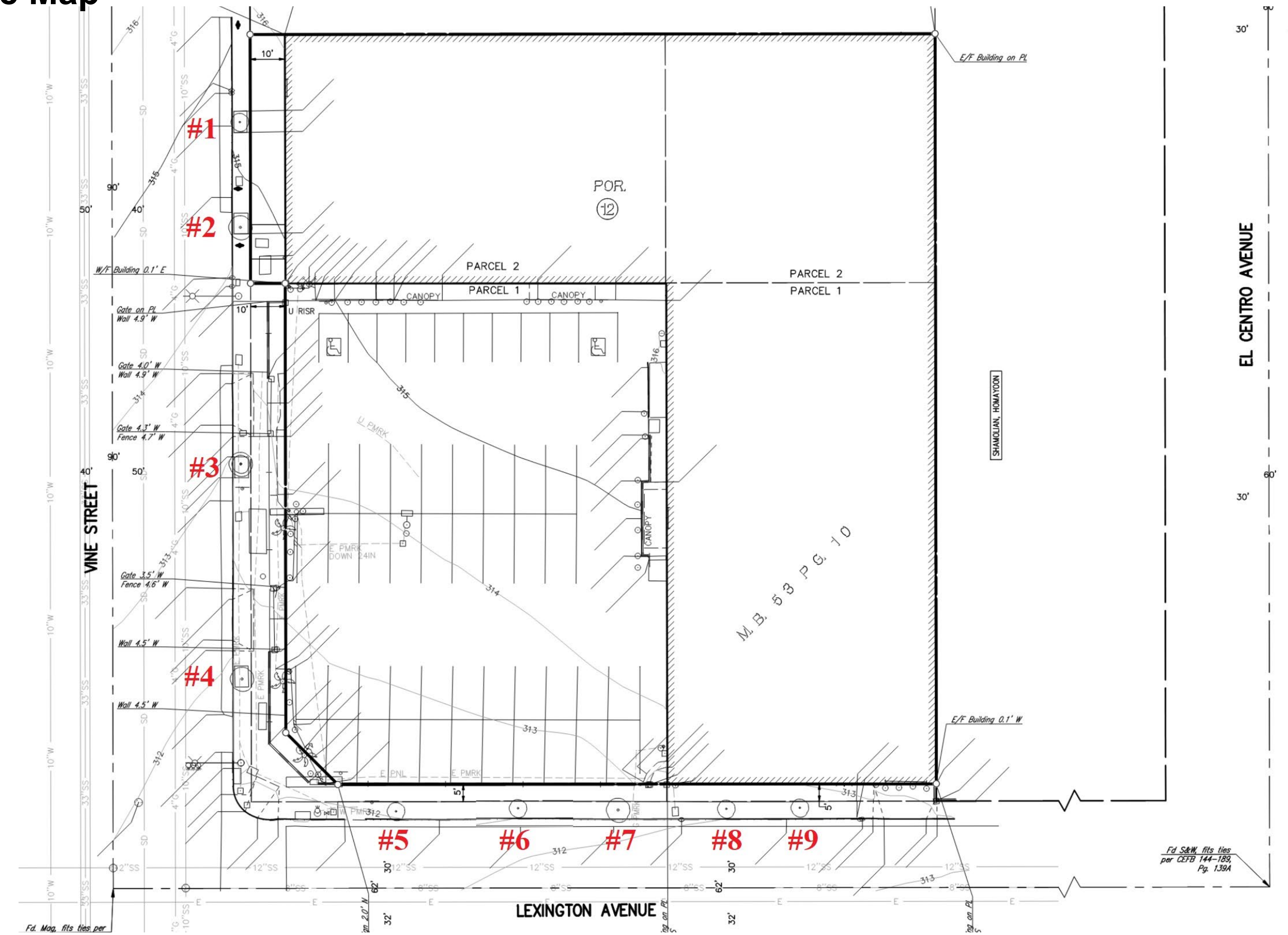
Background

Grubb Properties (Vine Street, Los Angeles Apartments) is planning to build an apartment complex at 1200 Vine Street, Los Angeles. The existing property there now is vacant and unused. The planned development will be a mixed-use project, with approximately 153 units and 8,000 square feet of commercial space. Three palms and nine street trees of reportable size are growing on this property. To properly grade, prepare the site, and build the proposed apartments will require the removal of the three palms.

Scope of Work

Arborgate Consulting was asked to submit a proposal for review and arboricultural evaluation of about 8 to 9 trees' and three palms' health and condition, professional opinions and report as appropriate for the City of Los Angeles, Urban Forestry Division. Each tree are to be photographed, measured and evaluated. Recommendations are to be provided for removal or retention and measures to preserve any suitable trees.

Tree Map


#1
#2
#3
#4
#5
#6
#7
#8
#9
VINE STREET
LEXINGTON AVENUE
EL CENTRO AVENUE
PARCEL 2
PARCEL 1
CANOPY
POR.
12
M.B. 53 PG. 10
SHAMOLIAN, HOMAYOON
E/F Building on PL
W/F Building 0.1' E
E/F Building 0.1' W
Fd S&W, fits ties per CEFB 144-189, Pg. 139A
Fd. Mag. fits ties per

Observations

General Findings

The 1200 Vine Street Apartments will be located on the southeast corner of a busy street, Vine Street and Lexington. The site is relatively level. Most of the site soil is sterile and compacted due to decades of paving and structural cover. The only "trees" on site are three Mexican fan palms, in a planter at the front edge of the property in the southwest corner of the site. None of the seven observed trees are considered protected under the City's Protected Tree and Shrub Ordinance, but all of the real woody trees are City street trees, Jacarandas and pink trumpet trees.

The jacarandas on Vine are in declining health from north to south. All four have poor structure except the fourth one, which is marginally fair. Street people are even using the space inside the tree wells, but more so on the north end.

The pink trumpet trees are in declining health and structure from west to the east. The fourth one (#8) is totally dead and looks burned. The last one (#9) is half dead, and looks burned on the west side. Details are in the matrix below.

Constructing a 153.-unit residential building with 8000 square feet of commercial space will of necessity require the removal of everything now on the site, including the palm trees, and possibly a few street trees, at least the dead or near dead ones. The Mexican fan palms are not of sufficient value to transplant. All the street trees are relatively young, but considering the small, four-foot-wide sidewalk cutouts, they will need to be replaced in a few years.

Matrix of Findings

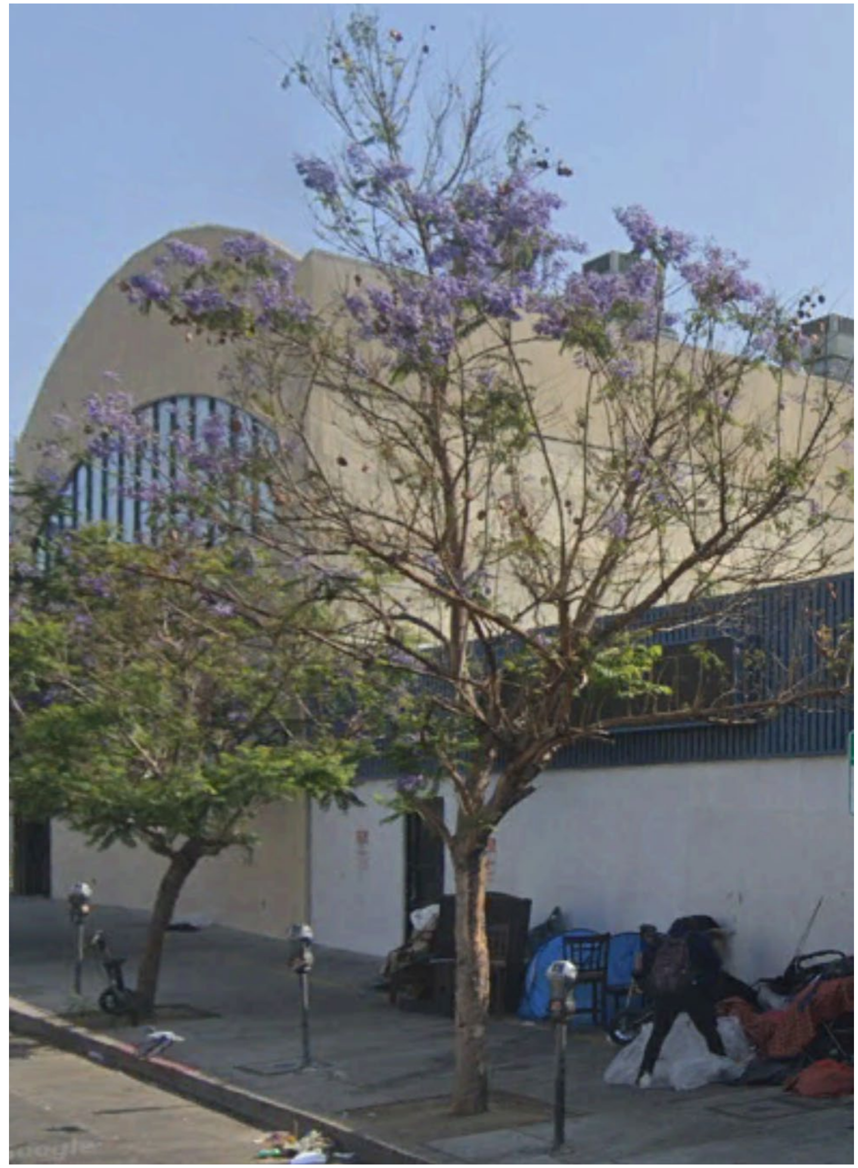
Tag	Species	Common name	DBH	Ht.	Wd	Health	Structure	Space	Location	Comments
1	Jacaranda mimosifolia	Jacaranda	7	15	16	B	D	4x6'	Vine St	T-bow CrS Xing brk TO
2	Jacaranda mimosifolia	Jacaranda	8	20	18	C	D	4x6'	Vine St	Cod SS mDb epi
3	Jacaranda mimosifolia	Jacaranda	4.8	16	18	D	D	4x6'	Vine St	Cod Xing Db TO epi S/W damage
4	Jacaranda mimosifolia	Jacaranda	7	18	24	B	C-	4x6'	Vine St	Cod inc epi
5	Handroanthus impetiginosus	Pink trumpet tree	7.2	25	25	A	B	4' pkwy	Lexington	Small break
6	Handroanthus impetiginosus	Pink trumpet tree	2.1	13	11	B	C-	4' pkwy	Lexington	Low epi, still staked
7	Handroanthus impetiginosus	Pink trumpet tree	7.8	24	30	B	C-	4' pkwy	Lexington	Cod inc TO
8	Handroanthus impetiginosus	Pink trumpet tree	4	18	24	F	F	4' pkwy	Lexington	Dead cod brk NoRF, burned
9	Handroanthus impetiginosus	Pink trumpet tree	6.2	18	20	D	D	4' pkwy	Lexington	1/2 dead & burned. Cod inc
10	Washingtonia robusta	Mexican fan palm	60'th	60'th	11	B	A	Planter	on site	good, small skirt
11	Washingtonia robusta	Mexican fan palm	60'th	60'th	11	B	A	Planter	on site	good, small skirt
12	Washingtonia robusta	Mexican fan palm	60'th	60'th	11	B	A	Planter	on site	good, small skirt

Common abbreviations in the matrix above include:

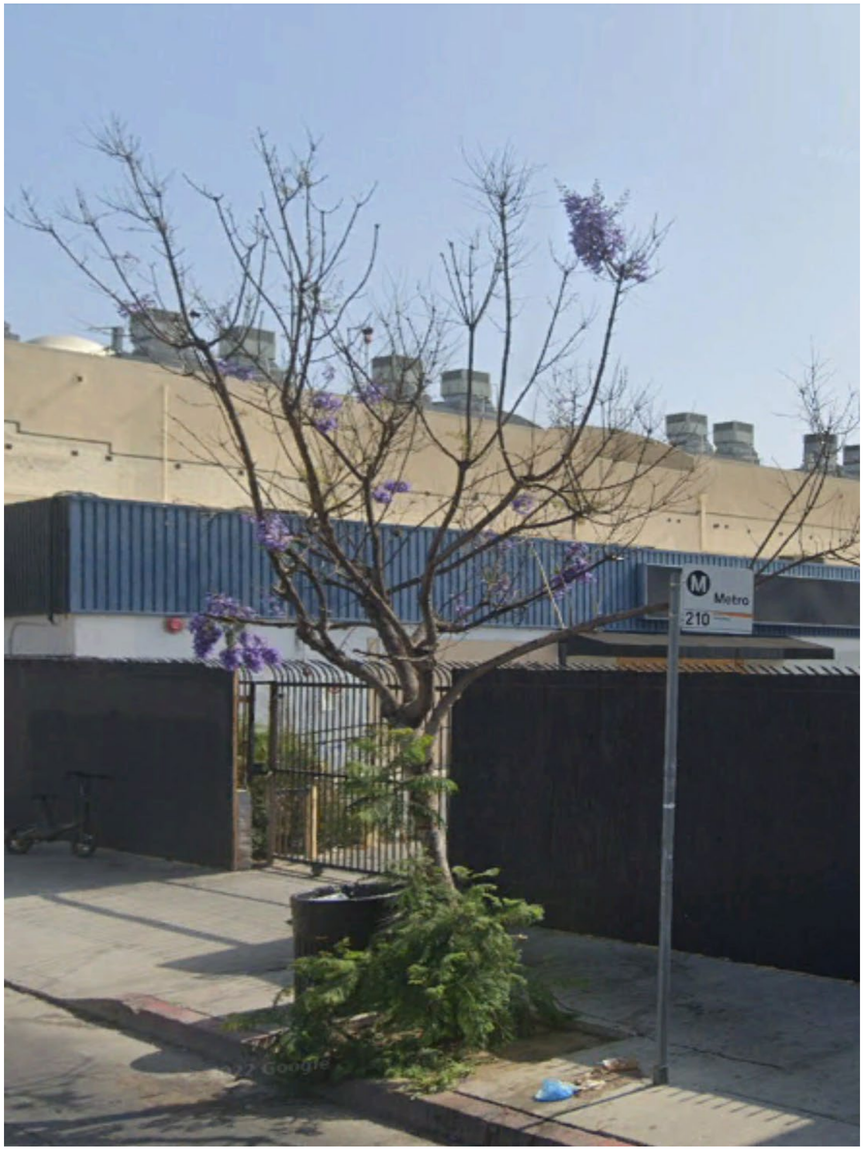
Brk = broken
Cod=codominant
Cr=crowding or crowded
Db = dieback
DBH – Diameter at breast height, i.e. 4.5'
Dk=decayed
epi = epicormic shoots
Gird = girdling
Hd = headed
Inc=included bark
NoRF = no root flare
Pkwy = parkway
SW=sidewalk
SS = sun-scald
T-bow = bowed trunk
TO – tear out
Ts = trunks
Xing = crossing branches

Photographic Documentation

#1 Jacaranda. Later there was a barbeque in the tree well.

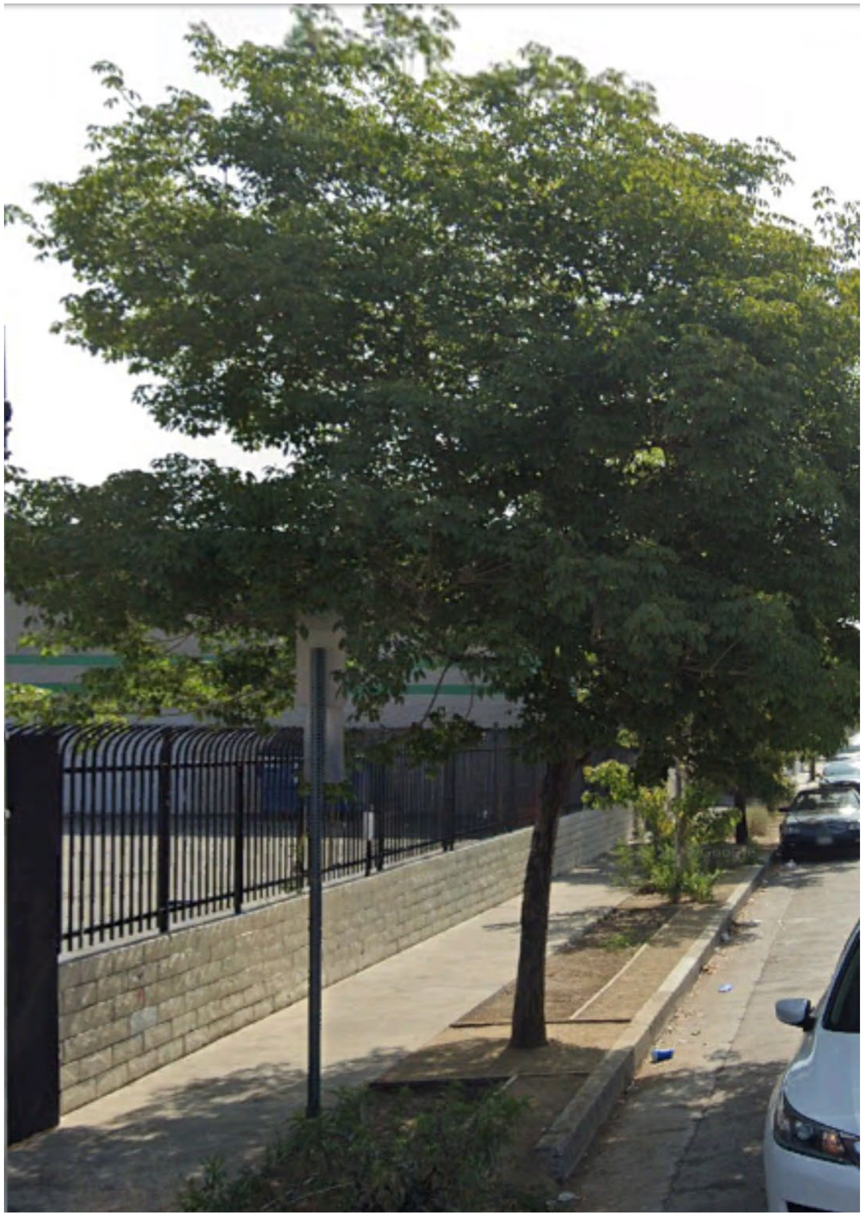


#2 Jacaranda. The main crotch is weak.

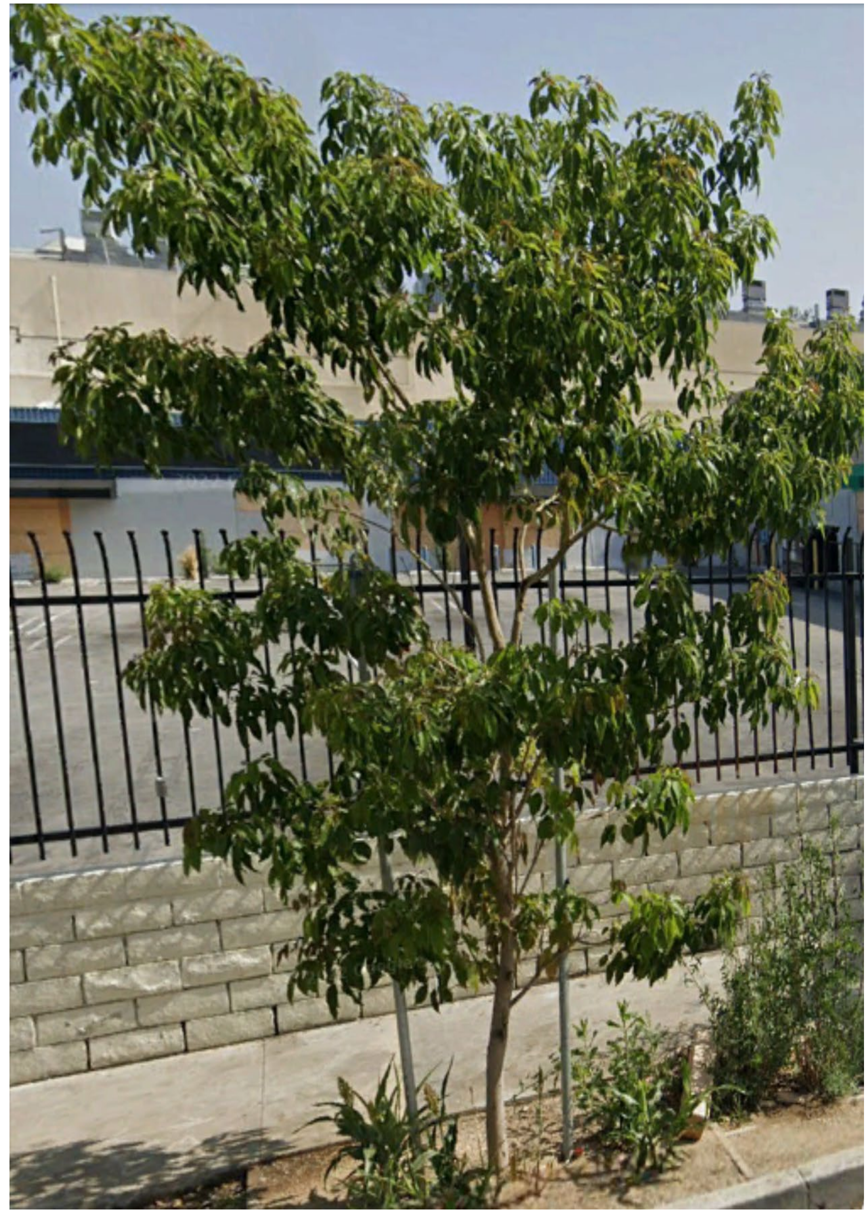


#3 Jacaranda. Note the crowded limbs and damaged trunk.

#4 Jacaranda. Awkward branching and the main crotch is weak

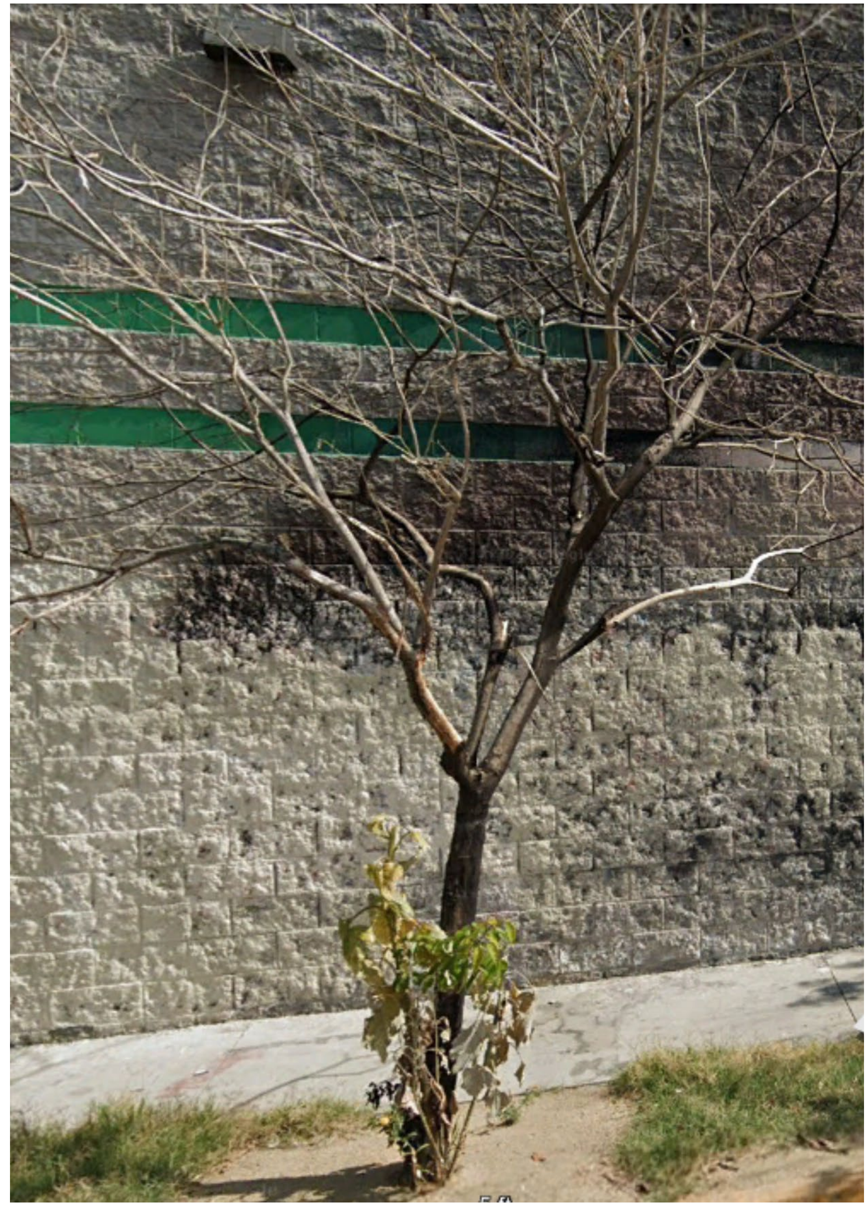


#5 Pink trumpet tree- is a good specimen, worthy of preservation.



#6 Trumpet tree is not getting the training it needs.

#7 Pink trumpet tree is healthy, but codominant and a limb tore out.



#8 Pink trumpet tree-is dead. Bark is falling off and looks burned.

#9 Trumpet tree, this side is nearly dead. Note bark is pealing.


#10,11 and 12 Mexican fan palms (L-R)

Recommendations

Matrix of Recommendations

Tag	Species	Common name	DBH	Ht.	Wd.	Health	Structure	Recommendations
1	Jacaranda mimosifolia	Jacaranda	7	15	16	B	D	Remove and replace
2	Jacaranda mimosifolia	Jacaranda	8	20	18	C	D	Remove and replace
3	Jacaranda mimosifolia	Jacaranda	4.8	16	18	D	D	Remove and replace
4	Jacaranda mimosifolia	Jacaranda	7	18	24	B	C-	Protect in place
5	Handroanthus impetiginosus	Pink trumpet tree	7.2	25	25	A	B	Protect in place
6	Handroanthus impetiginosus	Pink trumpet tree	2.1	13	11	B	C-	Train up as standard
7	Handroanthus impetiginosus	Pink trumpet tree	7.8	24	30	B	C-	Protect in place
8	Handroanthus impetiginosus	Pink trumpet tree	4	18	24	F	F	Remove and replace
9	Handroanthus impetiginosus	Pink trumpet tree	6.2	18	20	D	D	Remove and replace
10	Washingtonia robusta	Mexican fan palm	60'th	60'th	11	B	A	Remove
11	Washingtonia robusta	Mexican fan palm	60'th	60'th	11	B	A	Remove
12	Washingtonia robusta	Mexican fan palm	60'th	60'th	11	B	A	Remove

Testing & Evaluation

Visual Analysis of Tree Condition

All the subject trees were evaluated for condition of the trunk, its lean, scaffold limbs, secondary branching, foliage density, and root crown condition. The root crown was examined, as far as it was visible, without excavation.

The health was evaluated on a visual basis. If there were no nutrient deficiency symptoms, the foliage was full and dense, there were few dead twigs or limbs, and there were no pest or disease symptoms, it was assumed that they were healthy. To the degree that symptoms or problems existed, the trees were rated for health on a five-point scale (A to F, F being dead).

The structural condition, i.e. trunk, scaffold limbs and branches were evaluated on a similar five point scale. Likewise, the best structural condition is termed “A“ or excellent. If there were only a couple minor problems or defects, the condition is called “B“or good. If the structure was such that the tree was not in jeopardy, but it was not good, the condition is called “C “or fair. If the tree was at risk of some sort of failure, but might be corrected, the structural condition is called “D“ or poor. “F” is dead or dangerous.

The trunk diameters were measured with calipers. The measurements were taken at 4.5 feet (DBH) to be in conformity with industry standards. If a tree branched low and the narrowest point of the trunk was below 4.5 feet, the diameter was measured there, i.e., at the narrowest point.

Assumptions and Limiting Conditions

1. Any legal description provided to this consultant is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in nature.
2. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other governmental regulations.
3. Care has been taken to obtain as much information as possible from reliable sources. Data has been verified insofar as possible. However, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
4. This consultant shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule or contract of engagement.
5. Unless required by law otherwise, possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person and project to whom it is addressed, without the prior expressed written or verbal consent of this consultant.
6. Unless required by law otherwise, neither all nor any part of this report or a copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, new, sales or other media without the prior expressed written consent of this consultant - particularly as to the identity of the consultant, or any reference to any professional society or institute or to any initialed designation conferred upon this consultant as stated in his qualifications.
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9. Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; conditions change and monitoring is needed to stay abreast of these changes, and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring.
10. This report is the completed work product. Any additional work, including, e.g. production of a site plan, addenda and revisions, monitoring, or inspection of tree protection measures, must be contracted separately.
11. Use of the report is dependent upon payment and non payment voids all legal use of the report. Ownership of any documents produced passes to the Client only when all fees have been paid.
12. Loss or alteration of any part of this report invalidates the entire report.

Appendix

A. Resume

B. Glossary

A. Resume GREGORY W. APPLEGATE, ASCA, ASLA emeritus

PROFESSIONAL REGISTRATIONS:	American Society of Consulting Arborists - Registered Consulting Arborist #365 American Society of Consulting Arborists – Tree & Plant Appraisal Qualified International Society of Arboriculture - Tree Risk Assessment Qualified International Society of Arboriculture - Certified Arborist # WE-180a
EXPERIENCE:	Mr. Applegate is an independent consulting arborist. He has been in the horticulture field since 1963, providing professional arboricultural consulting since 1984 within both private and public sectors. His expertise includes appraisal, tree preservation, diagnosis of tree growth problems, construction impact mitigation, environmental assessment, expert witness testimony, hazard evaluation, pruning programs, species selection and tree health monitoring. Mr. Applegate has consulted for insurance companies, major developers, theme parks, homeowners, homeowners' associations, landscape architects, landscape contractors, property managers, attorneys and governmental bodies. Notable projects on which he has consulted are: Disneyland, Disneyland Hotel, DisneySeas-Tokyo, Disney's Wild Animal Kingdom, the New Tomorrowland, Disney's California Adventure, Disney Hong Kong project, Knott's Berry Farm, J. Paul Getty Museum, Tustin Ranch, Newport Coast, Crystal Court, Newport Fashion Island Palms, Bixby Ranch Country Club, Playa Vista, Laguna Canyon Road and Myford Road for The Irvine Company, MTA Expo Line, MWD-California Lakes, Paseo Westpark Palms, Loyola-Marymount campus, Cal Tech, Cal State Long Beach, Pierce College, The Irvine Concourse, UCI, USC, UCLA, LA City College, LA Trade Tech, Riverside City College, Crafton Hills College, MTA projects, and the State of California review of the Landscape Architecture License exam (re: plant materials)
EDUCATION:	Bachelor of Science in Landscape Architecture, California State Polytechnic University, Pomona 1973 Arboricultural Consulting Academy (by ASCA) Arbor-Day Farm, Kansas City 1995 Continuing Education Courses in Arboriculture, required to maintain Certified Arborist status and for ASCA membership
PROFESSIONAL AFFILIATIONS:	American Society of Consulting Arborists (ASCA), Registered member International Palm Society, Full member International Society of Arboriculture (ISA), Certified member California Tree Failure Report Program, UC Davis, Participant Street Tree Seminar (STS), Member
COMMUNITY AFFILIATIONS:	Horticulture Advisory Committee, Saddleback College (1988 -1999) Landscape Architecture License Exam, Reviewer, Cal Poly Pomona (1986-90) American Institute of Landscape Architects (L.A.) Board of Directors (1980-82) California Landscape Architect Student Scholarship Fund - Chairman (1985) International Society of Arboriculture - Examiner-tree worker certification (1990) Guest lecturer at UCLA, Cal Poly, Saddleback College, & Palomar Junior College ASCA 2011 Nominations Committee and A3G appraisal update committee ASCA, Industry definitions committee 2009-2010 ASCA web site, west coast tree question responder (2007-2016)

B. Glossary

ANSI-A300	American National Standards Institute performance standards for the care and maintenance of trees, shrubs and other woody plants. Consists of nine parts in separate documents. Part 1 covers pruning.
Arboriculture	The cultivation and care of trees and shrubs.
Arborist	professional who possesses the technical competence gained through experience and related training to provide for or supervise the management of trees and other woody plants in residential, commercial or public settings.
Caliper	Diameter of a tree trunk. Larger trees are usually measured at 4½ feet (see DBH) Trees with calipers 4 inches and below are measured at 6 inches above grade. Trees above 4 inches, but still transplantable are measured at 12 inches above grade.
Codominant	stems: two or more vigorous and upright branches of relatively equal size that originate from a common point, usually where the leader has been lost or removed.
Compaction	(Soil Compaction) The compression of soil, causing a reduction of pore space and an increase in the density of the soil. Tree roots cannot grow in compacted soil.
Conifer-	A gymnosperm which bears cones, such as pine or fir, but sometimes another of the Coniferae group which does not produce cones, such as Gingko.
Crotch	The union of two or more branches; the axillary zone between branches.
Crown	The upper portions of a tree or shrub, including the main limbs, branches, and twigs.
Crown restoration	method of restoring the natural growth habit of a tree that has been topped or damaged in any other way. Aka Restoration pruning.
DBH	Diameter of the trunk, measured at breast height or 54 inches above the average grade. Syn. = caliper.
Decline	Progressive reduction of health or vigor of a plant.
Dieback	Progressive death of buds, twigs and branch tissues, on individual limbs, or throughout the canopy.
Epicormic	Epi - upon; cormic – stem. Branches that are upon the stem, i.e. sprouting from either dormant buds in the cambial zone, or from buds sprung anew from ray traces. Epicormic shoots are a sign that energy reserves have been lowered.

Grading	Also Regrading. Intentional altering of topography and soil levels, using machinery.
Hazardous condition	The combination of a likely failure of a tree or tree part with the presence of a likely target.
Heading	Pruning techniques where the cut is made to a bud, weak lateral branch or stub.
Included bark	Bark or cortex tissue that is included or trapped between close-growing branches. Usually found in narrow or tight crotches.
Limb	A large lateral branch growing from the main trunk.
Palm	A tropical or subtropical monocotyledonous tree or shrub, usually having a woody, unbranched trunk and large, evergreen, fan or feather-shaped leaves at the top.
Root crown	Area at the base of a tree where the roots and stem merge (synonym - root collar).
Root system	The portion of the tree containing the root organs, including buttress roots, transport roots, and fine absorbing roots; all underground parts of the tree.
Root zone	The area and volume of soil around the tree in which roots are normally found. May extend to three or more times the branch spread of the tree, or several times the height of the tree.
Stress	"Stress is a potentially injurious, reversible condition, caused by energy drain, disruption, or blockage, or by life processes operating near the limits for which they were genetically programmed." Alex Shigo
Value	Value is the present worth of future benefits. Value is not necessarily cost.
Wound	Any injury which induces a compartmentalization response.

Disclaimer

Good current information on tree preservation has been applied. However, even when every limb and root is inspected, inspection involves sampling, therefore some areas of decay or weakness may be missed. Weather, winds and the magnitude and direction of storms are not predictable and some failures may still occur despite the best application of high professional standards. Future tree maintenance will also affect the trees health and stability and is not under the supervision or scrutiny of this consultant. Continuing construction activity such as trenching will also affect the health and safety, but are unknown and unsupervised by this consultant. Trees are living, dynamic organisms and their future status cannot be predicted with complete certainty by any expert. This consultant does not assume liability for any tree failures involved with this property.

Certification

I, Gregory W. Applegate, certify to the best of my knowledge and belief:

That the statements of fact contained in this report are true and correct. That the report analysis, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal unbiased professional analysis, opinions and conclusions.

That I have no present or prospective interest in the vegetation that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.

That my compensation is not contingent upon the reporting of a predetermined conclusion, that favors the cause of the client, the attainment of stipulated result or the occurrence of a subsequent event.

That my analysis, opinions, and conclusions were developed, and this report has been prepared, in conformity with the standards of arboricultural practice. As of this report date, I have completed the requirements of continuing education for Registered Consulting Arborist.

That my opinions are based on the information known to me at this time. No internal dissection or decay investigation was made.

That I have made a personal inspection of the trees that are the subject of this report. No one provided significant professional assistance to the person signing this report.

Furthermore, the opinions above are held with reasonable degree of professional certainty, predicated on over 50 years of experience in the nursery, landscape, and arboricultural industries and the documents and information provided me.

I do not authorize out of context quoting from or partial reprinting of this appraisal report. Neither all or any part of this report shall be disseminated to the general public by the use of media for public communication without the prior written consent of the undersigned.

Arborgate Consulting, Inc.
Gregory W. Applegate ______________________________ Date 06-21-22
Registered Consulting Arborist #365

MEMORANDUM

TO: Wes Pringle and Eileen Hunt, Los Angeles Department of Transportation

FROM: Emily Wong, P.E., and Lauren Mullarkey-Williams

DATE: November 2, 2022

RE: Transportation Assessment for the
1200 Vine Street Project
Los Angeles, California **Ref:** J2013

This memorandum presents the transportation assessment for the proposed 1200 Vine Project (Project) located at 1200, 1204, 1214, and 1218 N. Vine Street and 6245 and 6247 W. Lexington Avenue (Project Site) within the *Hollywood Community Plan*[1] (Los Angeles Department of City Planning [LADCP], 1988) area of the City of Los Angeles, California (City). The methodology and base assumptions used in the analysis were established in conjunction with the Los Angeles Department of Transportation (LADOT).

The scope of assessment was developed in consultation with LADOT and is consistent with *Transportation Assessment Guidelines* (LADOT, August 2022) (TAG) and in compliance with the California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Title 14, Section 15000 and following). The base assumptions and technical methodologies (i.e., trip generation, study locations, analysis methodology, etc.) were identified as part of the study approach and were outlined in a Memorandum of Understanding (MOU) that was reviewed and approved by LADOT in August 2022 and is provided in Attachment A.

PROJECT DESCRIPTION

The Project proposes to construct an eight-story mixed-use development consisting of 153 residential units, including 18 affordable housing units, and 7,000 square feet of commercial uses. Vehicular access to the Project Site would be provided via one shared commercial and residential driveway on Vine Street with right-turn ingress and egress only and one full access residential-only driveway on Lexington Avenue. Parking for the Project would be provided on-site within one ground level and one above-grade level. Short-term and long-term bicycle parking would be provided on the ground level of the Project.

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[1] The City is currently in the process of updating the Hollywood Community Plan to guide development for the Hollywood area through Year 2040. *Hollywood Community Plan Update Draft Environmental Impact Report* (Terry A. Hayes Associates, Inc., November 2018) was released for public review in October 2019. On March 18, 2021, the City Planning Commission recommended approval of the Hollywood Community Plan with recommended changes, which were subsequently incorporated to the Plan Update and released in August 2021. The City is still in its final steps of the adoption process and formal adoption of the Hollywood Community Plan Update is anticipated in late Year 2022 or Year 2023.

Pedestrian and bicycle access to the Project would be provided via commercial entrances along Vine Street and a residential lobby along Lexington Avenue. The Project would also include an outdoor plaza with access along Lexington Avenue. The Project is anticipated to be completed in Year 2027. The conceptual Project site plan is provided in Figure 1.

PROJECT LOCATION

The Project Site, contained within a portion of Assessor Parcel Numbers 5534-002-023 and -018, is located in the Hollywood area of the City, within City Council District 13. As shown in Figure 2, the Project Site is bounded by office uses to the north, residential uses to the east, Lexington Avenue to the south, and Vine Street to the west. The Project is located approximately less than 1.00 miles south of the Hollywood Freeway (US 101). The Project Site is primarily served by Vine Street and Lexington Avenue.

The Project Site is located within 0.25 miles of a Major Transit Stop, which is defined in Section 21064.3 of the Public Resources Code (PRC) as an existing, under construction, or planned rail station or intersection of two or more bus routes with service intervals of 15 minutes or less during the morning and afternoon commuter peak periods. Therefore, the Project Site is located within a Transit Priority Area (TPA), which is defined in Section 21099(a) of the PRC as an area within 0.50 miles of a major transit stop that is existing or planned. Nearest to the Project Site, the intersection of Gower Street & Santa Monica Boulevard, located 1,250 feet southeast of the Project Site, qualifies as a Major Transit Stop. Additionally, the Project Site is served by numerous bus lines, primarily along Vine Street that are operated by the Los Angeles County Metropolitan Transportation Authority (Metro) and the LADOT Downtown Area Short Hop (DASH).

PROJECT CONTEXT

A comprehensive data collection effort was undertaken to develop a detailed description of existing and future conditions in the Study Area.

<u>Study Area</u>

The Study Area includes key intersections along Vine Street, as well as the transportation infrastructure described below. This Study Area was established in consultation with LADOT based on the following factors identified in the TAG:

1. Primary driveway(s)

2. Intersections at either end of the block on which the Project is located or up to 600 feet from the primary Project driveway(s)

3. Unsignalized intersections adjacent to the Project Site that are integral to the Project's site access and circulation plan

4. Signalized intersections in proximity to the Project Site where 100 or more Project trips would be added

The signalized study intersections of Vine Street & Fountain Avenue (Intersection #1) and Vine Street & Lexington Avenue (Intersection #2) were identified for detailed analysis during the MOU process:

Figure 3 illustrates the Study Area and the two study intersections. The existing lane configurations at the analyzed intersections are provided in Figure 4.

Existing Transportation Conditions

The analysis included an Existing Conditions assessment of the existing transportation infrastructure and conditions of the Study Area including freeway and street systems and transit service, as well as pedestrian and bicycle circulation, in Year 2022. An inventory of lane configurations, signal phasing, parking restrictions, etc., for the analyzed intersections was also conducted. Traffic count data is provided in Attachment B.

Existing Street System. The existing street system in the Study Area consists of a regional roadway system including arterials and local streets that provide regional, sub-regional, or local access and circulation to the Project. These transportation facilities generally provide two to four travel lanes and usually allow parking on one or both sides of the street. Typically, the speed limits range between 25 and 35 miles per hour (mph) on the streets and 55 mph on freeways.

Street classifications are designated in *Mobility Plan 2035, An Element of the General Plan* (LADCP, September 2016) (the Mobility Plan). The Mobility Plan defines specific street standards in an effort to provide an enhanced balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design and site access, etc.

The following is a brief description of the roadways in the Study Area, including their classifications under the Mobility Plan:

- Vine Street – Vine Street is designated Avenue II that runs in the north-south direction and is located adjacent to the western boundary of the Project Site. It generally provides four travel lanes, two lanes in each direction, with a two-way left-turn median and left-turn lanes at major intersections. One-hour metered parking is generally available on both sides of the street south of Lexington Avenue, and two-hour metered parking is generally available on both sides of the street north of Levington Avenue. Class III bicycle sharrows are provided on both sides of the street within the Study Area. Travel lanes are typically 11 feet wide, and the total paved width is approximately 70 feet wide.

- Fountain Avenue – Fountain Avenue is a designated Collector Street that runs in the east-west direction and is located north of the Project Site. It generally provides two travel lanes, one lane in each direction, with left-turn lanes at major intersections. Two-hour unmetered parking is generally available on both sides of the street east of Vine Street, and unmetered parking is generally provided on both sides of the street west of Vine Street. Class III bicycle sharrows are provided on both sides of the street within the Study Area. The total paved width of the street is approximately 45-55 feet wide east of Vine Street and 40 feet wide west of Vine Street.

> Lexington Avenue – Lexington Avenue is a designated Local Street that runs in the east-west direction and is located adjacent to the southern boundary of the Project Site. It generally provides two travel lanes, one lane in each direction. Within the Study Area, unmetered parking is generally available on both sides of the street. The total paved width of the street is approximately 40 feet wide.

The existing intersection mobility facilities are shown in Figure 5 and the Mobility Plan street designations are shown in Figure 6.

Existing Pedestrian Facilities. The walkability of existing facilities is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile. These attributes are quantified by WalkScore.com and assigned a score out of 100 points. With the various commercial businesses, employment, entertainment, and cultural centers adjacent to residential neighborhoods, the walkability of the Study Area is approximately 96 points[2].

The sidewalks that serve as routes to the Project Site provide proper connectivity and adequate widths for a comfortable and safe pedestrian environment. The sidewalks provide connectivity to accessible crossings at signalized intersections within the Study Area. Both study intersections provide pedestrian access in the vicinity of the Project Site, with marked pedestrian crossings on all approaches, pedestrian phasing, and crosswalk striping. Vine Street & Fountain Avenue (Intersection #1) provides Americans with Disabilities Act (ADA) accessible curb ramps on all four corners. Pedestrian facilities located within the Study Area and are further detailed in Figure 5. An inventory of pedestrian attractors within a 0.25-mile walking distance from the Project Site is illustrated in Figure 6.

Vision Zero. As described in *Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025* (City of Los Angeles, August 2015), Vision Zero is a traffic safety policy that promotes strategies to eliminate transportation-related collisions that result in severe injury or death. Vision Zero has identified a High Injury Network (HIN), a network of streets included based on collision data from the last five years, where strategic investments would have the biggest impact in reducing death and severe injury. Adjacent to the Project Site, Vine Street has been identified as part of the HIN. Additionally, the following streets within 0.25 miles of the Project are also identified in the HIN (and depicted in Figure 6):

- Santa Monica Boulevard
- Cahuenga Boulevard

Existing Bicycle System. The Mobility Plan includes the specific goals and policies of *2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element* (LADCP, 2010) (2010 Bicycle Plan). The Mobility Plan establishes the overall framework for those components of the 2010 Bicycle Plan and builds upon those goals of improving bicycling for all levels of experience. Currently, Class III bicycle sharrows are provided on Fountain Ave and Vine Street within the Study Area. Vine Street & Fountain Avenue (Intersection #1) also provides a Metro Bike Share station approximately 375 feet north of the Project Site.

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[2] Walk Score (www.walkscore.com) rates the Project Site with a score of 96 of 100 possible points (scores assessed on August 30, 2022, for 1200 Vine Street). Walk Score calculates the walkability of specific addresses by taking into account the ease of living in the neighborhood with a reduced reliance on automobile travel.

Existing Transit System. Figure 7 illustrates the existing transit service in the Study Area, which is served by bus lines operated by Metro and LADOT DASH. Nearest to the Project Site, Metro Local Line 210 stops at Vine Street & Lexington Avenue (Intersection #2), LADOT DASH Hollywood Clockwise and Counterclockwise stop at Vine Street & Fountain Avenue (Intersection #1), Metro Local Line 4 stops at the nearby intersection of Vine Street & Santa Monica Boulevard, and LADOT DASH Hollywood/Wilshire stops at the nearby intersection of Gower Street & Lexington Avenue.

Table 1 summarizes the various transit line services operating in and around the Study Area for each of the providers in the region, the type of service (peak vs. off-peak, express vs. local), and frequency of service. The average frequency of transit service during the peak hours was derived from schedule information from each respective transit provider for the stop nearest the Project Site and were calculated consistent with the methodology identified in the Transportation System – Transit Technical Report of *Connect SoCal – The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy* {Southern California Association of Governments [SCAG], Adopted September 2020) (RTP/SCS). The schedule information includes transit route and frequencies based on Metro schedules effective October 23, 2022 and LADOT DASH Hollywood and Hollywood/Wilshire schedules effective August 3, 2020 and July 31, 2021, respectively.

Tables 2A and 2B summarize the total capacity of the Metro transit system and LADOT bus lines during the morning and afternoon peak hours based on the frequency of service of each line, detailed ridership data provided by the transit provider and the maximum seated and standing capacity of each bus or train. As shown, the Metro and LADOT bus lines within 0.25 miles of the Project Site currently provide additional capacity for 733 transit riders during the morning peak hour and 545 transit riders during the afternoon peak hour. A high quality transit corridor (HQTC) is defined in Section 21155 of the PRC as a corridor with fixed bus route service with service intervals of no more than 15 minutes during peak commute hours.

As shown in Table 1, Metro Local Line 4, which travels in the east-west direction along Santa Monica Boulevard, and Metro Local Line 210, which travels in the north-south direction along Vine Street, provide fixed bus route service with intervals of less than 15 minutes during both the morning and afternoon commuter peak periods (6:00 AM to 9:00 AM and 3:00 PM to 7:00 PM). Both Metro Local Line 4 and Metro Local Line 210 provide bus stops at the intersection of Vine Street & Santa Monica Boulevard, located approximately 680 feet south of the Project Site. As such, the intersection of Vine Street & Santa Monica Boulevard qualifies as a Major Transit Stop, and both Vine Street and Santa Monica Boulevard qualify as HQTCs. Accordingly, the Project Site's location within 0.50 miles of both a Major Transit Stop and a HQTC meets the transit proximity requirements required by PRC Section 21155(b).

Existing Traffic Volumes. Traffic count data collection is generally conducted during times with typical travel demand patterns (i.e., when local schools are in session, businesses are in full operation, weeks without holidays, etc.) Collection of new traffic count data was not conducted in light of the Safer at Home order in response to COVID-19. Consistent with the TAG, based on historical trends in traffic growth, an ambient growth rate of 1% per year was applied to weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak period intersection counts from May 2018 to represent Year 2022 conditions. The existing intersection peak hour traffic volumes are illustrated in Figure 8.

Future Cumulative Transportation Conditions

The future conditions detail the assumptions used to develop the Future without Project Conditions in Year 2027, which corresponds to expected occupancy of the Project.

The Future without Project Conditions traffic volumes include ambient growth, which reflects the increase in traffic due to regional growth and development outside the Study Area, as well as traffic generated by ongoing or entitled projects near or within the Study Area (the Related Projects) in accordance with procedures outlined in the CEQA Guidelines.

Ambient Traffic Growth. Traffic levels are expected to increase over time as a result of regional growth and development in and around the Study Area. Based on discussions with LADOT through the MOU process, a conservative ambient growth factor of 1% per year compounded annually was applied by inflating the existing traffic volumes to simulate Year 2027 traffic volumes. The total adjustment applied over the five-year period was 5.10%. These growth factors account for increases in traffic due to potential projects not yet proposed and projects located outside the Study Area.

Related Projects. The list of Related Projects is based on information provided by LADCP and LADOT, as well as recent studies in the area. The Related Projects are detailed in Table 3 and their approximate locations are shown in Figure 9. Though the buildout years of many of these Related Projects are uncertain and may be well beyond the buildout year of the Project, and notwithstanding that some may never be approved or developed, they were all considered as part of this transportation assessment and conservatively assumed to be completed by the Project buildout year of 2027. The traffic growth due to the development of Related Projects considered in this analysis is conservative and, by itself, substantially overestimates the actual traffic volume growth in the area that would likely occur prior to Project buildout years. With the addition of the 1% per year ambient growth factor previously discussed, the Future without Project cumulative condition is even more conservative.

Peak hour traffic volumes resulting from Related Projects are shown in Figure 10 at each study intersection.

Future without Project Conditions Traffic Volumes. The Related Projects volumes were then added to the existing traffic volumes after adjustment for ambient growth through the projected Project completion year of 2027. These volumes represent the Future without Project Conditions (i.e., ambient traffic growth and Related Project traffic added to existing traffic volumes) for Year 2027 and are shown in Figure 11 for both study intersections.

Future Improvements. The analysis of Future Conditions considered roadway improvements that have been funded and are expected to be implemented prior to the buildout of the proposed Project, however, none were identified within the Study Area. Other proposed roadways improvement projects that are not funded and traffic/trip reduction strategies such as Transportation Demand Management (TDM) programs for individual buildings and developments were not considered in the Future Conditions analyses.

Although no planned improvements were identified within the Study Area, the Mobility Plan identifies key corridors as components of various “mobility-enhanced networks.” Each network is intended to focus on improving a particular aspect of urban mobility, including transit, neighborhood connectivity, bicycles, pedestrians, and vehicles. The specific improvements that may be implemented in those networks have not yet been identified, and there is no schedule for implementation; therefore, no changes to vehicular lane configurations were made as a result of the Mobility Plan. However, the following mobility-enhanced networks included corridors within or near the Study Area and depicted in Figure 12:

- Transit Enhanced Network (TEN): The TEN aims to improve existing and future bus services through reliable and frequent transit service in order to increase transit ridership, reduce single-occupancy vehicle trips, and integrate transit infrastructure investments within the surrounding street system. The TEN has designated Santa Monica Boulevard within the Study Area as part of the network.

- Neighborhood Enhanced Network (NEN): The NEN reflects the synthesis of the bicycle and pedestrian networks and serves as a system of local streets that are slow moving and safe enough to connect neighborhoods through active transportation. The NEN has designated Fountain Avenue, Cole Avenue, Gower Street, and De Longpre Avenue east of El Centro Avenue within the Study Area as part of the network.

- Bicycle Enhanced Network (BEN)/Bicycle Lane Network (BLN): No streets within the Study Area are designated as part of the BEN. The BLN has designated Vine Street and Santa Monica Boulevard within the Study Area as part of the network.

- Pedestrian Enhanced District (PED): The Mobility Plan aims to promote walking to reduce the reliance on automobile travel by providing more attractive and pedestrian-friendly sidewalks, as well as adding pedestrian signalizations, street trees, and pedestrian-oriented design features. The PED has designated Vine Street, Fountain Avenue between Cahuenga Avenue and Gower Street, Santa Monica Boulevard west of Gower Street, Cahuenga Boulevard north of Fountain Avenue and south of La Mirada Avenue, Cole Avenue north of Fountain Avenue and south of La Mirada Avenue, and Gower Street north of Fountain Avenue within the Study Area as part of the network.

PROJECT TRAFFIC

Trip generation estimates, trip distribution patterns and trip assignments were prepared for the Project.

Trip Generation

The number of trips generated by the Project was estimated using morning and afternoon peak hour rates for mid-rise multifamily housing and high-turnover sit-down restaurant published in *Trip Generation Manual, 11th Edition* (Institute of Traffic Engineers [ITE], 2021), as well as morning and afternoon peak hour rates for affordable housing units located inside a TPA based on empirical data collected in the City in 2016 and published in Table 3.3-2 of the TAG.

In consultation with LADOT during the MOU process, allowable trip generation reductions were applied to account for internal capture, public transit usage/walking arrivals, and pass-by trips:

- Internal Capture: A 10% internal capture reduction was applied to the commercial trip generation estimates to account for person trips made between the different uses of the Project without requiring an additional vehicle trip.

- Transit Usage: A 10% transit usage reduction was applied to the trip generation estimates (except for the affordable housing units, for which transit usage is assumed to be inherent in the trip generation rates) in accordance with the TAG methodology for a development within 0.25 miles of local bus stops.

- Pass-By: Consistent with Attachment H of the TAG, 20% pass-by reductions were applied to the commercial trip generation estimates to account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

It should be noted that, to provide a more conservative analysis, no trip generation reductions were applied for the removal of existing uses at the Project Site.

As shown in Table 4, after accounting for the trip reductions above, the Project is anticipated to generate 97 morning peak hour trips (38 inbound trips, 59 outbound trips) and 95 afternoon peak hour trips (57 inbound trips, 38 outbound trips).

Project Trip Distribution

Traffic entering and exiting the Project was assigned to the surrounding street system by land use type and access provisions. The intersection-level trip distribution pattern for Project traffic at the study intersections is shown in Figures 13A and 13B for residential and commercial uses, respectively.

Project Trip Assignment

The Project trip generation estimates summarized in Table 4 and the trip distribution patterns shown in Figure 13A for residential uses and Figure 13B for commercial uses were used to assign the Project-generated traffic through the study intersections. Figure 14 illustrates the Project-only traffic volumes for the Project at the study intersections and driveways during typical weekday morning and afternoon peak hours.

CEQA ANALYSIS OF TRANSPORTATION IMPACTS

State of California Senate Bill 743 (Steinberg, 2013) (SB 743), made effective in January 2014, required the Governor's Office of Planning and Research to change the CEQA guidelines regarding the analysis of transportation impacts. Under SB 743, the focus of transportation analysis shifts from driver delay (level of service [LOS]) to vehicle miles traveled (VMT) in order to reduce greenhouse gas emissions (GHG), create multimodal networks, and promote mixed-use developments.

LADOT's TAG defines the methodology for analyzing a project's transportation impacts in accordance with SB 743.

The TAG and CEQA Guidelines Appendix G identifies four CEQA thresholds applicable to the Project for identifying significant transportation impacts in accordance with SB 743:

- Threshold T-1: Conflicting with Plans, Programs, Ordinances, or Policies
- Threshold T-2.1: Causing Substantial Vehicle Miles Traveled (VMT)
- Threshold T-2.2: Substantially Inducing Additional Automobile Travel
- Threshold T-3: Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use

THRESHOLD T-1: CONFLICTING WITH PLANS, PROGRAMS, ORDINANCES, OR POLICIES

Threshold T-1 states that a project would result in a significant impact if it conflicts with a program, plan, ordinance, or policy adopted to protect the environment and that addresses the circulation system, including transit, roadways, bicycle, and pedestrian facilities. Table 2.1-1 of the TAG provides the City plans, policies, programs, ordinances, and standards relevant in determining project consistency. Attachment D of the TAG – *Plans, Policies, and Programs Consistency Worksheet* – provides a structured approach to evaluate whether a project conflicts with the City plans, programs, ordinances, or policies and streamlines the review by highlighting the most relevant plans, policies, and programs when assessing potential impacts to the City's transportation system. The *Plans, Policies, and Programs Consistency Worksheet* was completed for the Project and is provided in Attachment C.

As stated in Section 2.1.4 of the TAG, a project that generally conforms with, and does not obstruct the City's development policies and standards will generally be considered to be consistent. As summarized below, the Project is consistent with the transportation-related elements of the City documents listed in Table 2.1-1 of the TAG. Therefore, the Project would not result in a significant impact under Threshold T-1. Detailed discussion of the plans, programs, ordinances, or policies related is provided below.

<u>Mobility Plan</u>

The Mobility Plan combines "complete street" principles with the following five goals that define the City's mobility priorities:

1. Safety First
2. World Class Infrastructure
3. Access for all Angelenos
4. Collaboration, Communication, and Informed Choices
5. Clean Environments and Healthy Communities

The Project location and site access is consistent with the goals of the Mobility Plan as the Project would be designed to provide safe access for all users. The Project would support the policies of the Mobility Plan as it would promote a balanced transportation system by locating affordable housing in proximity to transit, jobs, and local retail uses. The Project would meet the goals of the

Mobility Plan and would not interfere with the applicable policies of the Mobility Plan. Thus, the Project would be consistent with the Mobility Plan. The following provides further details of specific policies and programs in the Mobility Plan that were deemed most relevant to the Project.

- Policy 1.3 Safe Routes to School – Prioritize the safety of school children on all streets regardless of highway classifications. The City's Safe Routes to School program has not identified any infrastructure projects within the vicinity of the Project Site. Therefore, the Project would not conflict with Mobility Plan Policy 1.3.

- Policy 2.3 Pedestrian Infrastructure – Recognize walking as a component of every trip and ensure high quality pedestrian access in all site planning and public right-of-way (ROW) modifications to provide a safe and comfortable walking environment. Pedestrian access to the Project would be provided via commercial entrances along Vine Street and a residential lobby along Lexington Avenue. The Project includes pedestrian-friendly landscaping and design to enhance the pedestrian experience. The Project would also improve the existing sidewalks along the Project frontage in accordance with City standards. In addition, the Project's driveways would be designed to provide safe pedestrian crossings. Therefore, the Project would not conflict with Mobility Plan Policy 2.3.

- Policy 2.5 Transit Network – Improve the performance and reliability of existing and future bus service. As detailed in Tables 2A and 2B, the transit system serving the Project Site has available capacity for approximately 733 additional riders during the morning peak hour and 545 additional riders during the afternoon peak hour. Even with the increased ridership from the Project, ample transit capacity would be available to serve the Project area. As such, the Project would not cause the capacity of the transit system to be substantially exceeded and the Project would not conflict with Mobility Plan Policy 2.5.

- Policy 2.6 Bicycle Networks – Provide safe, convenient, and comfortable local and regional bicycling facilities for people of all types and abilities. Class III bicycle sharrows are provided on Fountain Ave and Vine Street within the Study Area. Vine Street & Fountain Avenue (Intersection #1) also provides a Metro Bike Share station approximately 375 feet north of the Project Site. Vine Street is part of the BLN in the Mobility Plan. The Project's driveways would be designed to minimize conflicts with bicycles, and bicyclists would have the same access opportunities to the Project Site as pedestrians. In accordance with the requirements of Los Angeles Municipal Code (LAMC) Section 12.21-A, 16(a), the Project would provide 120 bicycle parking spaces, including 14 short-term and 106 long-term bicycle parking spaces. Therefore, the Project would not conflict with Mobility Plan Policy 2.6.

- Policy 2.9 Multiple Networks – Consider the role of each enhanced network (i.e., TEN, PED, and BEN) when designing a street that includes multiple modes. As discussed above, in the analyses for Policies 2.5 and 2.6, the Project would not conflict with Mobility Plan policies related to transit and bicycle networks. Vine Street adjacent to the Project Site is identified as part of the PED and BLN. The Project would upgrade the existing sidewalk on Vine Street along the Project frontage to meet Mobility Plan standards. Additionally, bicycle parking that meets LAMC requirements would be provided. Bicyclists and pedestrians would have separate entrances from vehicles and the Project's driveways would be designed in line with the Driveway Design Guidelines. Both Vine Street and

Lexington Avenue currently meet the Mobility Plan standards; therefore, the Project would not be required to provide dedications along the Project frontage, and completion of the Project would not preclude implementation of the Mobility Plan. Therefore, the Project would not conflict with Mobility Plan policies related to any of the enhanced networks in the Mobility Plan.

- Policy 2.10 Loading Area – Facilitate the provision of adequate on and off-street loading areas. The Project would provide on-site loading areas on the ground floor parking level. As such, delivery trucks would not encroach on or block the public ROW. Therefore, the Project would not conflict with Mobility Plan Policy 2.10.

- Policy 3.2 People with Disabilities – Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public ROW. Both vehicular and pedestrian access to the Project from the public ROW would be designed to meet the standards of ADA requirements. Therefore, the Project would not conflict with Mobility Plan Policy 3.2.

Plan for a Healthy Los Angeles

Plan for a Healthy Los Angeles: A Health and Wellness Element of the General Plan (LADCP, March 2015) (Plan for a Healthy Los Angeles) introduces guidelines for the City to follow to enhance the City's position as a regional leader in health and equity, encourage healthy design and equitable access, and increase awareness of equity and environmental issues.

The Project supports healthy lifestyles by reducing single-occupant vehicle trips by virtue of its location near to abundant high-quality and high-frequency transit options and its provision of bicycle parking per the LAMC. The Project does not interfere with any other policies recommended by the plan. Therefore, the Project is consistent with Plan for a Healthy Los Angeles.

LAMC Section 12.21-A.16

LAMC Section 12.21.A.16 details the bicycle parking requirements for new developments. In accordance with the requirements of the LAMC, the Project would provide a total 120 bicycle parking spaces, including 14 short-term and 106 long-term bicycle parking spaces.

LAMC Section 12.26-J

LAMC Section 12.26J, the adopted TDM Ordinance (1993), establishes TDM requirements for projects with at least 25,000 sf of non-residential gross floor area[3]. The Project does not include non-residential floor area in excess of 25,000 sf and, therefore, the TDM Ordinance does not apply.

[3] The TDM Ordinance is currently being updated and is progressing through the City's approval process. The updated TDM Ordinance will expand the reach and application of TDM strategies to more land uses, including residential uses.

LAMC Section 12.37

LAMC Section 12.37 pertains to development or expansion of buildings along Highways and Collector Streets and applies to streets designated Boulevard I, Boulevard II, Avenue I, Avenue II, and Avenue III in the Mobility Plan. Vine Street is a designated Avenue II in the Mobility Plan, and currently meets the ROW standards of the Mobility Plan. Therefore, the Project would not be required to provide a dedication along the Project frontage. Thus, the Project would be consistent with the requirements of LAMC Section 12.37.

Vision Zero

The primary goal of Vision Zero is to eliminate traffic deaths in the City by 2025. Vision Zero identifies the HIN, a network of streets where strategic investments will have the biggest impact in reducing death and severe injury. Annually developed Action Plans emphasize creating safe streets for all users, developing a culture of safety, adopting policy measures to promote safety, and using data to inform the most effective solutions. The information from this review comes from the City's *Vision Zero Los Angeles: 2018 Action Plan + Progress Report* (2018) and LADOT's list of active Vision Zero projects maintained at www.ladotlivablestreets.org.

Adjacent to the Project Site, Vine Street has been identified as part of the HIN but has not been identified as a Priority Corridor. Therefore, no Vision Zero improvements are currently planned adjacent to the Project Site. Nevertheless, the Project would not preclude future Vision Zero safety improvements by the City. Thus, the Project does not conflict with Vision Zero.

Citywide Design Guidelines for Residential, Commercial, and Industrial Development

Citywide Design Guidelines (LADCP Urban Design Studio, October 2019) identifies urban design principles to guide architects and developers in designing high-quality projects that meet the City's functional, aesthetic, and policy objectives and help foster a sense of community. *Citywide Design Guidelines* is organized around six design objectives. *City of Los Angeles Urban Design Principles* (LADCP, 2011) aims to improve mobility in the City through travel mode choices.

The Project would provide affordable housing in proximity to a broad range of land uses and transit options within walking distance, which would encourage pedestrian activity. The Project would be integrated within the surrounding area by providing improved sidewalks and landscaping. Pedestrian connections would be provided via separate entrances from vehicle entrances. In addition, loading activities would occur on-site. Therefore, the Project would align with *Citywide Design Guidelines* to provide a safe, comfortable, and accessible experience for all transportation modes.

Cumulative Analysis

In addition to potential Project-specific impacts, the TAG requires that the Project be reviewed in combination with nearby Related Projects to determine if there may be a cumulatively significant impact resulting from inconsistency with a particular program, plan, policy, or ordinance. In accordance with the TAG, the cumulative analysis must include consideration of any Related

Projects within 0.50 miles of the Project Site and any transportation system improvements in the vicinity.

Each of the Related Projects considered in this cumulative analysis of consistency with programs, plans, policies, and ordinances would be separately reviewed and approved by the City, including a check for their consistency with applicable policies. Collectively, the Project and the Related Projects add higher-density development in a high-quality transit area, which would increase pedestrian activity and reduce the need for single occupancy vehicles. Therefore, the Project, together with the Related Projects identified in this study, would neither create inconsistencies nor result in cumulative impacts with respect to the identified programs, plans, policies, and ordinances.

THRESHOLD T-2.1 – CAUSING SUBSTANTIAL VMT

The VMT metric is intended to promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. This encourages development that shortens the distance between housing, jobs, and services, increases the availability of affordable housing options in proximity to public transit, offers attractive non-vehicular transportation alternatives, provides strong transportation demand management programs, and promotes walking and bicycling trips.

VMT Impact Thresholds

The TAG identifies significance thresholds to apply to development projects when evaluating potential VMT impacts consistent with the California Governor's Office of Planning and Research (OPR) CEQA guidance. Threshold T-2.1 (Causing Substantial Vehicle Miles Traveled) of the TAG states that a residential project would result in a significant VMT impact if it cannot demonstrate average household VMT per capita of at least 15% below the existing standard for the Area Planning Commission (APC) in which it is located.

The Project is located in the Central APC which, according to the TAG, has an average household VMT per capita impact threshold of 6.0. Therefore, should the Project's average household VMT per capita be equal to or lower than 6.0, the Project's overall VMT impact would be less than significant.

VMT Analysis Methodology

LADOT developed the *City of Los Angeles VMT Calculator Version 1.3* (July 2020) (VMT Calculator) to estimate project-specific daily household VMT per capita and daily work VMT per employee for developments within City limits, which are based on the following types of one-way trips:

- Home-Based Work Production: origin trips from a residential use to a workplace destination

- Home-Based Other Production: origin trips from a residential use to a non-workplace destination (e.g., retail, restaurant, etc.)

- Home-Based Work Attraction: destination trips to a workplace originating from a residential use

As detailed in *City of Los Angeles VMT Calculator Documentation* (LADOT and LADCP, May 2020), the household VMT per capita threshold applies to home-based work production and home-based other production trips, and the work VMT per employee threshold applies to home-based work attraction trips, as the location and characteristics of residences and workplaces are often the main drivers of VMT, as detailed in Appendix 1 of *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, December 2018).

Other types of trips in the VMT Calculator, including Non-Home-Based Other Production (trips to a non-residential destination originating from a non-residential use), Home-Based Other Attraction (trips to a non-workplace destination originating from a residential use), and Non-Home-Based Other Attraction (trips to a non-residential destination originating from a non-residential use), are not factored into the VMT per capita and VMT per employee thresholds as those trips are typically localized and are assumed to have a negligible effect on the VMT impact assessment. However, those trips are factored into the calculation of total project VMT for LADOT screening purposes when determining if further VMT analysis for a project would be required.

The methodology in determining VMT based on the VMT Calculator is consistent with the TAG.

Travel Behavior Zone (TBZ). The City developed TBZ categories to determine the magnitude of VMT and vehicle trip reductions that could be achieved through TDM strategies. As detailed in *City of Los Angeles VMT Calculator Documentation*, the development of the TBZs considered the population density, land use density, intersection density, and proximity to transit of each Census tract in the City and are categorized as follows:

1. *Suburban (Zone 1): Very low-density primarily centered around single-family homes and minimally connected street network.*

2. *Suburban Center (Zone 2): Low-density developments with a mix of residential and commercial uses with larger blocks and lower intersection density.*

3. *Compact Infill (Zone 3): Higher density neighborhoods that include multi-story buildings and well-connected streets.*

4. *Urban (Zone 4): High-density neighborhoods characterized by multi-story buildings with a dense road network.*

The VMT Calculator determines a project's TBZ based on the latitude and longitude of the project address. The Project is located in an Urban (Zone 4) TBZ.

Trip Lengths. The VMT Calculator determines a project's VMT based on trip length information from the City's Travel Demand Forecasting (TDF) Model. The TDF Model considers the traffic analysis zones within 0.125 miles of a project to determine the trip lengths and trip types, which factor into the calculation of a project's VMT.

Population and Employment Assumptions. As previously stated, the VMT thresholds identified in the TAG are based on household VMT per capita and work VMT per employee. Thus, the VMT Calculator contains population assumptions developed based on Census data for the City and employment assumptions derived from multiple data sources, including *2012 Developer Fee Justification Study* (Los Angeles Unified School District, 2012), the San Diego Association of Governments Activity Based Model, *Trip Generation Manual, 9th Edition* (ITE, 2012), the US Department of Energy, and other modeling resources. A summary of population and employment assumptions for various land uses is provided in Table 1 of *City of Los Angeles VMT Calculator Documentation.*

TDM Measures. Additionally, the VMT Calculator measures the reduction in VMT resulting from a project's incorporation of TDM strategies as project design features or mitigation measures. The following seven categories of TDM strategies are included in the VMT Calculator:

1. Parking
2. Transit
3. Education and Encouragement
4. Commute Trip Reductions
5. Shared Mobility
6. Bicycle Infrastructure
7. Neighborhood Enhancement

TDM strategies within each of these categories have been empirically demonstrated to reduce trip-making or mode choice in such a way as to reduce VMT, as documented in *Quantifying Greenhouse Gas Mitigation Measures* (California Air Pollution Control Officers Association, 2010). As detailed in *Transportation Demand Management Strategies in LA VMT Calculator* (LADOT, November 2019), the effectiveness of the TDM strategies applied in the VMT Calculator is based on the research presented in *Quantifying Greenhouse Gas Mitigation Measures,* as well as localized data. To ensure that the cumulative effectiveness of the applied TDM strategies is not overstated, a multiplicative dampening formula is applied to account for potential overlaps in users of each strategy.

Project VMT Analysis

The VMT Calculator was used to evaluate Project VMT and compare it to the VMT impact criteria. Table 5 summarizes the Project VMT evaluation. The detailed worksheets from the VMT Calculator are provided in Attachment D.

Project VMT. It should be noted that as part of the Project design, measures would be implemented to reduce the number of single occupancy vehicle trips to the Project Site. For the purposes of this analysis, the VMT evaluation accounted for a reduced parking supply from baseline LAMC requirements and the inclusion of short-term and long-term bicycle parking per LAMC requirements.

As shown in Table 5, the VMT Calculator estimates that the Project would generate 1,320 total household VMT. Thus, based on the population assumptions, the Project would generate an average household VMT per capita of 3.7, which would not exceed the significance thresholds for the Central APC (6.0 household VMT per capita). Therefore, the Project would not result in a significant household VMT impact, and no mitigation measures would be required.

Cumulative Analysis. The TAG provides that cumulative effects of development projects are determined based on the consistency with the air quality and GHG reduction goals of the SCAG RTP/SCS in terms of development location, density, and intensity. The RTP/SCS presents a long-term vision for the region's transportation system through Year 2045 and balances the region's future mobility and housing needs with economic, environmental, and public health goals.

As detailed in the TAG, for projects that do not demonstrate a project impact by applying an efficiency-based impact threshold (i.e., household VMT per capita, work VMT per employee) in the project impact analysis, a less than significant impact conclusion is sufficient in demonstrating there is no cumulative VMT impact, as those projects are already shown to align with the long-term VMT and GHG goals of the RTP/SCS. The Project would not result in a significant household or work VMT impact, as detailed above. Therefore, the Project is not anticipated to result in a cumulative VMT impact under Threshold T-2.1, and no further evaluation or mitigation measures would be required.

Moreover, as previously detailed, the Project is located within a TPA as defined by the City and a High-Quality Transit Area as defined by the RTP/SCS. The Project's specific location in close proximity to high-quality transit and other off-site retail, restaurant, commercial, and residential areas, along with its highly walkable environment, support the conclusion that the Project would achieve a VMT reduction greater than the average for the area, as concluded in the Project VMT analysis provided above.

Thus, the Project encourages a variety of transportation options and is consistent with the RTP/SCS goal of maximizing mobility and accessibility in the region. The Project would also contribute to the productivity and use of the regional transportation system by providing housing near transit and encourage active transportation by providing new bicycle parking infrastructure and active street frontages, consistent with RTP/SCS goals. Therefore, the Project would not result in a cumulative VMT impact under Threshold T-2.1, and no further evaluation or mitigation measures would be required.

THRESHOLD T-2.2: SUBSTANTIALLY INDUCING ADDITIONAL AUTOMOBILE TRAVEL ANALYSIS

Threshold T-2.2 applies to transportation projects that increase vehicular capacity that leads to additional travel on the roadway network, which can include induced vehicle travel due to factors such as increased speeds and induced growth.

The Project does not include additional through traffic lanes on existing or new highways, general purpose lanes, high-occupancy vehicle lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges. Accordingly, neither the Project nor any improvements associated with it are considered a transportation project. Therefore, Threshold T-2.2 does not apply to the Project and no further evaluation is required.

THRESHOLD T-3: SUBSTANTIALLY INCREASING HAZARDS DUE TO A GEOMETRIC DESIGN FEATURE OR INCOMPATIBLE USE

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from a project site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle/vehicle, vehicle/bicycle, or vehicle/pedestrian conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a project site. These conflicts may be created by the driveway configuration or through the placement of project driveway(s) in areas of inadequate visibility, adjacent to bicycle or pedestrian facilities, or too close to busy or congested intersections.
A review of Project access points, internal circulation, and parking access was conducted to determine if the Project would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts.

Vehicles

As previously detailed, vehicular access to the Project Site would be provided via one commercial driveway on Vine Street, a designated Avenue II, with right-turn-only ingress/egress and one full access residential driveway on Lexington Avenue, a designated Local Street. Both driveways would be designed in accordance with City standards. Adequate queuing areas would also be provided at the driveways internal to the Project Site to limit any potential spillover into the public streets.

Therefore, as detailed above, the vehicular access and internal circulation plan for the Project would be designed to minimize vehicular conflicts, and safety impacts to the abutting street system are not anticipated.

Pedestrians & Bicycles

Pedestrian and bicycle access to the Project would be provided via commercial entrances along Vine Street and a residential lobby along Lexington Avenue. Vine Street has been identified as part of Vision Zero's HIN and the Mobility Plan's PED and BLN. Vine Street also has Class III bicycle sharrows. The driveways would be designed to provide safe pedestrian and bicycle crossings and, therefore, would not pose any safety hazards.

Cumulative Analysis

The TAG indicates that cumulative impacts for Threshold T-3 require a review of related projects with access points proposed along the same block(s) as a proposed project in order to determine the combined impact and the proposed project's contribution. None of the Related Projects identified in Table 3 provides access along the same block as the Project. Thus, the Project and Related Projects would not result in a cumulative impact under Threshold T-3.

Freeway Safety Analysis

The TAG guidance on identifying requirements for a CEQA safety analysis of California department of Transportation (Caltrans) facilities as part of a transportation assessment.

Methodology. *Interim Guidance for Freeway Safety Analysis* (LADOT, May 2020) (City Freeway Guidance) relates to the identification of potential safety impacts at freeway off-ramps as a result of increased traffic from development projects. It provides a methodology and significance criteria for assessing whether additional vehicle queueing at off-ramps could result in a safety impact due to speed differentials between the mainline freeway lanes and the queued vehicles at the off-ramp.

Based on the City Freeway Guidance, a transportation assessment for a development project must include analysis of any freeway off-ramp where the project adds 25 or more peak hour trips. A project would result in a significant impact at such a ramp if each of the following three criteria were met:

1. Under a scenario analyzing future conditions upon project buildout, with project traffic included, the off-ramp queue would extend to the mainline freeway lanes[4].

2. A project would contribute at least two vehicle lengths (50 feet, assuming 25 feet per vehicle) to the queue.

3. The average speed of mainline freeway traffic adjacent to the off-ramp during the analyzed peak hour(s) is greater than 30 mph.

Should a significant impact be identified, mitigation measures to be considered include TDM strategies to reduce a project's trip generation, investments in active transportation or transit system infrastructure to reduce a project's trip generation, changes to the traffic signal timing or lane assignments at the ramp intersection, or physical changes to the off-ramp. Any physical change to the ramp would have to improve safety, not induce greater VMT, and not result in secondary environmental impacts.

Analysis. Based on the Project's trip generation estimates and trip assignments, the Project would not add 25 or more peak hour trips to any freeway off-ramp. Therefore, no further freeway off-ramp queuing analysis is required. Furthermore, the Project would not result in a significant safety impact, and no corrective measures at any freeway off-ramps would be required.

NON-CEQA TRANSPORTATION ANALYSIS

The non-CEQA transportation analysis of the Project includes sections related to the Project traffic, proposed access provisions, safety, and circulation operations of the Project, and pedestrian, bicycle, and transit facilities in the vicinity of the Project, as well as the Project's operational conditions and effects due to Project construction.

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[4] If an auxiliary lane is provided on the freeway, then half the length of the auxiliary lane is added to the ramp storage length.

Per Section 3.1 of the TAG, any deficiencies identified based on the non-CEQA transportation analysis is "not intended to be interpreted as thresholds of significance, or significance criteria for purposes of CEQA review unless otherwise specifically identified in Section 2." Section 3 of the TAG identifies the following four non-CEQA transportation analyses for reviewing potential transportation deficiencies that may result from a development project:

- Pedestrian, Bicycle, and Transit Access Assessment
- Project Access, Safety, and Circulation Evaluation
- Residential Street Cut-Through Analysis
- Project Construction

PEDESTRIAN, BICYCLE, AND TRANSIT ASSESSMENT

The TAG indicates that the pedestrian, bicycle, and transit facilities assessment is intended to determine a project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the proposed project. The deficiencies could be physical (through removal, modification, or degradation of facilities) or demand-based (by adding pedestrian or bicycle demand to inadequate facilities).

Project Modifications

As previously described, vehicular access to the Project would be provided via one right-turn-only ingress/egress driveway along Vine Street and one full access driveway along Lexington Avenue. Both Project driveways would improve existing curb cuts to meet City standards. In addition, the Project would remove an existing curb cut along Vine Street to reduce vehicular interruptions to pedestrian flow and safety.

The Project would improve the adjacent sidewalk facilities to meet ADA requirements for slopes and passable spaces, including ADA compliance at driveways. The Project would not remove or cause degradation of existing sidewalks, crosswalks, pedestrian refuge areas or curb extensions, nor would the Project narrow existing sidewalks, paths, crossings, or access points.

The Project would not result in the deterioration of any existing bicycle facilities or transit facilities as no dedicated bicycle facilities or transit stops are located adjacent to the Project Site.

Intensification of Use

The Project would not directly or indirectly result in a permanent removal or modification of infrastructure or degrade pedestrian or bicycle facilities. Although the Project may slightly intensify use of existing pedestrian and bicycle facilities adjacent to the Project Site, the Project would maintain the existing ROW along the Vine Street and Lexington Avenue frontages. Thus, the Project would not result in the deterioration of any existing facilities serving pedestrians or bicyclists.

Further, the Project would result in some intensification of transit activity in the vicinity of the Project Site. However, given the Project Site's location near local bus services and its proximity to active commercial centers, it is ideally located to encourage non-automobile trips to and from those destinations and to reach additional public transit routes. Based on the trip estimates in Table 4 with application of an average vehicle occupancy factor of 1.55 for trips in Los Angeles County as identified in *SCAG Regional Travel Demand Model and 2012 Model Validation* (Southern California Association of Governments, March 2016), the Project is estimated to add approximately 19 new transit riders during the morning peak hour and 17 riders during the afternoon peak hour. The Project's transit trip estimate would account for approximately 2% of the residual peak hour transit capacity estimated in Tables 2A and 2B and, therefore, the Project would not constrain transit capacity.

As such, the amount of additional pedestrian, bicycle, and transit activity generated by the Project would not strain the capacity of facilities and operations dedicated to those modes.

PROJECT ACCESS AND CIRCULATION EVALUATION

Project access and circulation constraints relate to the provision of access to and from the Project Site, and may include safety, operational, or capacity constraints. Constraints can be related to vehicular/vehicular, vehicular/bicycle, or vehicular/pedestrian constraints as well as to operational delays. These conflicts may be created by the driveway configuration or through the placement of project driveway(s) in areas of inadequate visibility, adjacent to bicycle or pedestrian facilities, or too close to an intersection or crosswalk.

Vehicular Access & Internal Circulation

Vehicular access to the Project Site would be provided via driveways along Vine Street and Lexington Avenue. Access via Vine Street would be limited to right-turn-only ingress/egress maneuvers due to the proximity to adjacent intersections. The driveway along Lexington Avenue would provide both left- and right-turn ingress/egress access. Adequate queuing area would also be provided at the driveway internal to the Project Site to limit any potential spillover into the public ROW.

Pedestrians and Bicycles

Pedestrian and bicycle access to the Project would be provided via commercial entrances along Vine Street and a residential lobby along Lexington Avenue. The Project would also include an outdoor plaza with access along Lexington Avenue. The Project's pedestrian access locations would be designed to provide direct connections to public pedestrian sidewalks. The driveway and internal circulation system would be designed to maximize sight distance for all travel modes. The design is sensitive to not place street trees and other potential impediments in the sidewalk that would affect sight distance and visibility.

Residents, guests, and employees arriving by bicycle would have the same access opportunities as pedestrian visitors. The Project would not introduce new curb cuts and the Project driveways would be designed to limit potential vehicle/bicycle conflicts. In order to support and facilitate bicycle use to and from the Project Site, short-term and long-term bicycle parking spaces would be provided.

Operational Evaluation

Intersection operation conditions were evaluated at the two study intersections for typical weekday morning (6:00 AM to 10:00 AM) and afternoon (3:00 PM to 7:00 PM) peak periods. The following traffic conditions were developed and analyzed as part of this study:

- Existing with Project Conditions (Year 2022) – This analysis condition analyzes the potential intersection operating conditions that could be expected if the Project were built under existing conditions. In this analysis, the Project-generated traffic is added to the Existing Conditions.

- Future with Project Conditions (Year 2027) – This analysis condition analyzes the potential intersection operating conditions that could be expected if the Project were fully occupied in the projected buildout year. In this analysis, the Project-generated traffic is added to Future without Project Conditions (Year 2027).

Methodology. In accordance with the TAG, the intersection delay and queue analyses for the operational evaluation were conducted using the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016) (HCM) methodology. The HCM methodology was implemented using Synchro software and signal timing worksheets from the City to analyze intersection operating conditions. The HCM signalized methodology calculates the average delay, in seconds, for each vehicle passing through the intersections. Table 6 presents a description of the LOS categories, which range from excellent, nearly free-flow traffic at LOS A, to stop-and-go conditions at LOS F, for signalized and unsignalized intersections. The queue lengths were estimated using Synchro, which reports the 95th percentile queue length in feet. The reported queues are calculated using the HCM signalized intersection methodology.

LOS and queuing worksheets for each scenario are provided in Attachment E.

Existing with Project Conditions. The Project-only morning and afternoon peak hour traffic volumes were added to the Existing morning and afternoon peak hour traffic volumes, resulting in the Existing with Project Conditions traffic volumes illustrated in Figure 15, representing Project operation under Existing Conditions.

Table 7 summarizes the results of the Existing Conditions and Existing with Project Conditions during the weekday morning and afternoon peak hours for the two study intersections. As shown, both study intersections are anticipated to continue to operate at LOS C or better during both the morning and afternoon peak hours under Existing with Project Conditions.

Future with Project Conditions. All future adjustments, including cumulative traffic growth (i.e., ambient growth and Related Project traffic) and transportation infrastructure improvements were incorporated into this analysis.

The Project-only morning and afternoon peak hour traffic volumes were added to the Future without Project Conditions (Year 2027) morning and afternoon peak hour traffic volumes, resulting in the Future with Project Conditions traffic volumes illustrated in Figure 16, representing conditions after development of the Project in Year 2027.

Table 8 summarizes the results of the Future without Project Conditions (Year 2027) and Future with Project Conditions during the weekday morning and afternoon peak hours for the two study intersections. As shown, both study intersections are anticipated to continue to operate at LOS D or better during both the morning and afternoon peak hours under Future with Project Conditions.

<u>Intersection Queuing Analysis</u>. In accordance with operational evaluation guidelines detailed in Section 3.3.3 of the TAG, the Project traffic was evaluated to determine whether the Project access would contribute to unacceptable queuing on an Avenue or Boulevard (as designated in the Mobility Plan) at Project driveways or would cause or substantially extend queuing at nearby signalized intersections. Per the TAG, unacceptable or extended queuing may be defined as follows:

- *Additional queue along through lanes and either of the following conditions are expected:*
    - *The projected peak hour intersection LOS is D and the through lane queue increases by greater than 75 feet on any approach with the directional approach LOS at E or F, or*
    - *The projected peak hour intersection LOS is E or F and the through lane queue increases by greater than 50 feet on any approach with the directional approach LOS at E or F.*
- *Spill over from turn pockets into through lanes.*
- *Block cross streets or alleys.*
- *Spill over from drive-throughs into streets.*
- *Contribute to "gridlock" congestion. For the purposes of this section, "gridlock" is defined as the condition where traffic queues between closely-spaced intersections and impedes the flow of traffic through upstream intersections.*

The queue lengths were estimated using Synchro software, which reports the 95th percentile queue length, in vehicles, for each approach lane. The queue lengths were then converted into linear distance by multiplying vehicle lengths by 25 feet. The reported queues are calculated using the HCM signalized intersection methodology.

The queuing analysis under Future Conditions (Year 2027) is provided in Table 9. As detailed, the addition of Project trips would not cause extended queuing or unacceptable conditions at either study intersection. Detailed queuing analysis worksheets are provided in Appendix E.

RESIDENTIAL STREET CUT-THROUGH ANALYSIS

The objective of the residential street cut-through analysis is to determine potential increases in average daily traffic volumes on designated Local Streets, as classified in the City's General Plan, that can be identified as cut-through trips generated by the Project and that can adversely affect the character and function of those streets.

Section 3.5.2 of the TAG provides a list of questions to assess whether the Project would negatively affect residential streets. The net daily trips generated by the Project are not anticipated to cause a traffic shift from Vine Street, a designated Avenue II, to alternative routes along residential Local Streets. In addition, access to the Project is provided along Vine Street, in proximity to regional connections. Furthermore, Project trips utilizing Lexington Avenue to access the Project Site would not be considered cut-through traffic. Thus, based on the location of the Project Site, it is unlikely that local residential streets would serve as an alternative route. Therefore, the addition of Project trips would not adversely affect any residential Local Streets.

CONSTRUCTION IMPACT ANALYSIS

The construction impact analysis relates to the temporary impacts that may result from the construction activities associated with the Project and was performed in accordance with Section 3.4 of the TAG, which identifies three types of in-street construction impacts that require further analysis to assess the effects of Project construction on the existing pedestrian, bicycle, transit, or vehicle circulation. The three types of impacts and related populations are:

1. Temporary transportation constraints – potential impacts on the transportation system
2. Temporary loss of access – potential impacts on visitors entering and leaving sites
3. Temporary loss of bus stops or rerouting of bus lines – potential impacts on bus travelers

The factors used to determine the significance of a project's impacts involve the likelihood and extent to which an impact might occur, the potential inconvenience caused to users of the transportation system, and consideration for public safety. Construction activities could potentially interfere with pedestrian, bicycle, transit, or vehicle circulation and accessibility to adjoining areas.

Proposed Construction Schedule

The Project is anticipated to be constructed over a period of approximately 35 months. The construction period would include sub-phases of demolition, grading and excavation, trenching, building construction, and architectural coatings. Peak haul truck activity occurs during the grading and excavation phase, and peak worker activity occurs during construction building phase. These two sub-phases of construction were studied in greater detail.

Grading and Excavation Phase

The peak period of truck activity during construction of the Project would occur during the grading and excavation phase of the Project Site.

Haul trucks would travel on approved truck routes designated within the City from Vine Street to US 101. The haul route will be reviewed and approved by the City. Based on projections compiled for the Project, approximately 10,000 cubic yards of material would be excavated and removed from the Project Site and would require on average 23 haul trucks per day. Thus, on average, 46 daily haul truck trips (23 inbound, 23 outbound) are forecast to occur during the grading and excavation phase, with approximately eight trips per hour (four inbound, four outbound) uniformly over a typical six-hour haul period (i.e., outside of commuter peak hours).

Transportation Research Circular No. 212, Interim Materials on Highway Capacity (Transportation Research Board, 1980) defines passenger car equivalency (PCE) for a heavy vehicle as the number of through moving passenger cars to which it is equivalent based on the heavy vehicle's headway and delay-creating effects. Table 8 of *Transportation Research Circular No. 212* and Exhibit 12-25 of the HCM suggest a PCE of 2.0 for trucks. Assuming a PCE factor of 2.0, the 46 truck trips would be equivalent to 92 daily PCE trips. The eight hourly truck trips would be equivalent to 16 PCE trips (eight inbound, eight outbound) per hour.

With implementation of the Construction Management Plan, it is anticipated that almost all haul truck activity to and from the Project Site would occur outside of the morning and afternoon commuter peak hours. In addition, construction worker trips to and from the Project Site would also occur outside of the peak hours. Therefore, no peak hour construction traffic impacts are expected during the site clearing and utility relocation phase of construction.

Building Construction Phase

According to construction projections prepared for the Project, the building construction subphase would employ the most construction workers, with an anticipated total of 100 workers per day for all components of the building after the structure is completed.

In general, the hours of construction typically require workers to be on-site before the weekday morning commuter peak period and allow them to leave before or after the afternoon commuter peak period (i.e., arrive at the site prior to 7:00 AM and depart before 4:00 PM or after 6:00 PM). Therefore, most, if not all, construction worker trips would occur outside of the typical weekday commuter peak periods.

Assuming minimal carpooling amongst those workers, an average vehicle occupancy of 1.135 persons per vehicle was applied, as provided in *CEQA Air Quality Handbook* (South Coast Air Quality Management District, 1993), 100 workers would result in a total of 88 vehicles that would arrive and depart from the Project Site each day. The estimated number of daily trips associated with the construction workers is approximately 176 (88 inbound and 88 outbound trips), but nearly all of those trips would occur outside of the peak hours, as described above. As such, the building phase of Project construction would not cause a significant traffic impact at any of the study intersections.

Parking for construction workers would be secured off-site in a nearby parking facility. Restrictions against workers parking in the public ROW in the vicinity of (or adjacent to) the Project Site would be identified as part of the Construction Management Plan. All construction materials storage and truck staging would be contained on-site or provided on-demand/as needed to reduce the need for storage.

Potential Impacts on Access, Transit, And Parking

Project construction is not expected to create hazards for roadway travelers, bus riders, or parkers, so long as commonly practiced safety procedures for construction are followed. Such procedures and other measures (e.g., to address temporary traffic control, lane closures, sidewalk closures, etc.) would be incorporated into the Construction Management Plan. The construction-related impacts associated with access to other businesses and transit are anticipated to be less than significant, and the implementation of the Construction Management Plan described below would further reduce those impacts.

Access. Construction activities would be primarily contained within the Project Site boundaries. All construction equipment will be staged entirely on-site or delivered on an as needed basis. However, temporary closures of the public ROW (e.g., travel lanes, sidewalks) adjacent to the Project Site may be required during construction. Temporary traffic controls (e.g., use of directional signage, maintaining continuous and unobstructed pedestrian paths, and/or providing overhead covering) would be provided to direct traffic and/or pedestrians safely around any closures, as required in the Construction Management Plan.

Transit. The construction activities of the Project would require the temporary relocation of the Metro Local 210 stop located along Vine Street adjacent to the Project Site. The stop relocation would be coordinated with Metro. Metro would be notified should the Project construction affect any other Metro facilities.

Parking. Parking is not permitted along Vine Street adjacent to the Project Site. It is, however, permitted along Lexington Avenue adjacent to the Project Site where construction activities may result in a temporary removal of up to five unmetered parking spaces. As such, coordination with LADOT would be included in the Construction Management Plan.

Construction Management Plan

In accordance with Section 3.4.5 of the TAG, a detailed Construction Management Plan, including street closure information, a detour plan, haul routes, and a staging plan, would be prepared and submitted to the City for review and approval, prior to commencing construction. The Construction Management Plan would formalize how construction would be carried out and identify specific actions that would be required to reduce effects on the surrounding community. The Construction Management Plan shall be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site.

PARKING

The Project would provide a total of 93 vehicle parking spaces within one ground level and one above-grade level and a total of 120 bicycle parking spaces on-site (106 long-term and 14 short-term).

Vehicle Parking Code Requirements

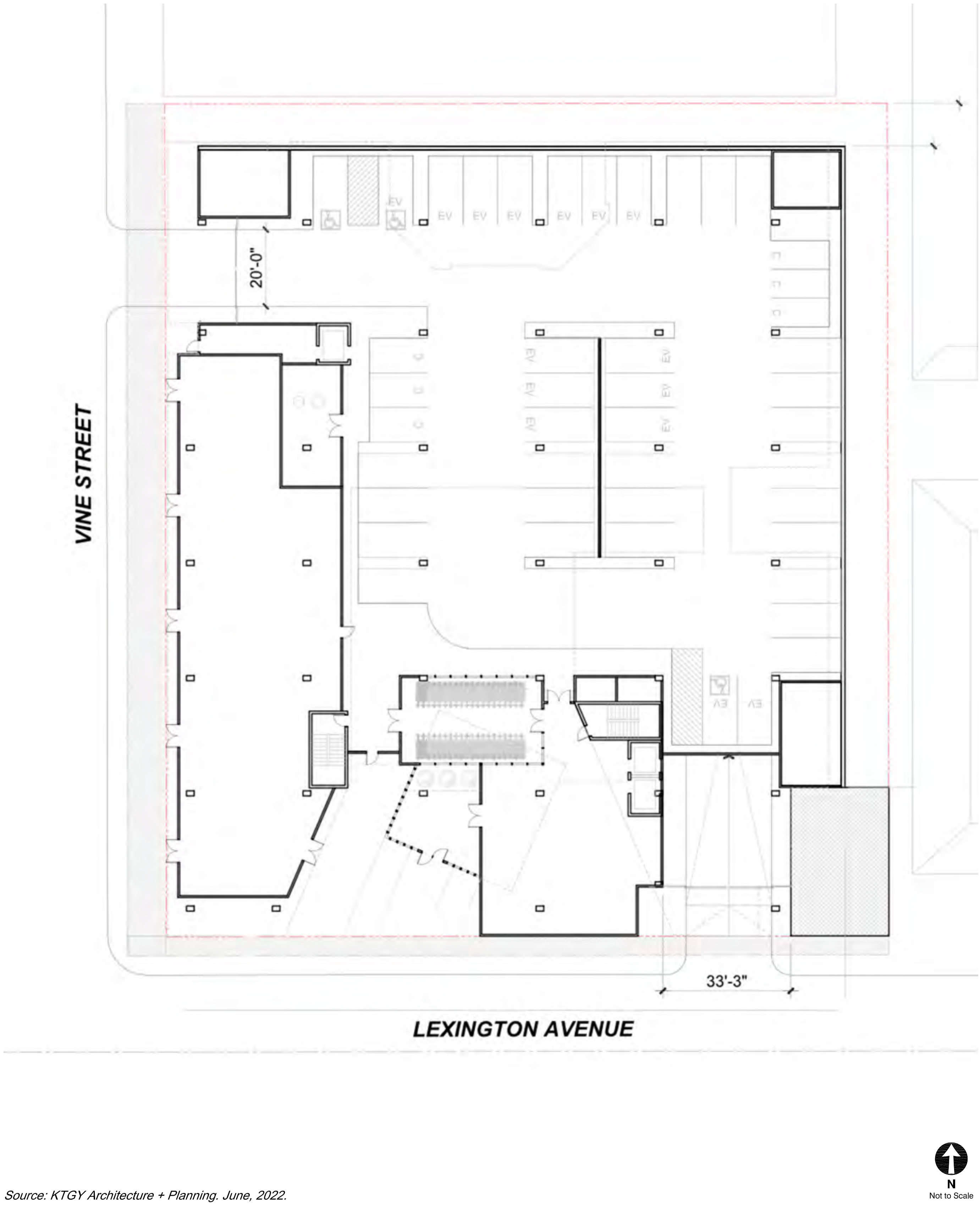
LAMC Section 12.21.A4 identifies the base code parking rates for developments in the City. However, the Project is requesting to provide vehicle parking spaces at a reduced rate in accordance with State of California Assembly Bill 2345 (Government Code Section 65915) standards, which require no more than 0.5 parking spaces per dwelling unit for residential projects that include affordable units and apply for a density bonus. Additionally, the Project is in a State Enterprise Zone, which requires a reduced parking rate of two parking spaces per 1,000 square feet of commercial space, including restaurant uses. Therefore, as shown in Table 10, based on the rates above, the Project would be required to provide a total of 91 vehicle parking spaces.

Bicycle Parking Code Requirements

LAMC Section 12.21.A.16 details the long-term and short-term bicycle parking requirements for new developments, which are summarized in Table 11. As shown, the Project would require a total of 105 long-term and 14 short-term bicycle parking spaces.

CONCLUSION

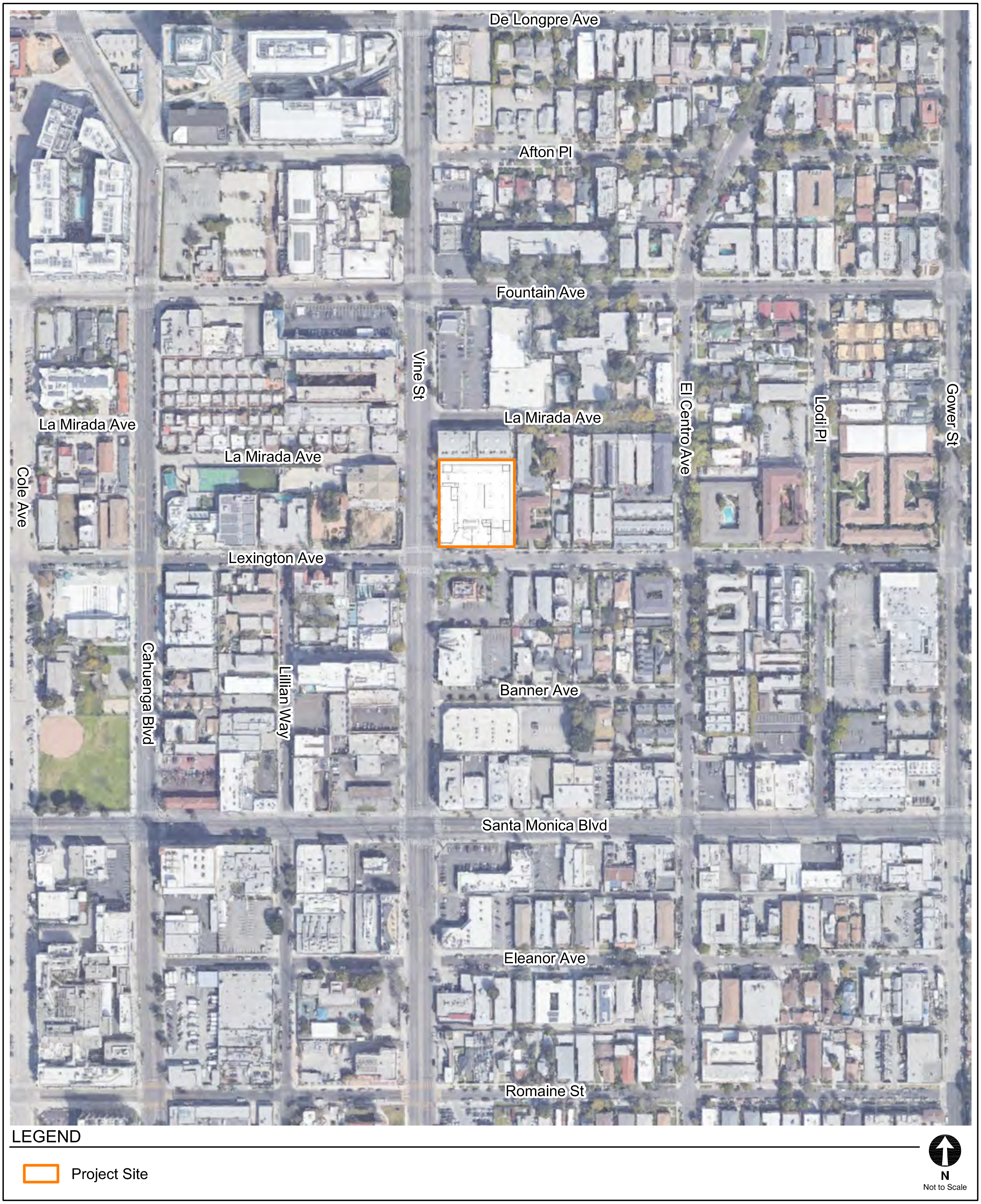
The Project is consistent with the City's plans, programs, ordinances, and policies and would not generate any VMT, geometric design hazard, or emergency access impacts. Therefore, the Project would not result in a significant and unavoidable CEQA impact. In addition, the Project would not result in a significant safety impact on any Caltrans freeway off-ramp facilities. Furthermore, the Project is not anticipated to result in any operational deficiencies on the adjacent transportation system.



Source: KTGY Architecture + Planning. June, 2022.

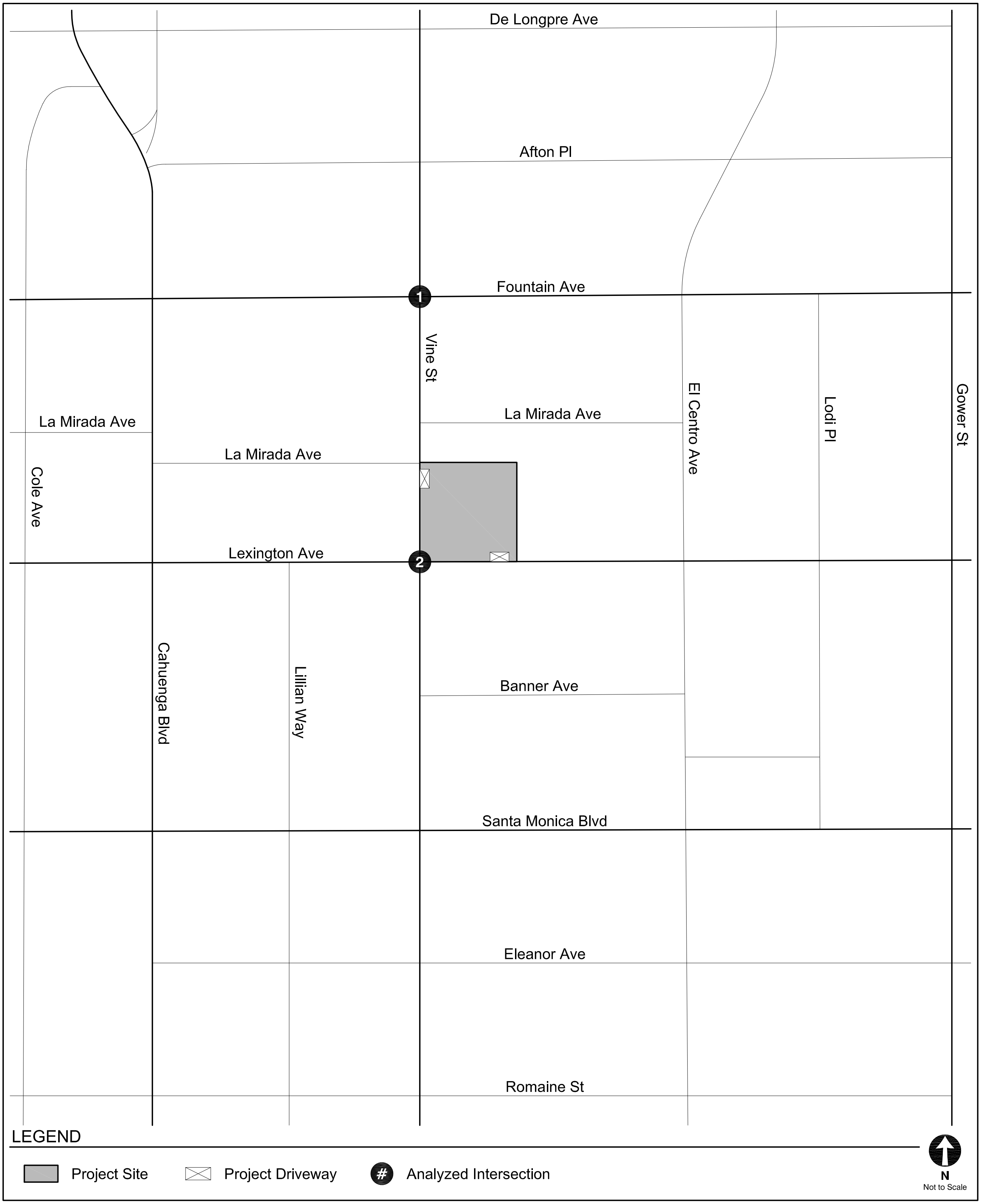
PROJECT SITE PLAN

FIGURE 1



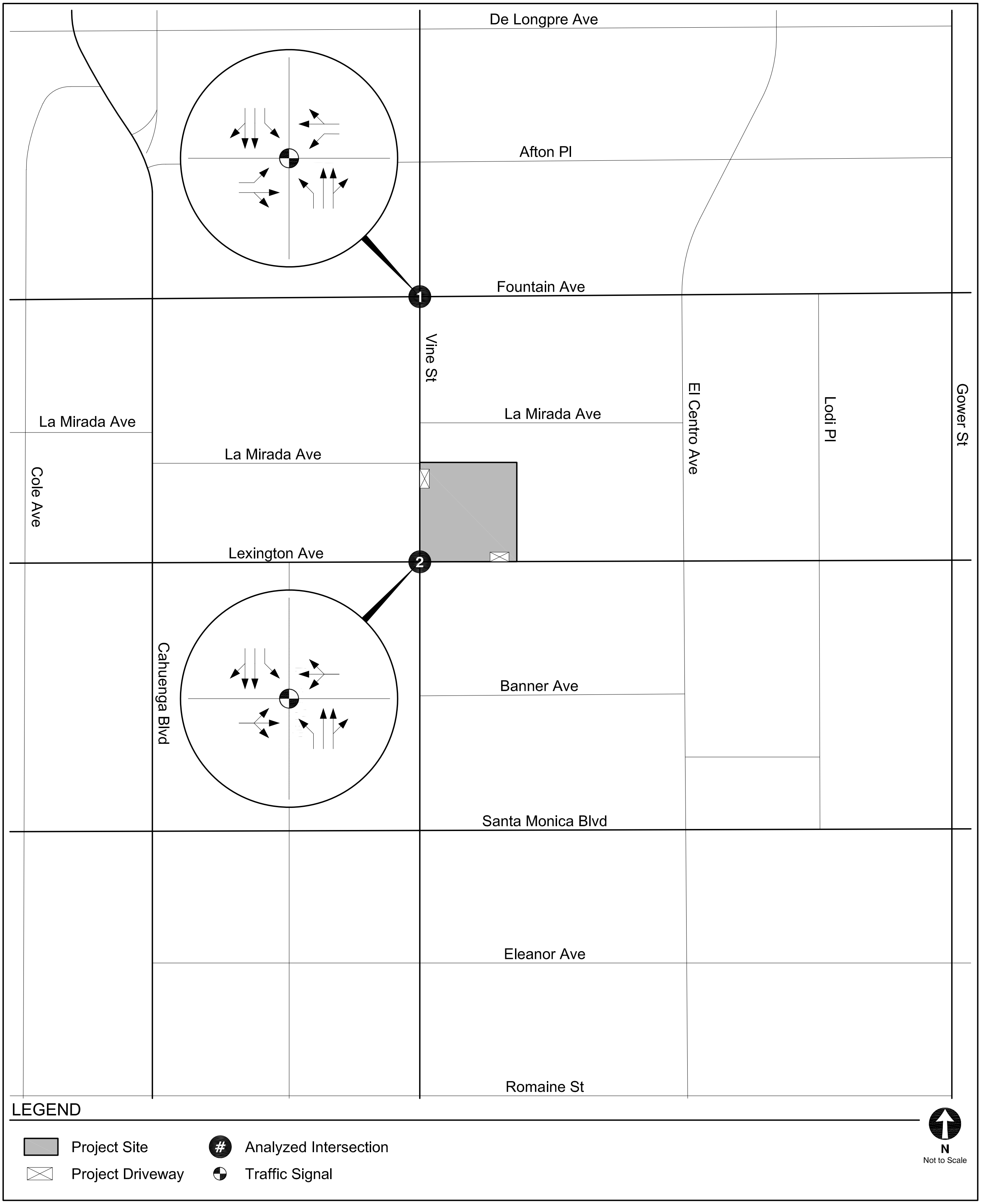
PROJECT SITE LOCATION

FIGURE 2



STUDY AREA AND ANALYZED INTERSECTIONS

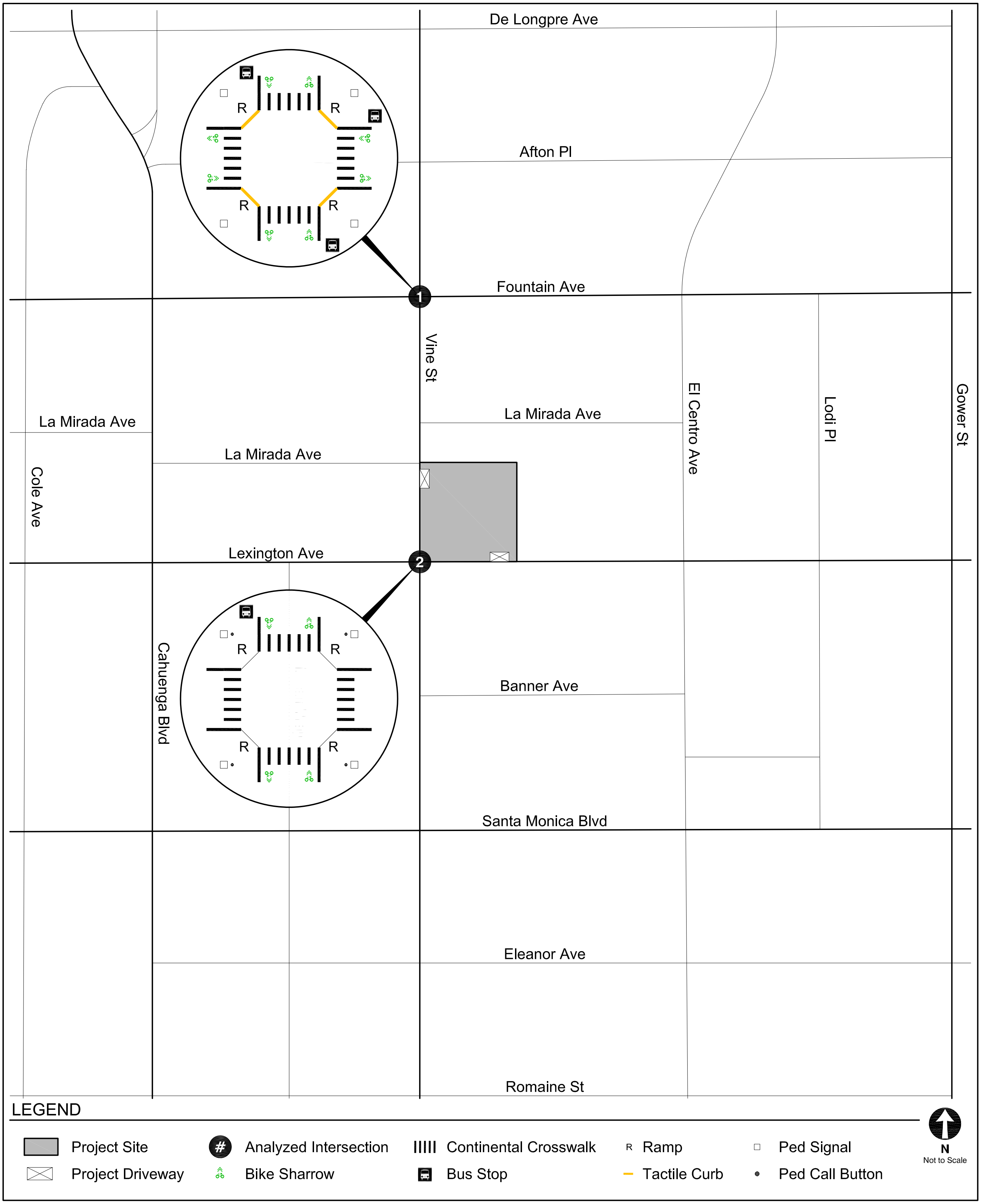
FIGURE 3



EXISTING INTERSECTION LANE CONFIGURATIONS

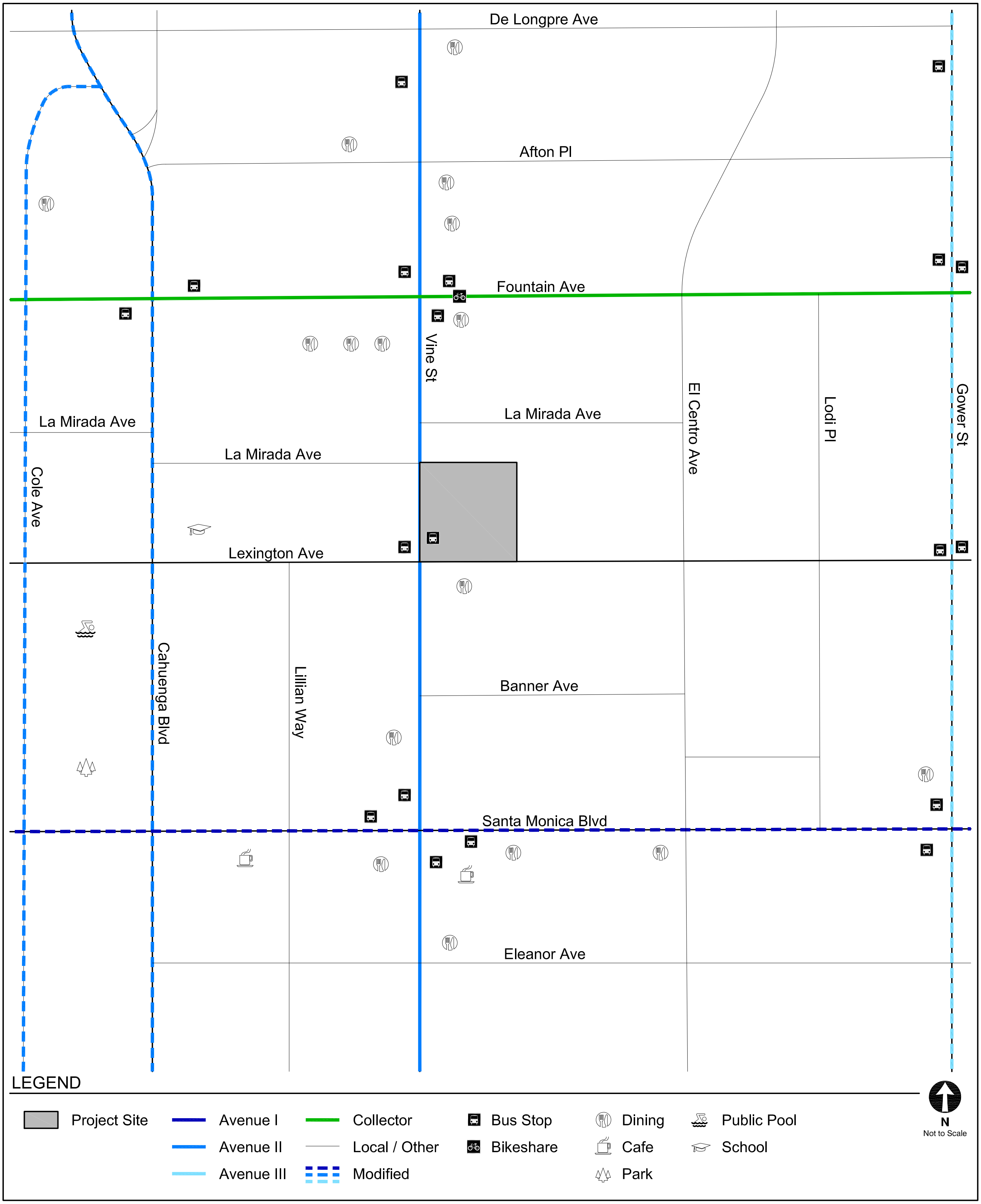
FIGURE 4

Gibson
transportation consulting, inc.



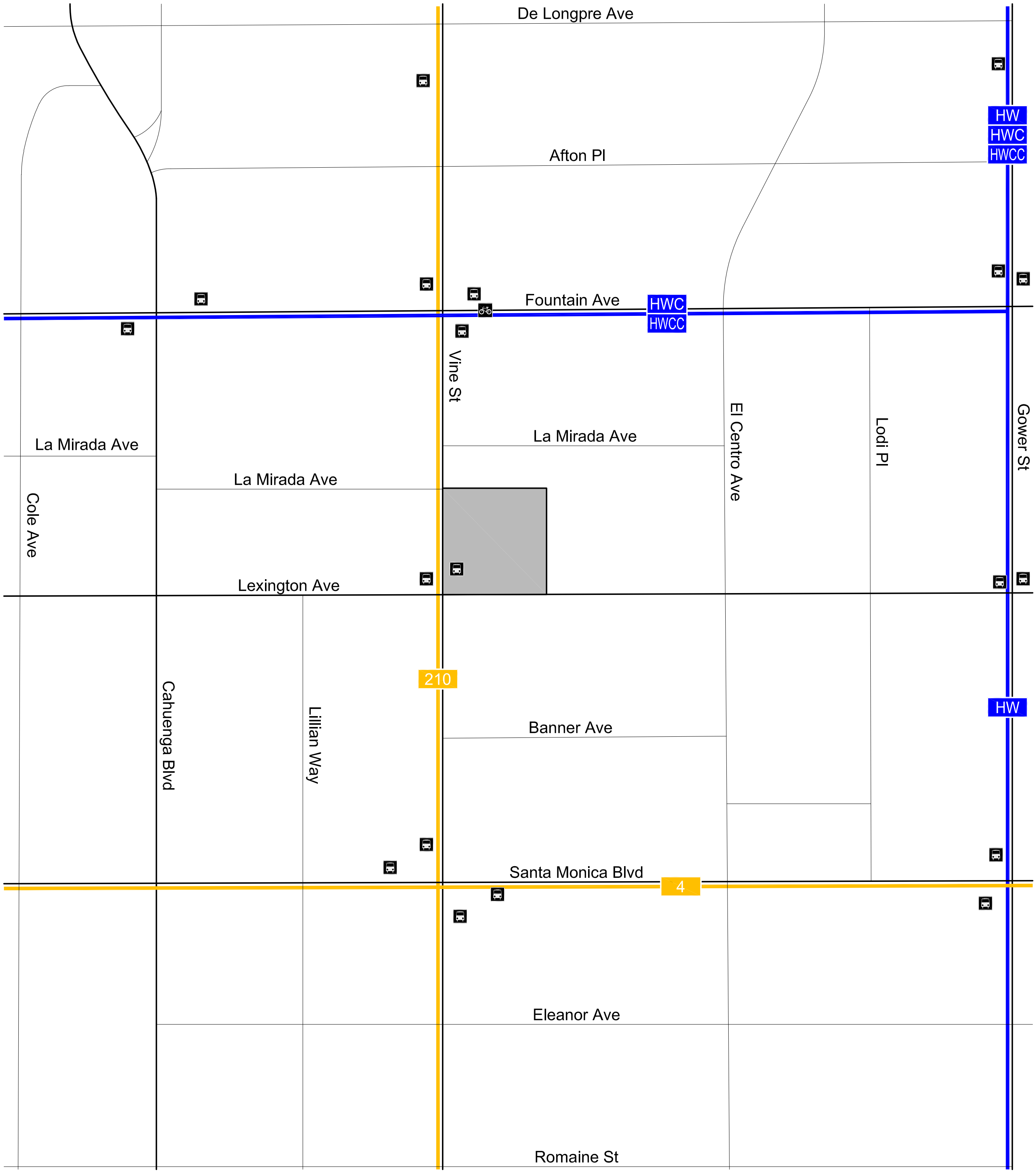
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 5



MOBILITY PLAN DESIGNATIONS AND PEDESTRIAN DESTINATIONS

FIGURE 6



LEGEND

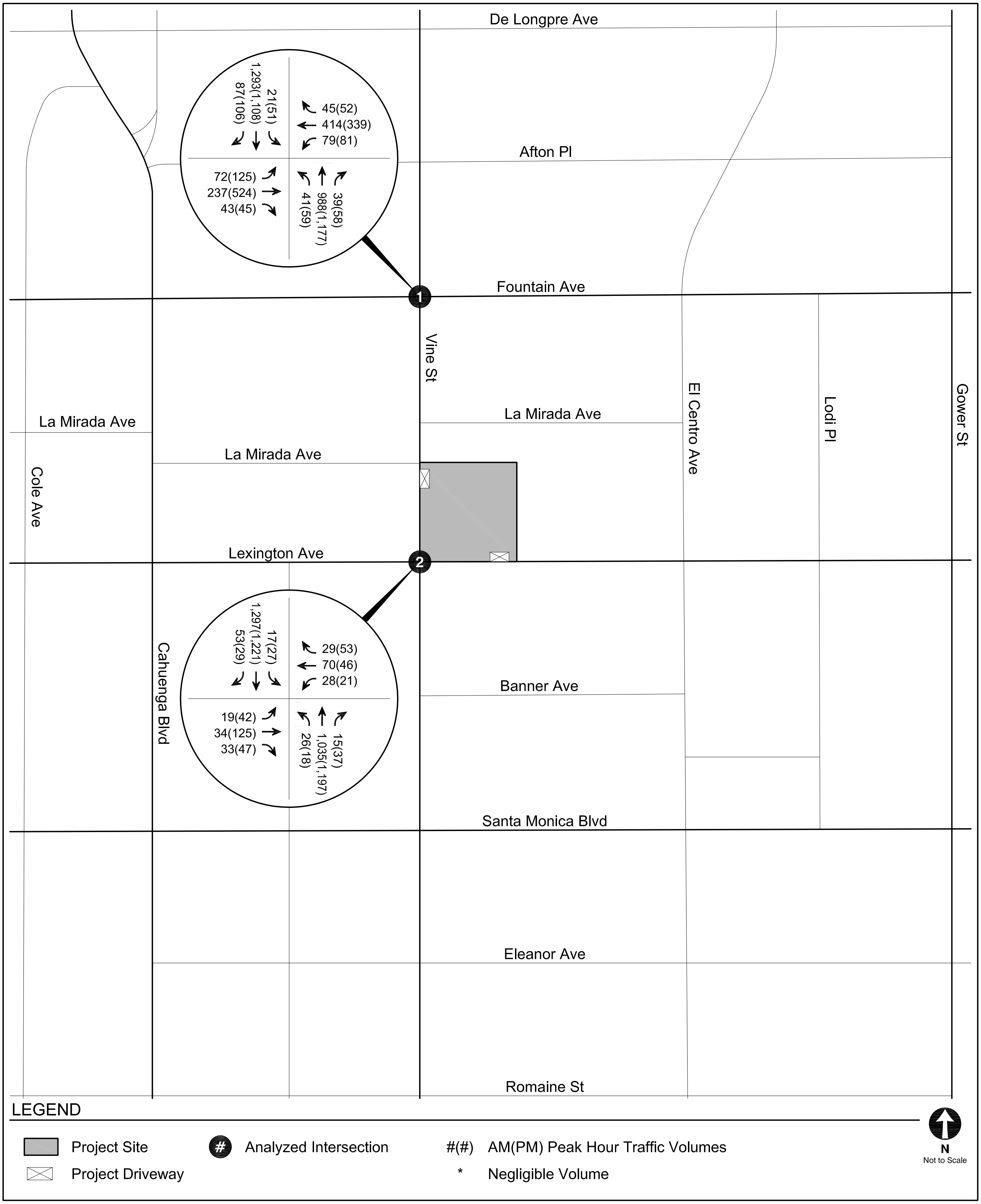
Project Site
Bus Stop
Bikeshare
Metro Bus
LADOT DASH Bus

N
Not to Scale

EXISTING TRANSIT SERVICE

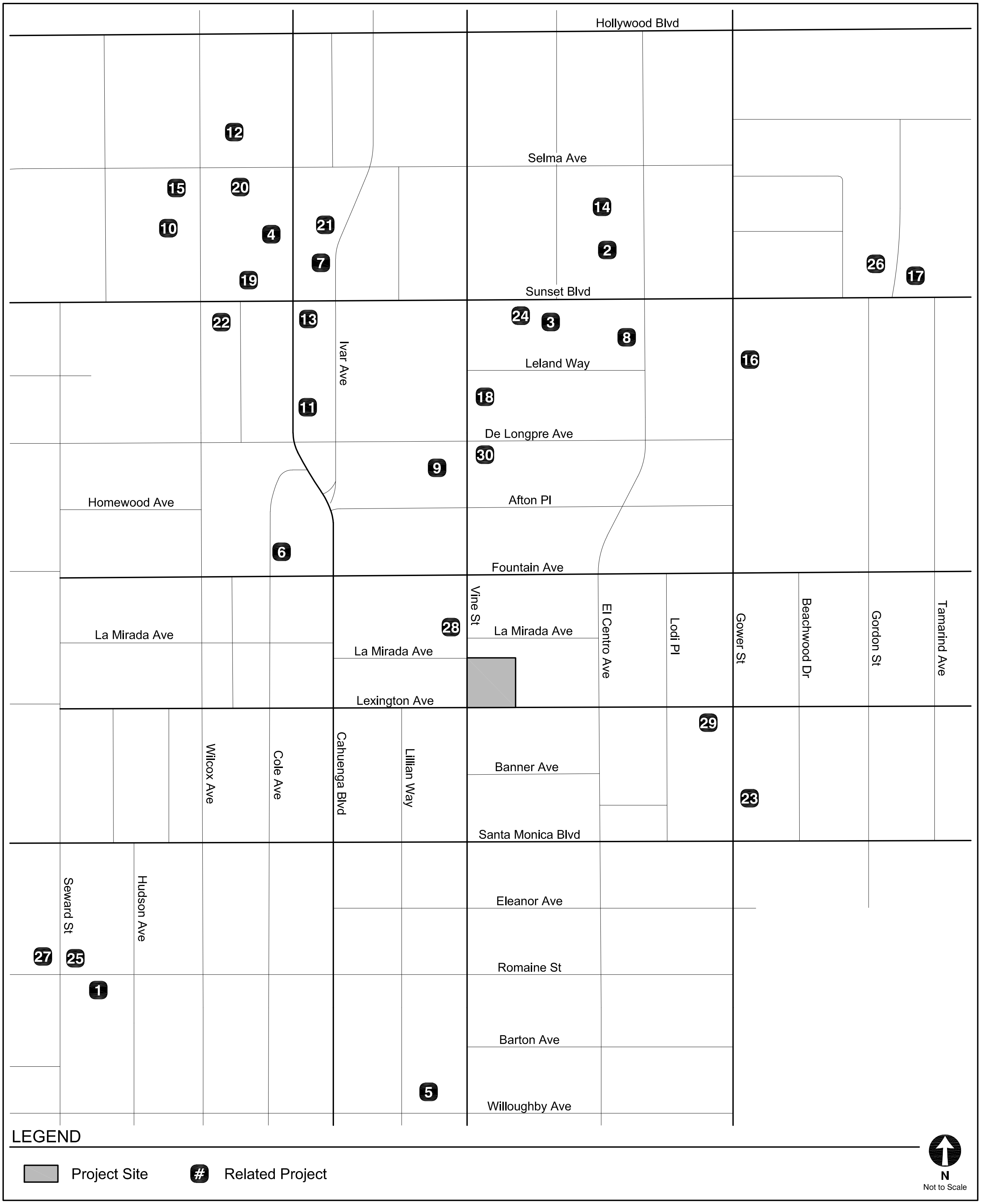
FIGURE 7

Gibson transportation consulting, inc.



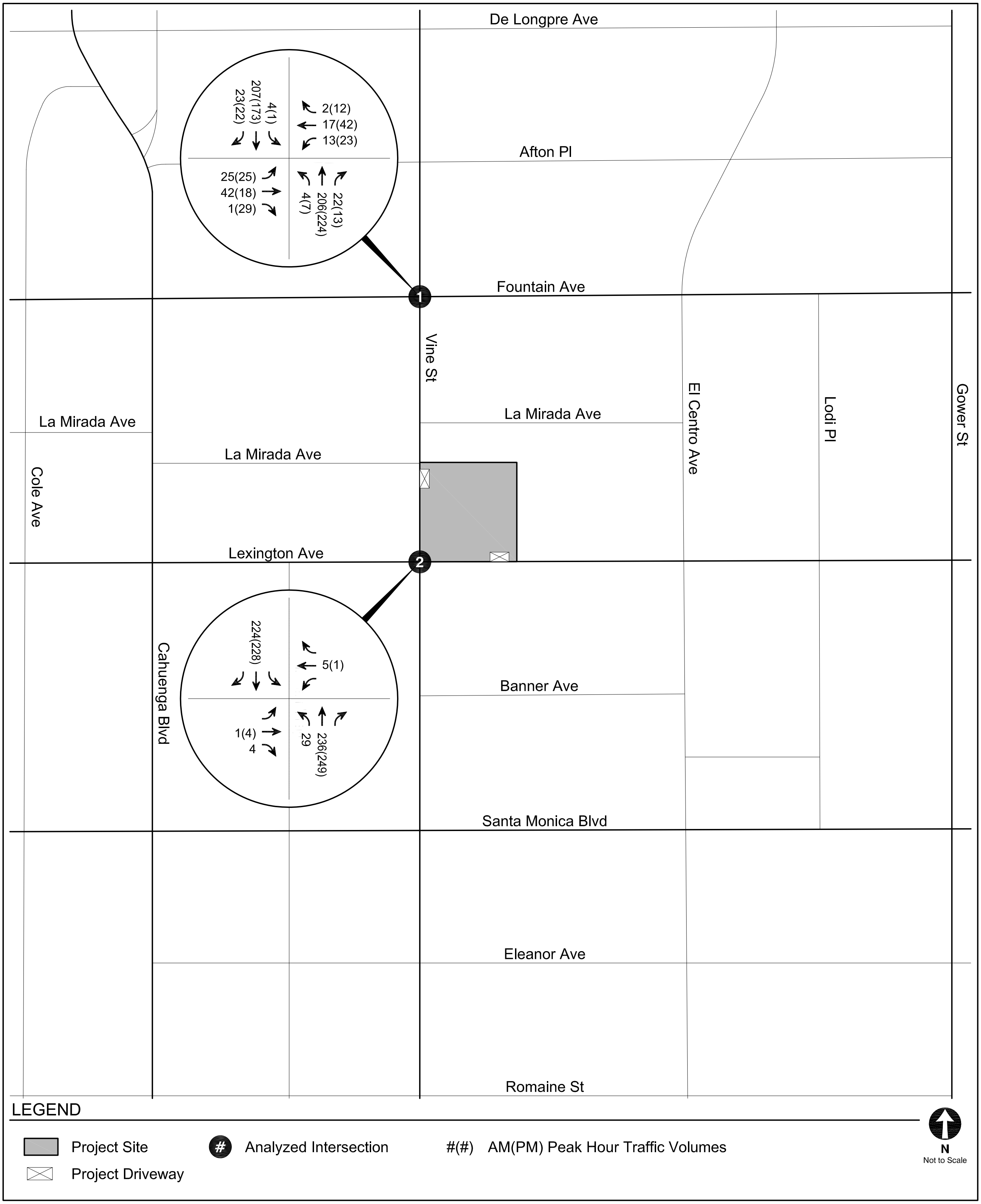
EXISTING CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 8



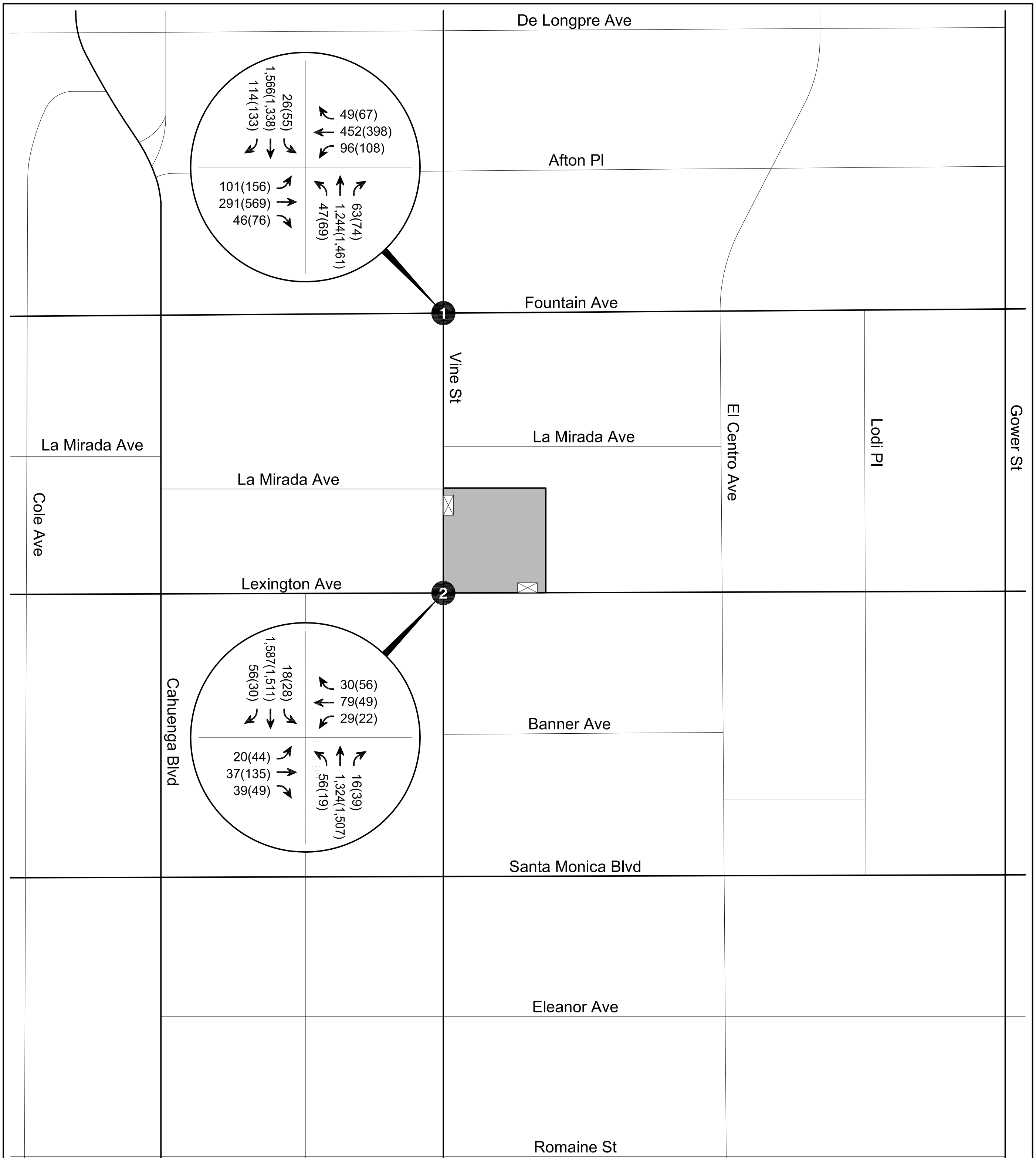
LOCATIONS OF RELATED PROJECTS

FIGURE 9



RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
10



LEGEND

Project Site

Analyzed Intersection

#(#) AM(PM) Peak Hour Traffic Volumes

Project Driveway

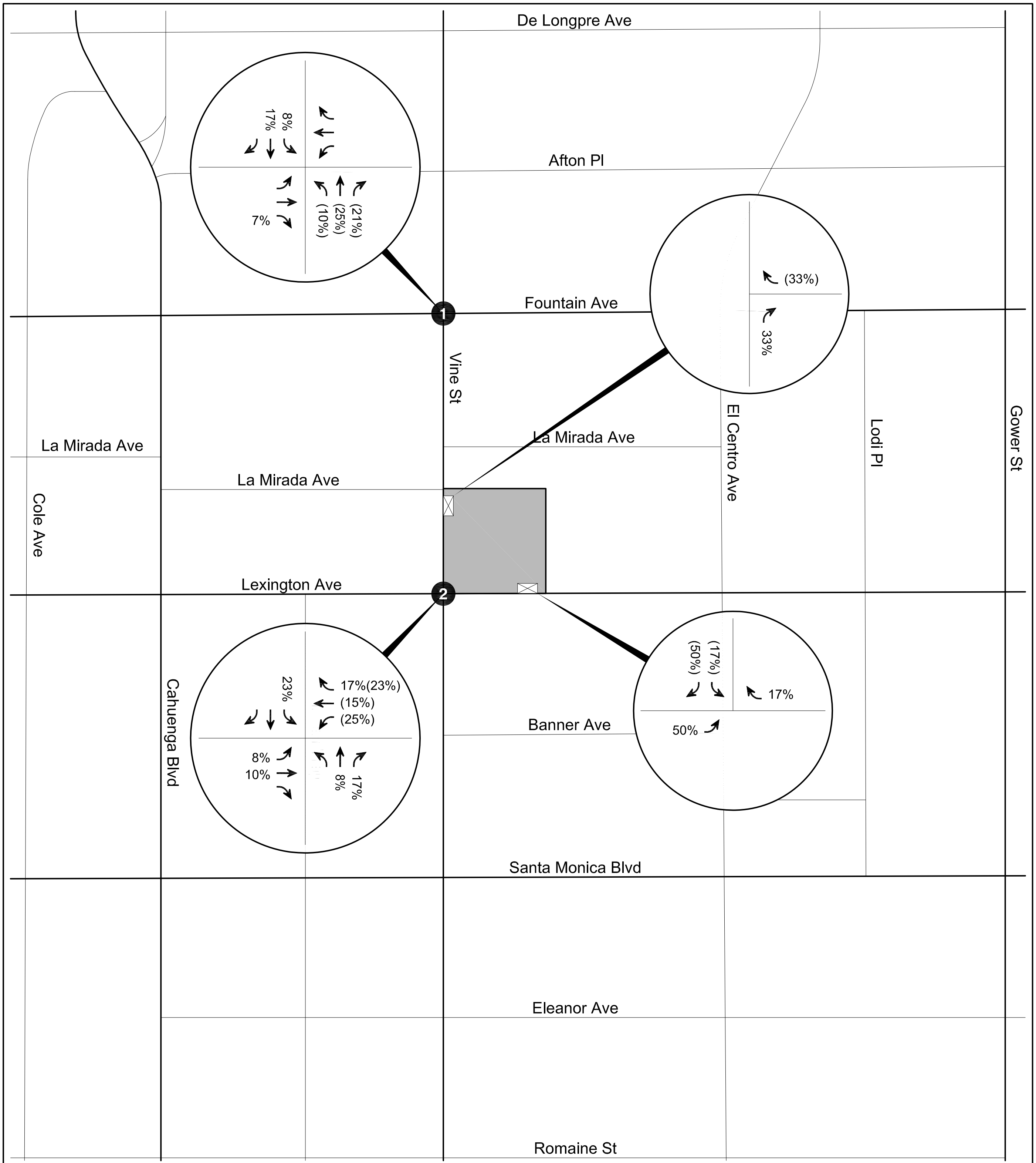
* Negligible Volume

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2027)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 11

ROADWAY MODAL PRIORITIES

FIGURE 12



LEGEND

Project Site

Analyzed Intersection

%(%) Inbound(Outbound) Trip Percentage

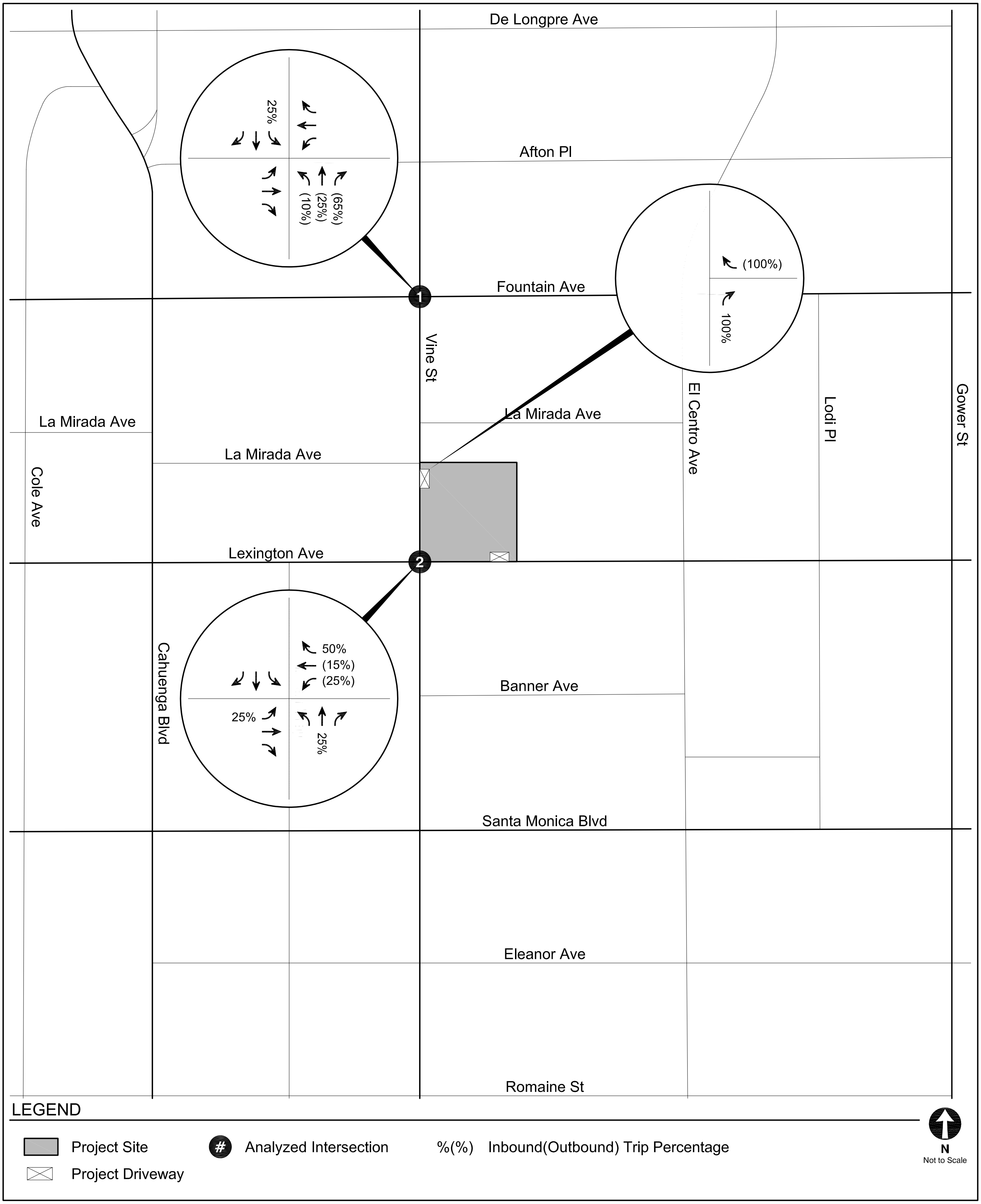
Project Driveway

N
Not to Scale

PROJECT TRIP DISTRIBUTION
RESIDENTIAL

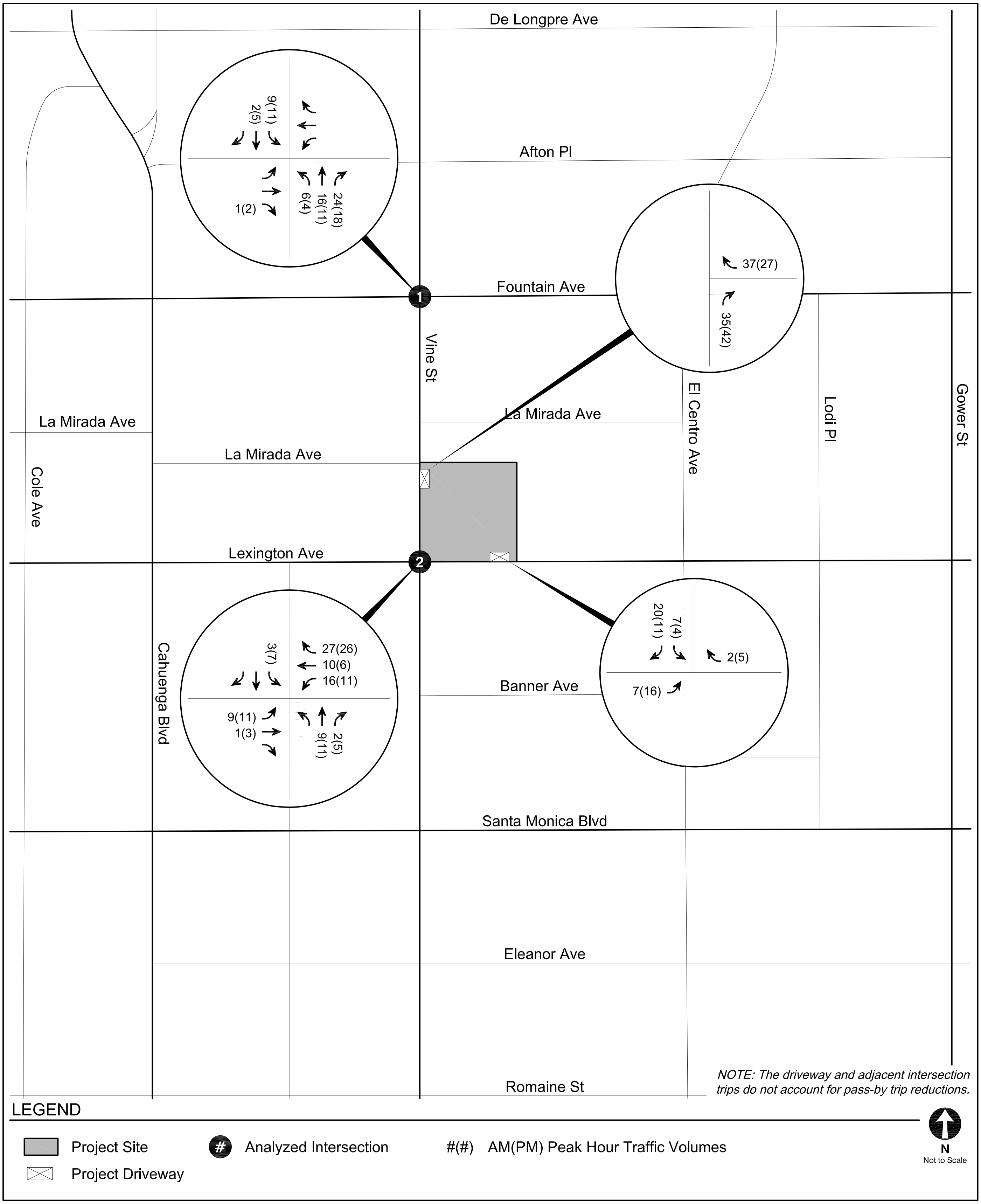
FIGURE
13A

transportation consulting, inc.



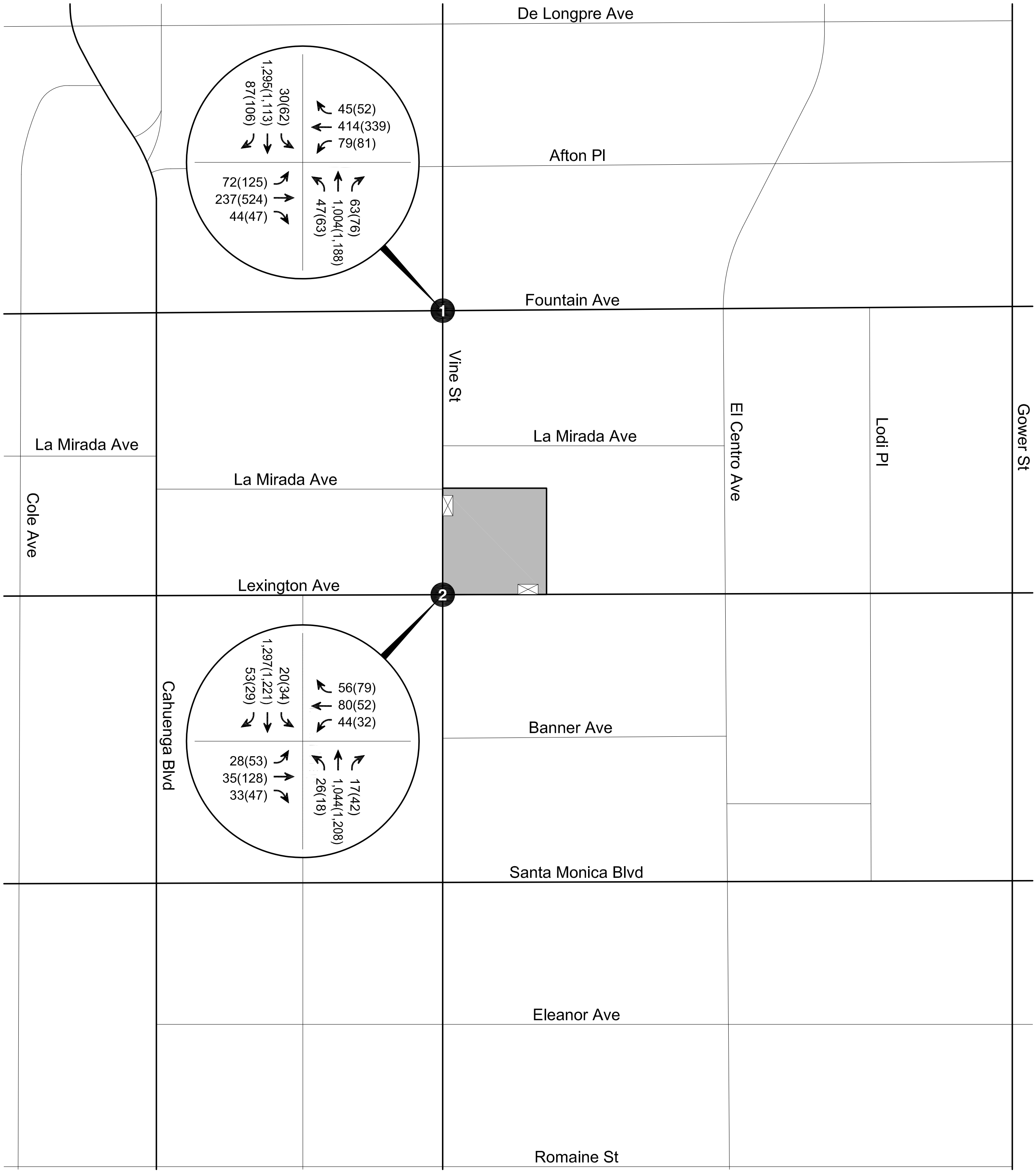
PROJECT TRIP DISTRIBUTION
COMMERCIAL

FIGURE
13B



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
14

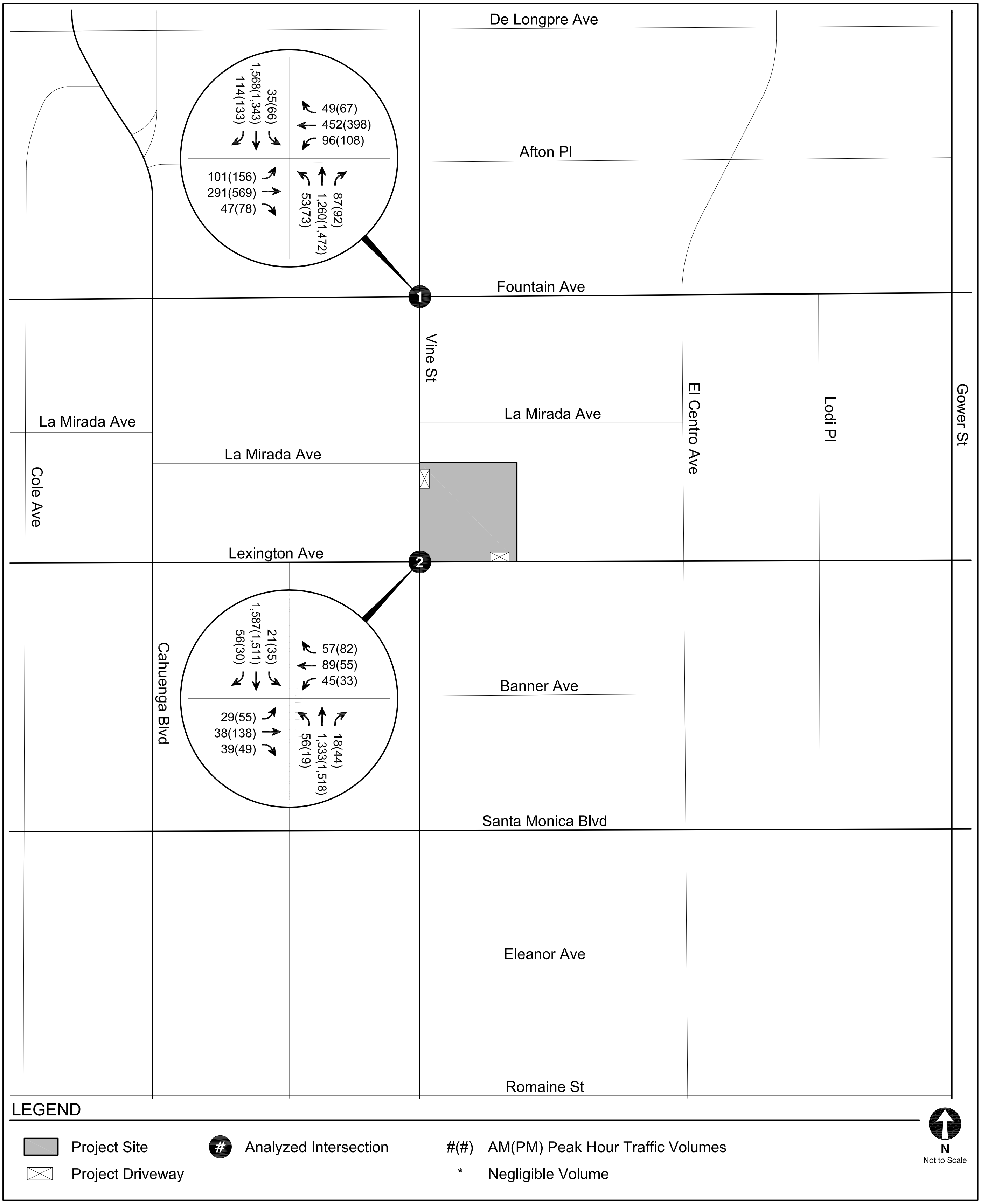


LEGEND

	Project Site	#	Analyzed Intersection	#(#)	AM(PM) Peak Hour Traffic Volumes
	Project Driveway			*	Negligible Volume

EXISTING WITH PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
15



FUTURE WITH PROJECT CONDITIONS (YEAR 2027)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
16

TABLE 1
EXISTING TRANSIT SERVICE IN STUDY AREA

Provider, Route, and Service Area		Service Type	Hours of Operation	Nearest Stop Location		Average Headway (minutes)			
				Intersection	Distance to Project Site	Morning Peak Hour		Afternoon Peak Hour	
Metro Bus Service [a]						**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
4	Downtown Los Angeles- Santa Monica via Santa Monica Blvd	Local	24 Hours	Santa Monica at Vine	680 feet south	8	8	8	8
210	Hollywood/Vine Station- South Bay Galleria Via Vine St, Wilshire/Western Station, Crenshaw Blvd	Local	4:30 A.M. to 3 A.M.	Vine at Lexington	Adjacent west	10	10	10	10
LADOT DASH Bus Service [b]						**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
HWC	Hollywood Clockwise	Local	6 A.M. to 8 P.M.	Fountain at Vine	430 feet north	N/A	30	N/A	30
HWCC	Hollywood Counterclockwise	Local	6 A.M. to 8 P.M.	Fountain at Vine	430 feet north	30	N/A	30	N/A
HW	Hollywood/Wilshire	Local	6 A.M. to 7:15 P.M.	Gower at Lexington	1,060 feet east	30	N/A	30	N/A

Notes:
Metro - Los Angeles County Metropolitan Transportation Authority. LADOT DASH - Los Angeles Department of Transportation Downtown Area Short Hop.
NB - Northbound. EB - Eastbound. SB - Southbound. WB - Westbound.
[a] Transit routes and frequencies based on Metro schedules effective October 23, 2022.
[b] Transit routes and frequencies based on LADOT DASH schedules effective August 3, 2020 for Hollywood and July 31, 2021 for Hollywood/Wilshire.

TABLE 2A
TRANSIT SYSTEM CAPACITY IN STUDY AREA - MORNING PEAK HOUR

Provider, Route, and Stop Location		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Average Remaining Peak Hour Capacity	
			Peak Load		Average Load					
			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Metro Bus Service										
4	Santa Monica at Vine	50	21	43	15	29	35	21	263	164
210	Vine at Lexington	50	21	31	17	14	33	36	191	209
LADOT DASH Bus Service										
HWC	Fountain at Vine	30	N/A	2	N/A	1	N/A	29	N/A	58
HWCC	Fountain at Vine	30	3	N/A	2	N/A	28	N/A	56	N/A
HW	Gower at Lexington	30	4	N/A	2	N/A	28	N/A	56	N/A
Total Remaining Peak Hour Transit System Capacity									**997**	

Notes:
Metro - Los Angeles County Metropolitan Transportation Authority. LADOT DASH - Los Angeles Department of Transportation Downtown Area Short Hop.
NB - Northbound. EB - Eastbound. SB - Southbound. WB - Westbound.
[a] Capacity assumptions:
Metro Bus - 40 seated / 50 standing
LADOT DASH Bus - 25 seated / 30 standing
Metro B Line - 55 seats / car, 6 cars / run during peak periods. Metro assumes a maximum capacity of 230% of seated capacity, or approximately 125 / car.
[b] Based on ridership data provided by Metro Bus and LADOT in 2019 and Metro Rail in 2018 to reflect pre-COVID ridership conditions.

TABLE 2B
TRANSIT SYSTEM CAPACITY IN STUDY AREA - AFTERNOON PEAK HOUR

Provider, Route, and Stop Location		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Average Remaining Peak Hour Capacity	
			Peak Load		Average Load					
			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Metro Bus Service										
4	Santa Monica at Vine	50	44	31	32	21	18	23	144	186
210	Vine at Lexington	50	19	30	17	25	34	17	201	95
LADOT DASH Bus Service										
HWC	Fountain at Vine	30	N/A	4	N/A	2	N/A	28	N/A	56
HWCC	Fountain at Vine	30	3	N/A	1	N/A	29	N/A	46	N/A
HW	Gower at Lexington	30	10	N/A	3	N/A	27	N/A	43	N/A
Total Remaining Peak Hour Transit System Capacity									**771**	

Notes:
Metro - Los Angeles County Metropolitan Transportation Authority. LADOT DASH - Los Angeles Department of Transportation Downtown Area Short Hop.
NB - Northbound. EB - Eastbound. SB - Southbound. WB - Westbound.
[a] Capacity assumptions:
Metro Bus - 40 seated / 50 standing
LADOT DASH Bus - 25 seated / 30 standing
Metro B Line - 55 seats / car, 6 cars / run during peak periods. Metro assumes a maximum capacity of 230% of seated capacity, or approximately 125 / car.
[b] Based on ridership data provided by Metro Bus and LADOT in 2019 and Metro Rail in 2018 to reflect pre-COVID ridership conditions.

TABLE 3
RELATED PROJECTS

No.	Project	Address	Use	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
1.	Seward St Office	956 N Seward St	126,980 sf office	1,240	165	21	186	29	151	180
2.	Palladium Residences	6201 W Sunset Bl	731 apartment units, including 37 affordable units, and 24,000 sf commercial	4,913	128	228	356	234	160	403
3. [b]	6250 Sunset (Nickelodeon)	6250 W Sunset Bl	200 apartment units and 4,700 sf retail	1,473	52	80	132	71	50	121
4.	Cahuenga Boulevard Hotel	1525 N Cahuenga Bl	64 hotel rooms, 3,300 sf restaurant, 1,200 sf guest lounge, and 700 sf rooftop restaurant	469	10	12	22	20	14	34
5. [b]	Mixed-Use	901 N Vine St	70 apartment units and 3,000 sf commercial	(32)	4	26	30	(5)	1	(4)
6. [b]	Mixed-Use	1310 N Cole Ave	369 apartment units, including 12 live-work and 20 affordable housing units, and 2,570 sf office	2,226	20	139	159	139	58	197
7.	Ivar Gardens Hotel	6409 W Sunset Bl	275 hotel rooms and 1,900 sf retail	1,285	51	26	77	53	60	113
8. [b]	6200 W Sunset Boulevard	6200 W Sunset Bl	270 apartment units, 8,070 sf retail, 2,300 sf pharmacy, and 1,750 sf quality restaurant	1,778	26	97	123	100	35	135
9. [b]	Academy Square	1341 Vine St	200 apartment units and 301,854 sf restaurant/office	6,218	330	164	494	152	220	372
10. [b]	Thompson Hotel	1541 N Wilcox Ave	200 hotel rooms, 5,125 sf ground floor restaurant and 4,105 sf rooftop restaurant/bar/lounge	2,058	76	57	133	82	75	157
11. [b]	Godfrey Hotel	1400 N Cahuenga Bl	220 hotel rooms, 2,723 sf restaurant, and 1,440 sf bar	1,875	55	47	102	78	60	138
12.	Selma-Wilcox hotel	6421 W Selma Ave	114 hotel rooms and 1,993 sf restaurant	1,227	43	27	70	56	44	100
13.	6400 Sunset Mixed-Use	6400 W Sunset Bl	200 apartment units and 7,000 sf restaurant	11	14	77	91	57	(6)	51
14.	Modera Argyle	1546 N Argyle Ave	276 apartment units, including 13 affordable housing units, 15,000 sf restaurant, and 9,000 sf retail	2,013	43	127	170	128	51	179
15.	Citizen News	1545 N Wilcox Ave	16,100 sf flexible event space and 14,800 sf restaurant	2,341	36	50	86	128	47	175

Notes:

[a] Related project information provided by the Los Angeles Department of Transportation and Los Angeles Department of City Planning in June 2022 and recent traffic studies prepared in the area. This list includes known development projects within one-half mile (2,460 foot) radius of the Project Site in accordance with the TAG.

[b] Although construction of the related project may be partially complete/entirely complete, the project was not fully occupied at the time when traffic counts were conducted. Therefore, the related project was considered and listed to provide a more conservative analysis.

TABLE 3
RELATED PROJECTS (CONT.)

No.	Project	Address	Use	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
16.	Sunset Gower Studios	1438 N Gower St	828,339 sf office, 205,202 sf sound stage, 65,319 sf production support, and 6,516 sf restaurant	4,108	424	67	491	77	410	487
17. [b]	Sunset and Gordon Mixed-Use	5939 W Sunset Bl	299 apartment units, including 15 affordable housing units, 38,440 sf office, 3,700 sf restaurant, and 3,970 sf retail	3,731	152	191	343	182	152	334
18.	1400 Vine	1400 Vine St	198 apartment units, including 21 affordable housing units, and 16,000 sf restaurant	1,446	70	93	163	97	56	153
19.	6445 Sunset	6445 Sunset Bl	175 hotel rooms and 12,500 sf restaurant	1,409	77	58	135	80	61	141
20.	Wilcox & Selma Residential	6422 W Selma Ave	40 apartment units and 5 affordable housing units	126	(3)	10	7	9	(1)	8
21.	Artisan Hollywood	1520 N Cahuenga Bl	270 apartment units, including 27 affordable housing units and 6,805 sf restaurant	1,143	34	75	109	82	40	122
22.	Sunset + Wilcox Mixed-Use	6450 W Sunset Bl	431,032 sf of office, and 12,386 sf restaurant	2,836	311	50	361	93	319	412
23.	Residential with Affordable Housing	1125 N Gower St	155 apartment units and 14 affordable housing units	667	13	35	48	32	21	53
24.	Sunset Vine 2	6266 W Sunset Bl	150 apartment units and 13,130 sf restaurant	603	11	35	46	33	22	55
25.	1000 Seward	1000 N Seward St	136,200 sf of office, 12,200 sf restaurant, and 2,200 sf retail	1,669	147	48	195	58	135	193
26.	6007 Sunset Mixed-Use	6007 W Sunset Bl	110 apartment units and 14,555 sf retail	904	15	25	40	30	29	59
27. [b]	Hollywood Center Studios Office	6601 W Romaine St	106,125 sf of office	808	88	4	92	12	39	51
28.	1235 Vine St	1235 Vine St	109,190 sf of office and 7,960 sf restaurant	696	96	19	116	19	91	108
29.	Hollywood Production Center	1149 N Gower St	169 apartment units	735	6	23	29	23	12	35
30.	Onni Group Mixed-Use Development	1360 N Vine St	463,521 sf of office, 11,914 sf restaurant and 8,998 sf additional restaurant	3,533	278	40	318	135	337	472

Notes:

[a] Related project information provided by the Los Angeles Department of Transportation and Los Angeles Department of City Planning in June 2022 and recent traffic studies prepared in the area. This list includes known development projects within one-half mile (2,460 foot) radius of the Project Site in accordance with the TAG.

[b] Although construction of the related project may be partially complete/entirely complete, the project was not fully occupied at the time when traffic counts were conducted. Therefore, the related project was considered and listed to provide a more conservative analysis.

TABLE 4
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use	Rate or Size	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
TRIP GENERATION RATES [a]								
Multi-Family Housing (Mid-Rise)	221	per du	23%	77%	0.37	61%	39%	0.39
Affordable Housing	[b]	per du	37%	63%	0.49	56%	44%	0.35
High-Turnover (Sit-Down) Restaurant	932	per 1,000 sf	55%	45%	9.57	61%	39%	9.05
TRIP GENERATION ESTIMATES								
Proposed Project								
Multi-Family Housing (Mid-Rise)	221	135 du	12	38	50	32	21	53
Transit/Walk-In Reduction - 10% [c]			*(1)*	*(4)*	*(5)*	*(3)*	*(2)*	*(5)*
Affordable Housing	[b]	18 du	3	6	9	3	3	6
Restaurant	932	7,000 sf	37	30	67	38	25	63
Internal Capture Reduction - 10% [d]			*(4)*	*(3)*	*(7)*	*(4)*	*(3)*	*(7)*
Transit/Walk-In Reduction - 10% [c]			*(3)*	*(3)*	*(6)*	*(3)*	*(2)*	*(5)*
Pass-By Trip Reduction - 20% [e]			*(6)*	*(5)*	*(11)*	*(6)*	*(4)*	*(10)*
TOTAL NEW PROJECT TRIPS			**38**	**59**	**97**	**57**	**38**	**95**

Notes:

du = dwelling unit; sf = square feet

[a] Trip generation rates are for General Urban/Suburban areas from *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021), unless otherwise noted.

[b] Per LADOT's *Transportation Assessment Guidelines*, residential or mixed-use developments inside a Transit Priority Area (TPA) which include Affordable Housing Units are eligible to use a City-specific trip generation rate based on vehicle trip count data collected at affordable housing sites in the City of Los Angeles in 2016.

[c] Per LADOT's *Transportation Assessment Guidelines*, the Project Site is located within 0.25 miles from bus stops that serve Metro Local and LADOT DASH lines, thus a 10% transit reduction was applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.

[d] Internal capture reductions account for person trips made between distinct land uses within a mixed-use development (i.e., residents visiting the commercial uses).

[e] Per Attachment H of LADOT's *Transportation Assessment Guidelines*, pass-by reductions were taken into account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

TABLE 5
VMT ANALYSIS SUMMARY

Project Information	
Land Use	**Size**
Multi-Family Housing	135 du
Affordable Housing	18 du
High-Turnover (Sit-Down) Restaurant	7,000 sf
Project Analysis [a]	
Resident Population	361
Employee Population	28
Project Area Planning Commission	Central
Travel Behavior Zone (TBZ)	Urban
Maximum Allowable VMT Reduction [b]	75%
VMT Analysis [c] [d]	
Daily Vehicle Trips	892
Total Daily VMT	5,297
Total Home-Based Production VMT	1,320
Household VMT per Capita [e]	3.7
Impact Threshold	6.0
Significant Impact	NO

Notes:
du = dwelling units. sf = square feet.
[a] VMT results based on the *City of Los Angeles VMT Calculator Version 1.3* (July 2020).
[b] The maximum allowable VMT reduction is based on the Project's designated TBZ as determined in *Transportation Demand Management Strategies in LA VMT Calculator* (LADOT, November 2019) and *Quantifying Greenhouse Gas Mitigation Measures* (California Air Pollution Control Officers Association, 2010).
[c] Per the TAG, retail and restaurant uses totaling less than 50,000 sf would be considered local-serving and would have a negligible impact on regional VMT. Therefore, the VMT impact of the Project's commercial component would be considered less-than-significant.
[d] Reduced parking supply and the provision of bike parking per LAMC are included as Project design features.
[e] Based on home-based production trips only (see Appendix D, Report 4).

TABLE 6
INTERSECTION LEVEL OF SERVICE

Level of Service	Description	Delay [a] Signalized Intersections
A	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.	≤ 10
B	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	> 10 and ≤ 20
C	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	> 20 and ≤ 35
D	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.	> 35 and ≤ 55
E	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	> 55 and ≤ 80
F	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.	> 80

Notes:
Source: *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016).
[a] Measured in seconds.

TABLE 7
EXISTING CONDITIONS (YEAR 2022)
INTERSECTION LEVELS OF SERVICE

No	Intersection [a]	Peak Hour	Existing Conditions		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Vine Street & Fountain Avenue	AM PM	18.2 20.3	B C	18.2 20.5	B C
2.	Vine Street & Lexington Avenue	AM PM	5.5 8.0	A A	6.7 8.8	A A

Notes:
Delay is measured in seconds per vehicle. LOS = Level of Service.
[a] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.

TABLE 8
FUTURE CONDITIONS (YEAR 2027)
INTERSECTION LEVELS OF SERVICE

No	Intersection [a]	Peak Hour	Future without Project Conditions		Future with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Vine Street & Fountain Avenue	AM PM	32.2 36.3	C D	32.7 38.0	C D
2.	Vine Street & Lexington Avenue	AM PM	6.1 9.0	A A	7.5 9.9	A A

Notes:
Delay is measured in seconds per vehicle. LOS = Level of Service.
[a] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.

TABLE 9
QUEUING ANALYSIS - FUTURE CONDITIONS (YEAR 2027)

No.	Intersection [a]	Future with Project Conditions					Lane	Vehicle Storage Capacity (ft) [d]	Future without Project Conditions (Year 2027)				Future with Project Conditions (Year 2027)				Change in Vehicle Queue Length (ft)	
		Intersection LOS [b]		Approach	Approach LOS [c]				Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour			
		Morning Peak Hour	Afternoon Peak Hour		Morning Peak Hour	Afternoon Peak Hour			Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Morning Peak Hour [f]	Afternoon Peak Hour [f]
1.	Fountain Avenue & Vine Street	C	D	EB	-	D	Left	130	143	YES	203	YES	143	YES	203	YES	--	--
							Through	575	260	NO	655	YES	263	NO	660	YES	--	--
				WB	-	E	Left	220	95	NO	293	YES	95	NO	295	YES	--	--
							Through	565	445	NO	353	NO	445	NO	353	NO	--	--
				NB	-	C	Left	165	75	NO	110	NO	90	NO	120	NO	--	--
							Through	250	433	YES	218	NO	458	YES	248	NO	25	30
				SB	-	D	Left	170	28	NO	53	NO	40	NO	75	NO	--	--
							Through	270	743	YES	630	YES	745	YES	638	YES	--	--
2.	Lexington Avenue & Vine Street	A	A	NB	-	-	Left	100	15	NO	5	NO	20	NO	8	NO	--	--
				SB	-	-	Left	80	3	NO	10	NO	5	NO	15	NO	--	--

Notes:
LOS: Level of Service
Results per Synchro 11.
[a] Per TAG Section 3.3.3, projects must be evaluated for unacceptable queueing at turn-pockets on an Avenue or Boulevard at project driveway(s) or at nearby signalized intersections.
[b] If the projected peak hour intersection LOS is D, E, or F (See *Table 13 - Future Conditions (Year 2026) Intersection Levels of Service*), evaluation of unacceptable queueing at through lanes is also required.
[c] Directional approach LOS included for locations where through lane queue evaluation is required.
[d] Vehicle storage capacity reflects turn pocket lengths (left/right-turn lanes) and distance between the intersection and the nearest cross street or alley (through lanes).
[e] Vehicle queue lengths were converted to feet (ft) by multiplying 25-feet per reported vehicle length.
[f] Changes in vehicle queue lengths of less than 25 feet (1 vehicle length) are negligible.

TABLE 10
VEHICLE CODE PARKING REQUIREMENTS

Land Use	Size	Parking Rate	Total Spaces
Residential [a]	153 du	0.50 sp / 1 du	77
Commercial Retail/Restaurant [b]	7,000 sf	2.00 sp / 1,000 sf	14
		Total Parking Requirement	**91**

Notes:

[a] Residential parking requirement in accordance with AB 2345 standards (Government Code Section 65915) which requires no more than 0.5 parking spaces per dwelling unit.

[b] Commercial parking requirement per LAMC Section 12.21.A.4(x)(3)(2) pursuant to the Project Site's location within a State Enterprise Zone.

TABLE 11
BICYCLE CODE PARKING REQUIREMENTS

Land Use	Size	Short-Term Bicycle Parking Rate [a]	Short-Term Spaces	Long-Term Bicycle Parking Rate [a]	Long-Term Spaces
Residential					
First 25 units	25 du	1.0 sp / 10 du	2.5 sp	1.0 sp / 1 du	25.0 sp
Next 75 units	75 du	1.0 sp / 15 du	5.0 sp	1.0 sp / 1.5 du	50.0 sp
Next 100 units	53 du	1.0 sp / 20 du	2.7 sp	1.0 sp / 2 du	26.5 sp
Commercial	7,000 sf	1.0 sp / 2,000 sf	3.5 sp	1.0 sp / 2,000 sf	3.5 sp
Total Bicycle Parking Required			**14 sp**		**105 sp**

Notes:
[a] Bicycle requirements as calculated by Section 12.21.A.16(a) of *Los Angeles Municipal Code* (City of Los Angeles, revised March 1, 2018).

Attachment A

Memorandum of Understanding

LADOT

Attachment C

Transportation Assessment Memorandum of Understanding (MOU)

This MOU acknowledges that the Transportation Assessment for the following Project will be prepared in accordance with the latest version of LADOT's Transportation Assessment Guidelines:

I. PROJECT INFORMATION

Project Name: 1200 Vine Project

Project Address: 1200, 1204, 1214, 1218 N Vine St, 6245, 6247 W Lexington Ave, Los Angeles, CA 90038

Project Description: The Project proposes 153 multi-family residential uses, including 18 affordable units, and 7,000 sf of commercial uses.

LADOT Project Case Number: CEN22-53727 Project Site Plan attached? *(Required)* ■ Yes ☐ No

II. TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES

Select any of the following TDM measures, which may be eligible as a Project Design Feature[1], that are being considered for this project:

✓	Reduced Parking Supply[2]	✓	Bicycle Parking and Amenities		Parking Cash Out

List any other TDM measures (e.g. bike share kiosks, unbundled parking, microtransit service, etc.) below that are also being considered and would require LADOT staff's determination of its eligibility as a TDM measure. LADOT staff will make the final determination of the TDM measure's eligibility for this project.

1 ____________________ 4 ____________________

2 ____________________ 5 ____________________

3 ____________________ 6 ____________________

III. TRIP GENERATION

Trip Generation Rate(s) Source: ITE 10th Edition / Other ITE 11th / LADOT TAG

Trip Generation Adjustment *(Exact amount of credit subject to approval by LADOT)*	Yes	No
Transit Usage	☑	☐
Existing Active or Previous Land Use	☐	☑
Internal Trip	☑	☐
Pass-By Trip	☑	☐
Transportation Demand Management (See above)	☑	☐

Trip generation table including a description of the existing and proposed land uses, rates, estimated morning and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. attached? *(Required)* ☐ Yes ☐ No

	IN	OUT	TOTAL
AM Trips	38	59	97
PM Trips	57	38	95

NET Daily Vehicle Trips (DVT)
________ DVT (ITE ___ ed.)
1,025 DVT (VMT Calculator ver. 1.3)

[1] At this time Project Design Features are only those measures that are also shown to be needed to comply with a local ordinance, affordable housing incentive program, or State law.

[2] Select if reduced parking supply is pursued as a result of a parking incentive as permitted by the City's Bicycle Parking Ordinance, State Density Bonus Law, or the City's Transit Oriented Community Guidelines.

IV. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2027 Ambient Growth Rate: 1.0 % Per Yr.

Related Projects List, researched by the consultant and approved by LADOT, attached? *(Required)* ■ Yes ☐ No

STUDY INTERSECTIONS and/or STREET SEGMENTS:
(May be subject to LADOT revision after access, safety, and circulation evaluation.)

1	Vine Street & Fountain Avenue	4	
2	Vine Street & Lexington Avenue	5	
3		6	

Provide a separate list if more than six study intersections and/or street segments.

Is this Project located on a street within the High Injury Network? ■ Yes ☐ No

If a study intersection is located within a ¼-mile of an adjacent municipality's jurisdiction, signature approval from said municipality is required prior to MOU approval.

V. ACCESS ASSESSMENT

a. Does the project exceed 1,000 net DVT? ■ Yes ☐ No
b. Is the project's frontage 250 linear feet or more along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ■ No
c. Is the project's building frontage encompassing an entire block along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ■ No

VI. ACCESS ASSESSMENT CRITERIA

If Yes to any of the above questions a., b., or c., complete **Attachment C.1: Access Assessment Criteria**.

VII. SITE PLAN AND MAP OF STUDY AREA

Please note that the site plan should also be submitted to the Department of City Planning for cursory review.

Does the attached site plan and/or map of study area show	Yes	No	Not Applicable
Each study intersection and/or street segment	☑	☐	☐
*Project Vehicle Peak Hour trips at each study intersection	☑	☐	☐
*Project Vehicle Peak Hour trips at each project access point	☑	☐	☐
*Project trip distribution percentages at each study intersection	☑	☐	☐
Project driveways designed per LADOT MPP 321 (show widths and directions or lane assignment)	☑	☐	☐
Pedestrian access points and any pedestrian paths	☑	☐	☐
Pedestrian loading zones	☑	☐	☐
Delivery loading zone or area	☑	☐	☐
Bicycle parking onsite	☑	☐	☐
Bicycle parking offsite (in public right-of-way)	☐	☐	☑

*For mixed-use projects, also show the project trips and project trip distribution by land use category.

VIII. FREEWAY SAFETY ANALYSIS SCREENING

Will the project add 25 or more trips to any freeway off-ramp in either the AM or PM peak hour? ☐ YES ☒ NO

Provide a brief explanation or graphic identifying the number of project trips expected to be added to the nearby freeway off-ramps serving the project site. If Yes to the question above, a freeway ramp analysis is required.

IX. CONTACT INFORMATION

	CONSULTANT	DEVELOPER
Name:	Gibson Transportation Consulting, Inc.	1200 Vine Street, Los Angeles Apartments, LLC
Address:	555 W. 5th Street, Suite 3375, Los Angeles, CA 90013	4601 Park Road, Suite 450, Charlotte, North Carolina 28209
Phone Number:	(213) 683-0088	(917) 509-5092
E-Mail:	lmullarkey-williams@gibsontrans.com	mstroyman@blackridgeventures.com

Approved by:	x Lauren Mullarkey-Williams Consultant's Representative	8/5/22 Date	x Eileen Hunt LADOT Representative	8/9/22 **Date
Adjacent Municipality:	______	Approved by: (if applicable)	______ Representative	______ Date

**MOUs are generally valid for two years after signing. If after two years a transportation assessment has not been submitted to LADOT, the developer's representative shall check with the appropriate LADOT office to determine if the terms of this MOU are still valid or if a new MOU is needed.

LADOT

Access Assessment Criteria

This Criteria acknowledges that the Transportation Assessment for the following Project will be prepared in accordance with the latest version of LADOT's Transportation Assessment Guidelines:

I. PROJECT INFORMATION

Project Name: 1200 Vine Project

Project Address: 1200, 1204, 1214, 1218 N Vine St, 6245, 6247 W Lexington Ave, Los Angeles, CA 90038

Project Description: The Project proposes 153 multi-family residential uses, including 18 affordable units, and 7,000 sf of commercial uses.

LADOT Project Case Number: CEN22-53727

II. PEDESTRIAN/ PERSON TRIP GENERATION

Source of Pedestrian/Person Trip Generation Rate(s)? ☐ VMT Calculator ☐ ITE 10th Edition ☐ Other:

	Land Use	Size/Unit	Daily Person Trips
Proposed	To be provided.		
	Total new trips:		

Pedestrian/Person trip generation table including a description of the proposed land uses, trip credits, person trip assumptions, comparison studies used for reference, etc. attached? ☐ Yes ☐ No

III. PEDESTRIAN ATTRACTORS INVENTORY

Attach Pedestrian Map for the area (1,320 foot radius from edge of the project site) depicting:

- site pedestrian entrance(s)
- Existing or proposed passenger loading zones
- pedestrian generation/distribution values
  - Geographic Distribution: N 25 % S 25 % E 25 % W 25 %
- transit boarding and alighting of transit stops (should include Metro rail stations; Metro, DASH, and

other municipal bus stops)

- Key pedestrian destinations with hours of operation:
  - schools (school times)
  - government offices with a public counter or meeting room
  - senior citizen centers
  - recreation centers or playgrounds
  - public libraries
  - medical centers or clinics
  - child care facilities
  - post offices
  - places of worship
  - grocery stores
  - other facilities that attract pedestrian trips
- pedestrian walking routes to key destinations from project site

Note: Pedestrian Count Summary, Bicycle Count Summary, Manual Traffic Count Summary will need to be attached to the Transportation Assessment

IV. FACILITIES INVENTORY

Is a High Injury Network street located within 1,320 foot radius from the edge of the project site? ☑ Yes ☐ No

If yes, list streets and include distance from the project:

Vine St at 0 (feet)

Santa Monica Blvd at 682 (feet)

Cahuenga Blvd N of Fountain Ave at 824 (feet)

__________ at ________ (feet)

Attach Radius Map for the area (1,320 foot radius from edge of the project site) depicting the following existing and proposed facilities:

- transit stops
- bike facilities
- traffic control devices for controlled crossings
- uncontrolled crosswalks
- location of any missing, damaged or substandard sidewalks

For a reference of planned facilities, see the Transportation Assessment Support Map

Crossing Distances

Does the project property have frontage along an arterial street (designated as either an Avenue or Boulevard?)

☑ Yes ☐ No

If yes, provide the distance between the crossing control devices (e.g. signalized crosswalk, or controlled mid-block crossing) along any arterial within 1,320 feet of the property.

________(feet) at See Table 4________ ________(feet) at ________________________

________(feet) at ________________________ ________(feet) at ________________________

________(feet) at ________________________ ________(feet) at ________________________

________(feet) at ________________________ ________(feet) at ________________________

________(feet) at ________________________ ________(feet) at ________________________

________(feet) at ________________________ ________(feet) at ________________________

V. Project Construction

Will the project require any construction activity within the city right-of-way? ☐ Yes ☑ No

If yes, will the project require temporary closure of any of the following city facilities?

- sidewalk
- bike lane
- parking lane
- travel lane
- bus stop
- bicycle parking (racks or corrals)
- bike share or other micro-mobility station
- car share station
- parklet
- other: ________________________

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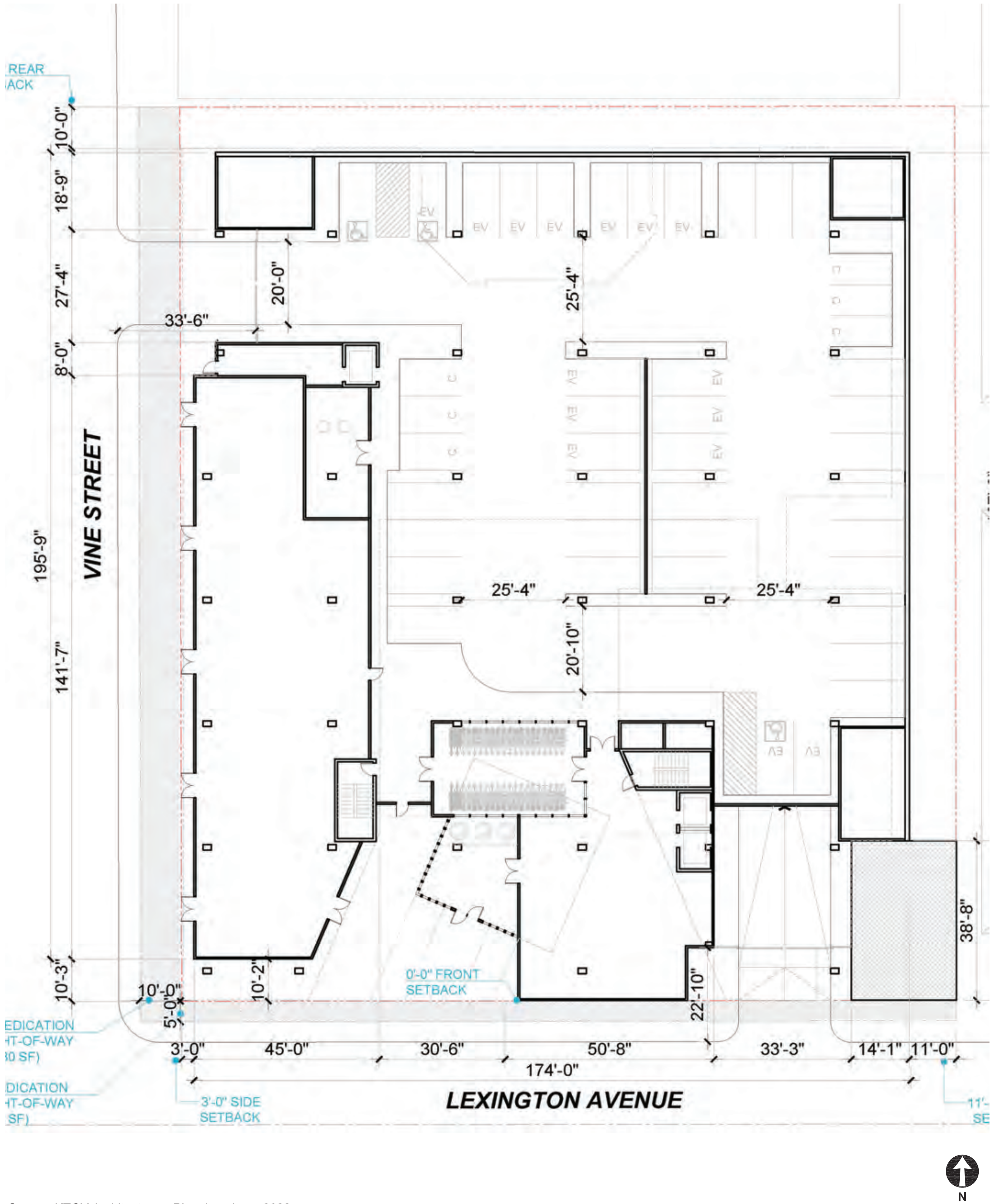

Source: KTGY Architecture + Planning. June, 2022.

PROJECT SITE PLAN	FIGURE 1

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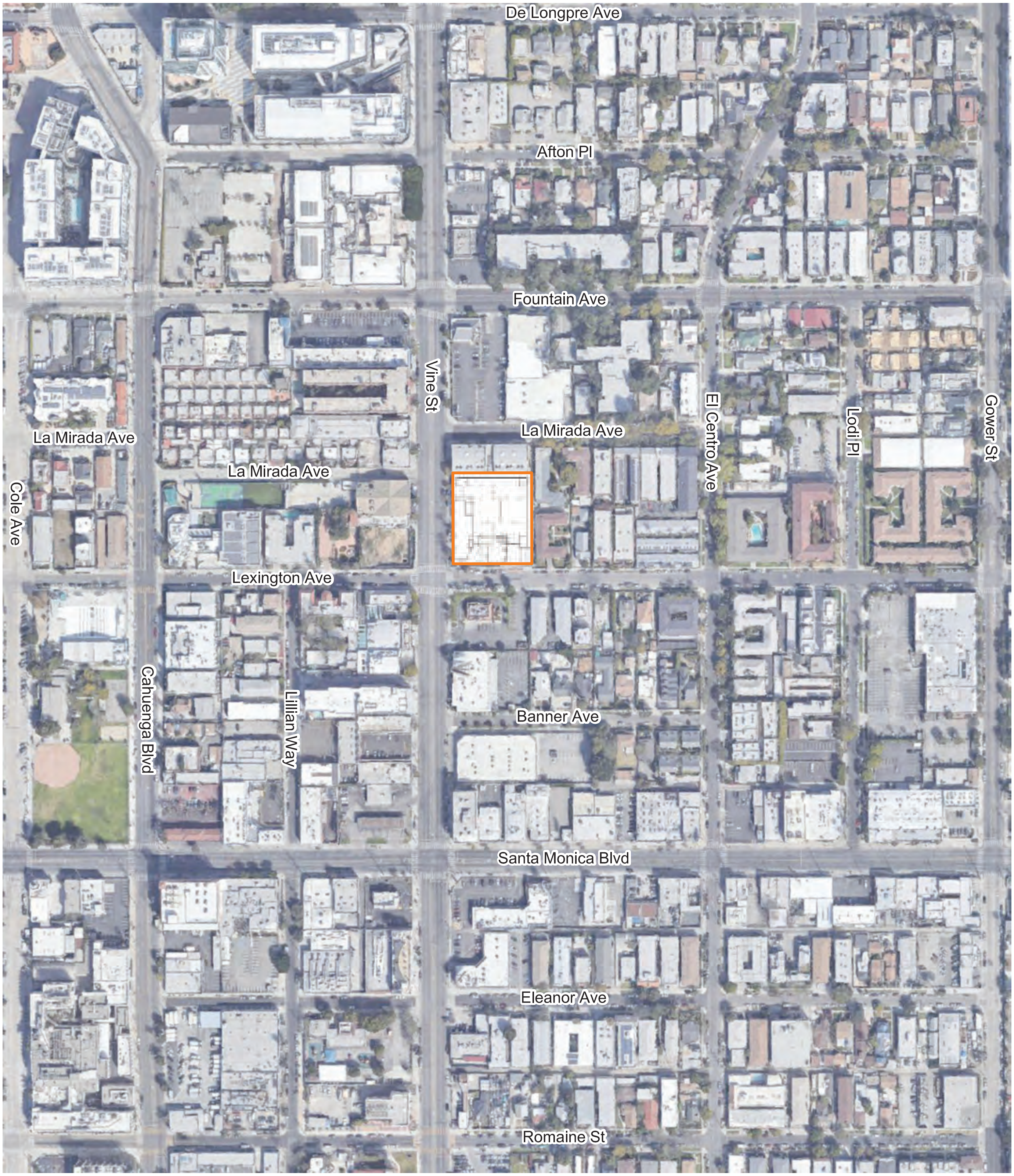


LEGEND

Project Site

N
Not to Scale

PROJECT SITE LOCATION

FIGURE 2

STUDY AREA AND ANALYZED INTERSECTIONS

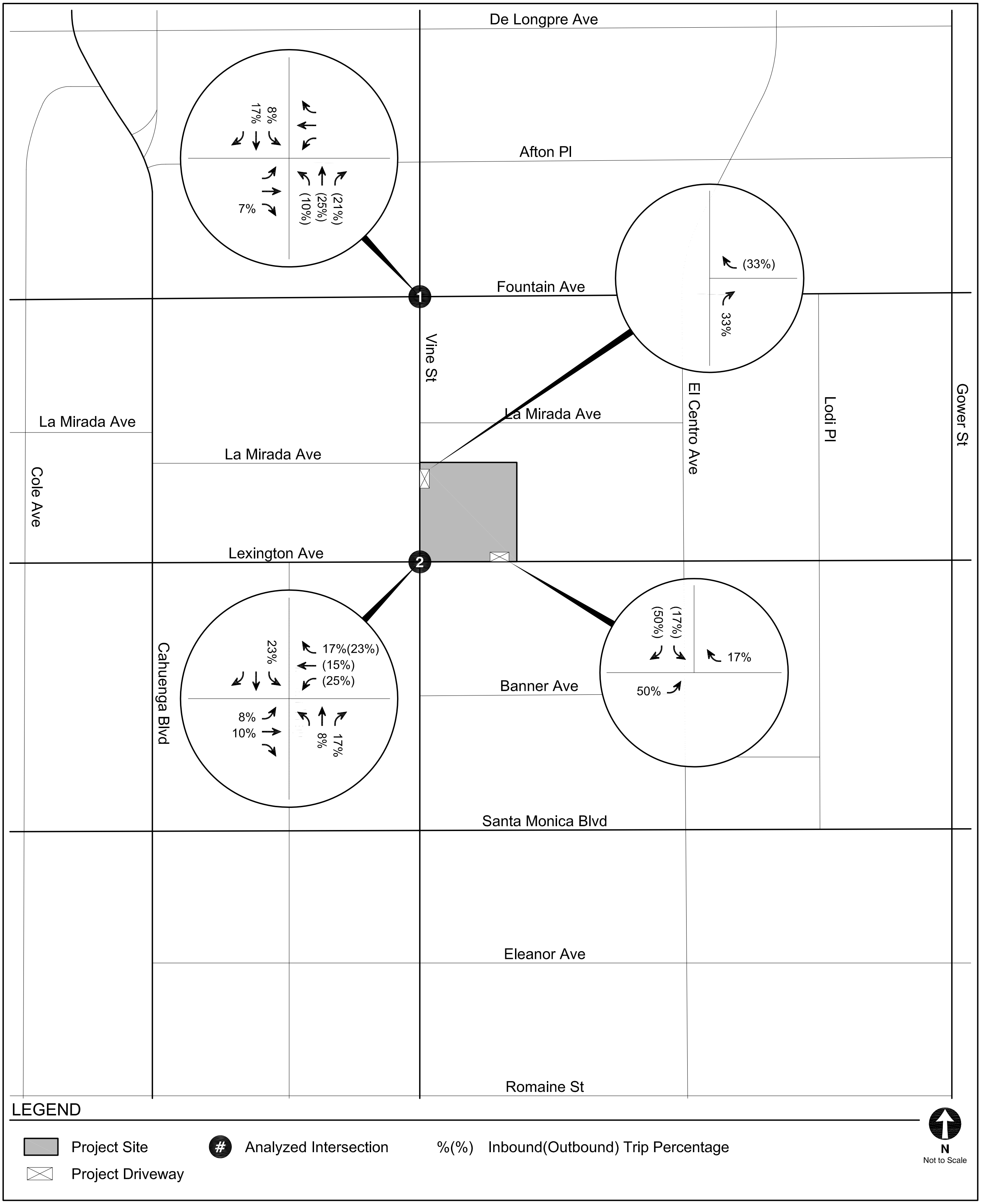
FIGURE 3

TABLE 1
1200 VINE STREET TRIP GENERATION ESTIMATES

Land Use	ITE Land Use	Rate or Size	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
TRIP GENERATION RATES [a]								
Multi-Family Housing (Mid-Rise)	221	per du	23%	77%	0.37	61%	39%	0.39
Affordable Housing	[b]	per du	37%	63%	0.49	56%	44%	0.35
High-Turnover (Sit-Down) Restaurant	932	per 1,000 sf	55%	45%	9.57	61%	39%	9.05
TRIP GENERATION ESTIMATES								
Proposed Project								
Multi-Family Housing (Mid-Rise)	221	135 du	12	38	50	32	21	53
Transit/Walk-In Reduction - 10% [c]			*(1)*	*(4)*	*(5)*	*(3)*	*(2)*	*(5)*
Affordable Housing	[b]	18 du	3	6	9	3	3	6
Restaurant	932	7,000 sf	37	30	67	38	25	63
Internal Capture Reduction - 10% [d]			*(4)*	*(3)*	*(7)*	*(4)*	*(3)*	*(7)*
Transit/Walk-In Reduction - 10% [c]			*(3)*	*(3)*	*(6)*	*(3)*	*(2)*	*(5)*
Pass-By Trip Reduction - 20% [e]			*(6)*	*(5)*	*(11)*	*(6)*	*(4)*	*(10)*
TOTAL NEW PROJECT TRIPS			**38**	**59**	**97**	**57**	**38**	**95**

Notes:
du = dwelling unit; sf = square feet
[a] Trip generation rates are for General Urban/Suburban areas from *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021), unless otherwise noted.
[b] Per LADOT's *Transportation Assessment Guidelines*, residential or mixed-use developments inside a Transit Priority Area (TPA) which include Affordable Housing Units are eligible to use a City-specific trip generation rate based on vehicle trip count data collected at affordable housing sites in the City of Los Angeles in 2016.
[c] Per LADOT's *Transportation Assessment Guidelines*, the Project Site is located within 0.25 miles from bus stops that serve Metro Local and LADOT DASH lines, thus a 10% transit reduction was applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.
[d] Internal capture reductions account for person trips made between distinct land uses within a mixed-use development (i.e., residents visiting the commercial uses).
[e] Per Attachment H of LADOT's *Transportation Assessment Guidelines*, pass-by reductions were taken into account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

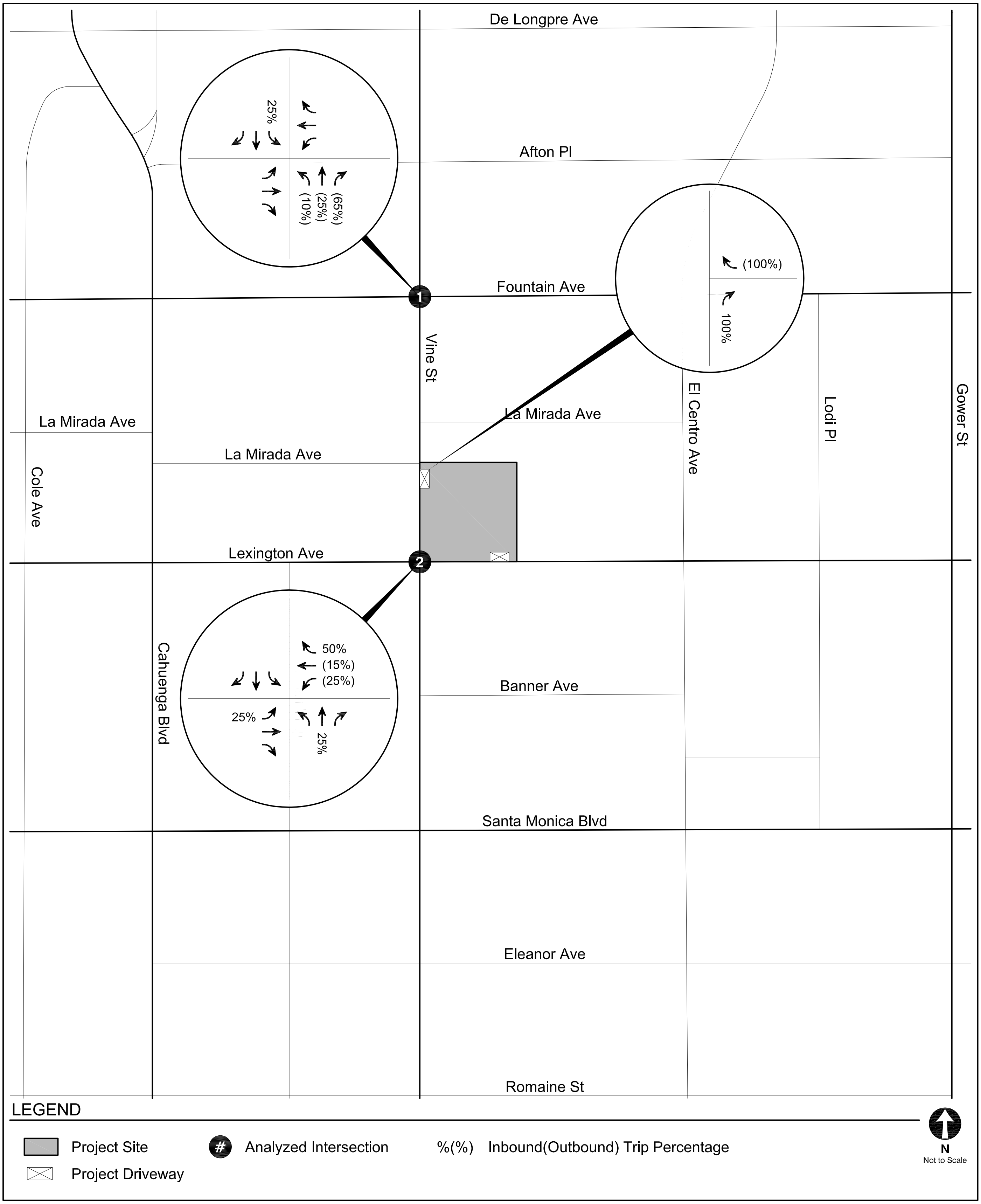
transportation consulting, inc.



PROJECT TRIP DISTRIBUTION
RESIDENTIAL

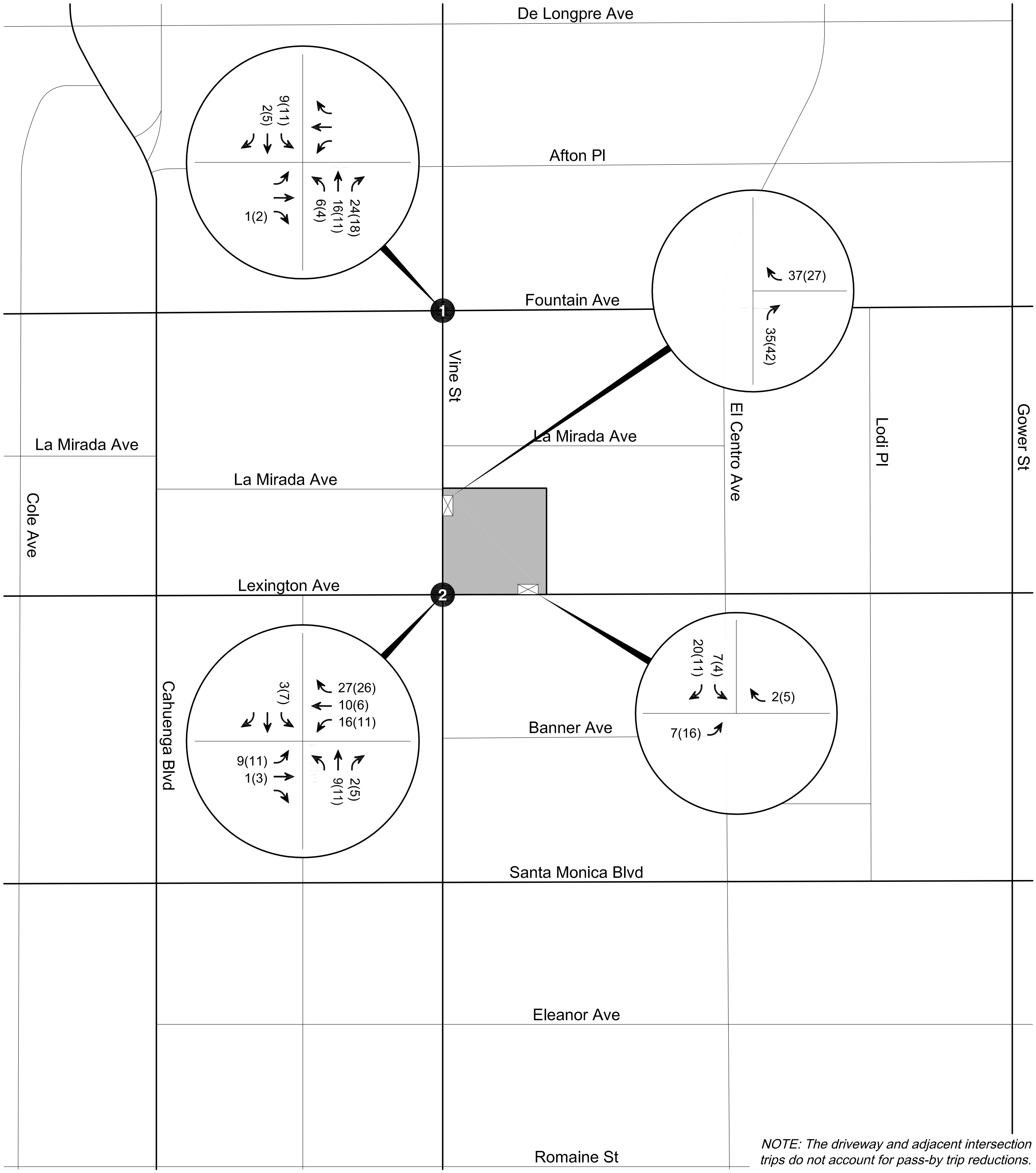
FIGURE
4A

Gibson transportation consulting, inc.



PROJECT TRIP DISTRIBUTION
COMMERCIAL

FIGURE
4B



LEGEND

Project Site

Analyzed Intersection

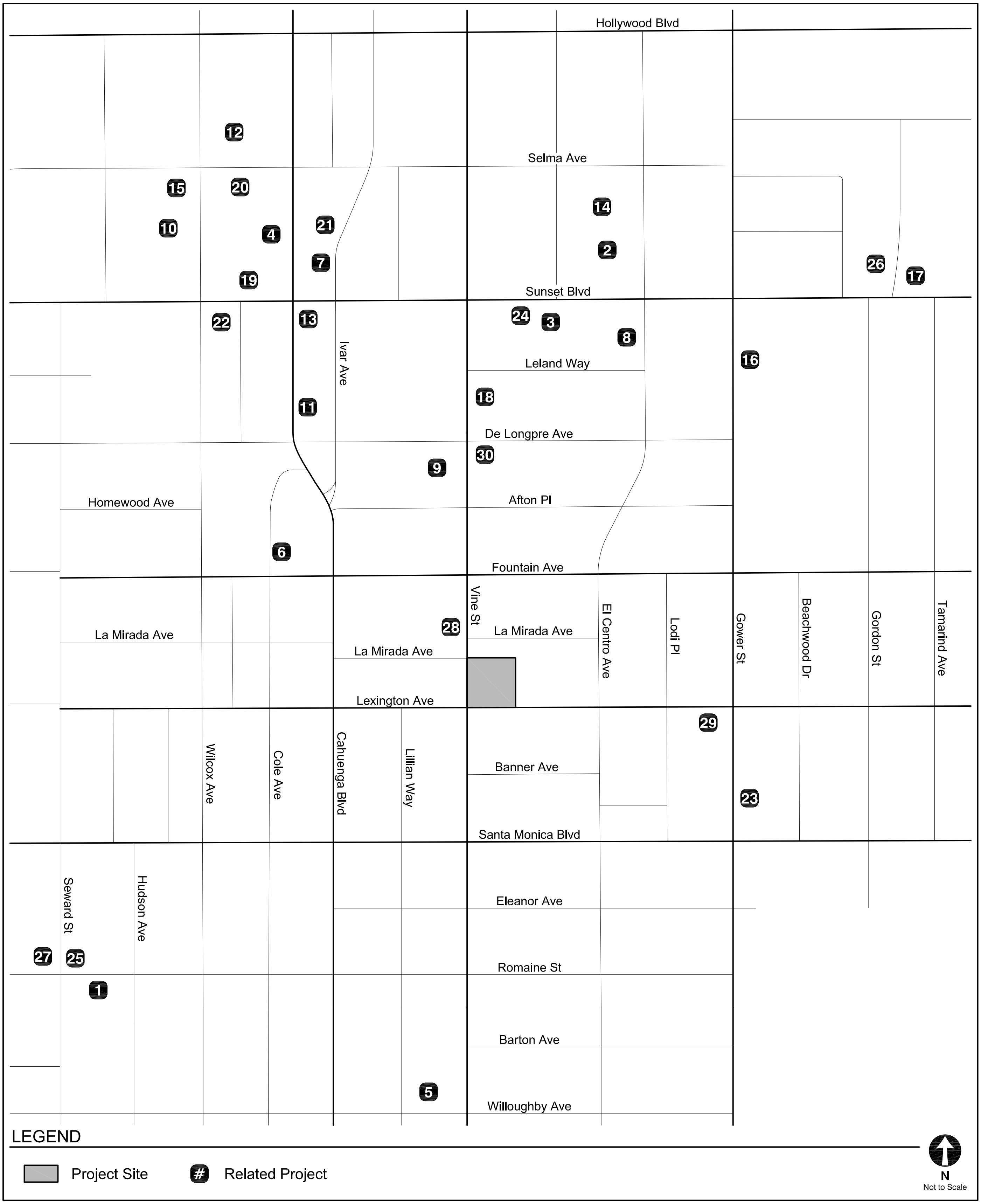
#(#) AM(PM) Peak Hour Traffic Volumes

Project Driveway

N
Not to Scale

PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
5



LOCATIONS OF RELATED PROJECTS

FIGURE 6

TABLE 2
1200 VINE RELATED PROJECTS

No.	Project	Address	Use	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
1.	Seward St Office	956 N Seward St	126,980 sf office	1,240	165	21	186	29	151	180
2.	Palladium Residences	6201 W Sunset Bl	731 apartment units, including 37 affordable units, and 24,000 sf commercial	4,913	128	228	356	234	160	403
3. [b]	6250 Sunset (Nickelodeon)	6250 W Sunset Bl	200 apartment units and 4,700 sf retail	1,473	52	80	132	71	50	121
4.	Cahuenga Boulevard Hotel	1525 N Cahuenga Bl	64 hotel rooms, 3,300 sf restaurant, 1,200 sf guest lounge, and 700 sf rooftop restaurant	469	10	12	22	20	14	34
5. [b]	Mixed-Use	901 N Vine St	70 apartment units and 3,000 sf commercial	(32)	4	26	30	(5)	1	(4)
6. [b]	Mixed-Use	1310 N Cole Ave	369 apartment units, including 12 live-work and 20 affordable housing units, and 2,570 sf office	2,226	20	139	159	139	58	197
7.	Ivar Gardens Hotel	6409 W Sunset Bl	275 hotel rooms and 1,900 sf retail	1,285	51	26	77	53	60	113
8. [b]	6200 W Sunset Boulevard	6200 W Sunset Bl	270 apartment units, 8,070 sf retail, 2,300 sf pharmacy, and 1,750 sf quality restaurant	1,778	26	97	123	100	35	135
9. [b]	Academy Square	1341 Vine St	200 apartment units and 301,854 sf restaurant/office	6,218	330	164	494	152	220	372
10. [b]	Thompson Hotel	1541 N Wilcox Ave	200 hotel rooms, 5,125 sf ground floor restaurant and 4,105 sf rooftop restaurant/bar/lounge	2,058	76	57	133	82	75	157
11. [b]	Godfrey Hotel	1400 N Cahuenga Bl	220 hotel rooms, 2,723 sf restaurant, and 1,440 sf bar	1,875	55	47	102	78	60	138
12.	Selma-Wilcox hotel	6421 W Selma Ave	114 hotel rooms and 1,993 sf restaurant	1,227	43	27	70	56	44	100
13.	6400 Sunset Mixed-Use	6400 W Sunset Bl	200 apartment units and 7,000 sf restaurant	11	14	77	91	57	(6)	51
14.	Modera Argyle	1546 N Argyle Ave	276 apartment units, including 13 affordable housing units, 15,000 sf restaurant, and 9,000 sf retail	2,013	43	127	170	128	51	179
15.	Citizen News	1545 N Wilcox Ave	16,100 sf flexible event space and 14,800 sf restaurant	2,341	36	50	86	128	47	175

Notes:

[a] Related project information provided by the Los Angeles Department of Transportation and Los Angeles Department of City Planning in June 2022 and recent traffic studies prepared in the area. This list includes known development projects within one-half mile (2,460 foot) radius of the Project Site.

[b] Although construction of the related project may be partially complete/entirely complete, the project was not fully occupied at the time when traffic counts were conducted. Therefore, the related project was considered and listed to provide a more conservative analysis.

TABLE 2
1200 VINE RELATED PROJECTS (CONT.)

No.	Project	Address	Use	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
16.	Sunset Gower Studios	1438 N Gower St	828,339 sf office, 205,202 sf sound stage, 65,319 sf production support, and 6,516 sf restaurant	4,108	424	67	491	77	410	487
17. [b]	Sunset and Gordon Mixed-Use	5939 W Sunset Bl	299 apartment units, including 15 affordable housing units, 38,440 sf office, 3,700 sf restaurant, and 3,970 sf retail	3,731	152	191	343	182	152	334
18.	1400 Vine	1400 Vine St	198 apartment units, including 21 affordable housing units, and 16,000 sf restaurant	1,446	70	93	163	97	56	153
19.	6445 Sunset	6445 Sunset Bl	175 hotel rooms and 12,500 sf restaurant	1,409	77	58	135	80	61	141
20.	Wilcox & Selma Residential	6422 W Selma Ave	40 apartment units and 5 affordable housing units	126	(3)	10	7	9	(1)	8
21.	Artisan Hollywood	1520 N Cahuenga Bl	270 apartment units, including 27 affordable housing units and 6,805 sf restaurant	1,143	34	75	109	82	40	122
22.	Sunset + Wilcox Mixed-Use	6450 W Sunset Bl	431,032 sf of office, and 12,386 sf restaurant	2,836	311	50	361	93	319	412
23.	Residential with Affordable Housing	1125 N Gower St	155 apartment units and 14 affordable housing units	667	13	35	48	32	21	53
24.	Sunset Vine 2	6266 W Sunset Bl	150 apartment units and 13,130 sf restaurant	603	11	35	46	33	22	55
25.	1000 Seward	1000 N Seward St	136,200 sf of office, 12,200 sf restaurant, and 2,200 sf retail	1,669	147	48	195	58	135	193
26.	6007 Sunset Mixed-Use	6007 W Sunset Bl	110 apartment units and 14,555 sf retail	904	15	25	40	30	29	59
27. [b]	Hollywood Center Studios Office	6601 W Romaine St	106,125 sf of office	808	88	4	92	12	39	51
28.	1235 Vine St	1235 Vine St	109,190 sf of office and 7,960 sf restaurant	696	96	19	116	19	91	108
29.	Hollywood Production Center	1149 N Gower St	169 apartment units	735	6	23	29	23	12	35
30.	Onni Group Mixed-Use Development	1360 N Vine St	463,521 sf of office, 11,914 sf restaurant and 8,998 sf additional restaurant	3,533	278	40	318	135	337	472

Notes:

[a] Related project information provided by the Los Angeles Department of Transportation and Los Angeles Department of City Planning in June 2022 and recent traffic studies prepared in the area. This list includes known development projects within one-half mile (2,460 foot) radius of the Project Site.

[b] Although construction of the related project may be partially complete/entirely complete, the project was not fully occupied at the time when traffic counts were conducted. Therefore, the related project was considered and listed to provide a more conservative analysis.

TABLE 3
FREEWAY OFF-RAMP SCREENING PROCESS

Freeway Off-Ramp	Peak Hour	Project Traffic	Meets Screening Criteria? [a]
US-101 Southbound [b]			
Off-ramp to Vine Steet	AM PM	4 6	NO NO
US-101 Northbound [c]			
Off-ramp to Santa Monica Boulevard	AM PM	4 6	NO NO

Notes:

[a] Based on *Interim Guidance for Freeway Safety Analysis* (LADOT, 2020), a transportation assessment for a development project must include analysis of any freeway off-ramp where a project adds 25 or more peak hour trips.

[b] 10% of incoming trips were assumed to travel Southbound on the US-101 to the Project Site via an off-ramp to Vine Street.

[c] 10% of incoming trips were assumed to travel Northbound on the US-101 to the Project Site via an off-ramp to Santa Monica Boulevard.

TABLE 4
1200 VINE STREET CROSSING DISTANCE INVENTORY
DISTANCE BETWEEN EXISTING PEDESTRIAN CROSSINGS
WITHIN VICINITY OF PROJECT SITE

Street Segment	Distance (ft)	From	To
Vine St	647	De Longpre Ave	Fountain Ave
	600	Fountain Ave	Lexington Ave
	602	Lexington Ave	Santa Monica Blvd
	603	Santa Monica Blvd	Romaine St
Wilcox Ave	662	De Longpre Ave	Fountain Ave
	1,237	Fountain Ave	Santa Monica Blvd
Cole Ave	623	De Longpre Ave	Fountain Ave
	1,247	Fountain Ave	Santa Monica Blvd
	601	Santa Monica Blvd	Romaine St
Cahuenga Blvd	655	De Longpre Ave	Fountain Ave
	1,247	Fountain Ave	Santa Monica Blvd
	698	Santa Monica Blvd	Romaine St
Santa Monica Blvd	608	Vine St	El Centro Ave
	620	El Centro Ave	Gower St
	610	Vine St	Cahuenga Blvd
	257	Cahuenga Blvd	Cole Ave
Gower St	605	Fountain Ave	Lexington Ave
	615	Lexington Ave	Santa Monica Blvd

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

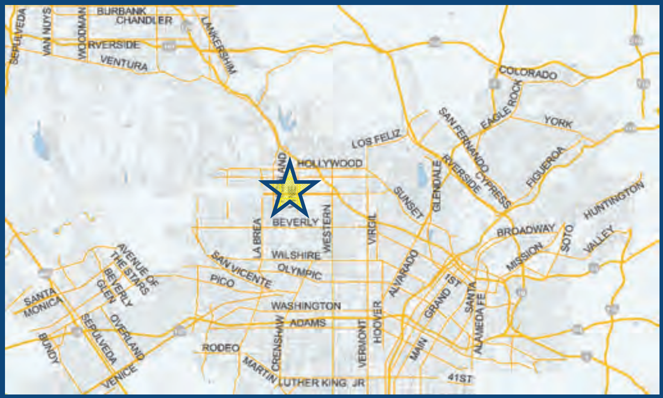
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 1200 Vine

Scenario:

Address: 1200 N VINE ST, 90038



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit station?

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
Retail | General Retail	0	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Housing | Multi-Family	135	DU

Housing | Multi-Family	135
Retail | High-Turnover Sit-Down Restaurant	7
Housing | Affordable Housing - Family	18

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed Project
0 Daily Vehicle Trips	**1,025** Daily Vehicle Trips
0 Daily VMT	**6,092** Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station.	☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	1,025 Net Daily Trips
The net increase in daily VMT ≤ 0	6,092 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	7.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

7/20/2022

VMT Calculator User Agreement

The Los Angeles Department of Transportation (LADOT), in partnership with the Department of City Planning and Fehr & Peers, has developed the City of Los Angeles Vehicle Miles Traveled (VMT) Calculator to estimate project-specific daily household VMT per capita and daily work VMT per employee for land use development projects. This application, the VMT Calculator, has been provided to You, the User, to assess vehicle miles traveled (VMT) outcomes of land use projects within the City of Los Angeles. The term "City" as used below shall refer to the City of Los Angeles. The terms "City" and "Fehr & Peers" as used below shall include their respective affiliates, subconsultants, employees, and representatives.

The City is pleased to be able to provide this information to the public. The City believes that the public is most effectively served when they are provided access to the technical tools that inform the public review process of private and public land use investments. However, in using the VMT Calculator, You agree to be bound by this VMT Calculator User Agreement (this Agreement).

VMT Calculator Application for the City of Los Angeles. The City's consultant calibrated the VMT Calculator's parameters in 2018 to estimate travel patterns of locations in the City, and validated those outcomes against empirical data. However, this calibration process is limited to locations within the City, and practitioners applying the VMT Calculator outside of the City boundaries should not apply these estimates without further calibration and validation of travel patterns to verify the VMT Calculator's accuracy in estimating VMT in such other locations.

Limited License to Use. This Agreement gives You a limited, non-transferrable, non-assignable, and non-exclusive license to use and execute a copy of the VMT Calculator on a computer system owned, leased or otherwise controlled by You in Your own facilities, as set out below, provided You do not use the VMT Calculator in an unauthorized manner, and that You do not republish, copy, distribute, reverse-engineer, modify, decompile, disassemble, transfer, or sell any part of the VMT Calculator, and provided that You know and follow the terms of this Agreement. Your failure to follow the terms of this Agreement shall automatically terminate this license and Your right to use the VMT Calculator.

Ownership. You understand and acknowledge that the City owns the VMT Calculator, and shall continue to own it through Your use of it, and that no transfer of ownership of any kind is intended in allowing You to use the VMT Calculator.

Warranty Disclaimer. In spite of the efforts of the City and Fehr & Peers, some information on the VMT Calculator may not be accurate. The VMT Calculator, OUTPUTS AND ASSOCIATED DATA ARE PROVIDED "as is" WITHOUT WARRANTY OF ANY KIND, whether expressed, implied, statutory, or otherwise including but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Limitation of Liability. It is understood that the VMT Calculator is provided without charge. Neither the City nor Fehr & Peers can be responsible or liable for any information derived from its use, or for any delays, inaccuracies, incompleteness, errors or omissions arising out of your use of the VMT Calculator or with respect to the material contained in the VMT Calculator. You understand and agree that Your sole remedy against the City or Fehr & Peers for loss or damage caused by any defect or failure of the

VMT Calculator, regardless of the form of action, whether in contract, tort, including negligence, strict liability or otherwise, shall be the repair or replacement of the VMT Calculator to the extent feasible as determined solely by the City. In no event shall the City or Fehr & Peers be responsible to You or anyone else for, or have liability for any special, indirect, incidental or consequential damages (including, without limitation, damages for loss of business profits or changes to businesses costs) or lost data or downtime, however caused, and on any theory of liability from the use of, or the inability to use, the VMT Calculator, whether the data, and/or formulas contained in the VMT Calculator are provided by the City or Fehr & Peers, or another third party, even if the City or Fehr & Peers have been advised of the possibility of such damages.

This Agreement and License shall be governed by the laws of the State of California without regard to their conflicts of law provisions, and shall be effective as of the date set forth below and, unless terminated in accordance with the above or extended by written amendment to this Agreement, shall terminate on the earlier of the date that You are not making use of the VMT Calculator or one year after the beginning of Your use of the VMT Calculator.

By using the VMT Calculator, You hereby waive and release all claims, responsibilities, liabilities, actions, damages, costs, and losses, known and unknown, against the City and Fehr & Peers for Your use of the VMT Calculator.

Before making decisions using the information provided in this application, contact City LADOT staff to confirm the validity of the data provided.

Print and sign below, and submit to LADOT along with the transportation assessment Memorandum of Understanding (MOU).

You, the User	
By:	Lauren Mullarkey-Williams
Print Name:	Lauren Mullarkey-Williams
Title:	Associate
Company:	Gibson Transportation Consulting, Inc.
Address:	555 W. 5th Street, Suite 3375, Los Angeles, CA 90013
Phone:	(213) 683-0088
Email Address:	lmullarkey-williams@gibsontrans.com
Date:	8/5/22

Attachment B

Traffic Count Data

National Data & Surveying Services

Intersection Turning Movement Count

Location: Vine St & Fountain Ave
City: Hollywood
Control: Signalized

Project ID: 18-05272-056
Date: 5/16/2018

Total

NS/EW Streets:	Vine St				Vine St				Fountain Ave				Fountain Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	152	5	0	4	257	12	0	7	15	4	0	11	69	6	0	547
7:15 AM	5	153	9	0	5	282	14	0	7	29	3	0	10	79	5	0	601
7:30 AM	13	135	6	0	6	324	15	0	16	45	5	0	12	81	10	0	668
7:45 AM	14	164	7	0	4	300	24	0	11	51	7	0	20	115	11	0	728
8:00 AM	8	178	10	0	10	293	18	0	9	41	3	0	16	89	5	0	680
8:15 AM	8	220	9	0	10	281	30	1	16	50	6	0	10	86	9	1	737
8:30 AM	11	211	6	0	5	322	24	0	9	40	8	0	21	103	9	0	769
8:45 AM	7	265	8	0	6	330	13	0	19	48	8	0	16	101	10	0	831
9:00 AM	15	267	11	0	6	307	26	0	21	66	12	0	19	76	12	0	838
9:15 AM	6	206	12	0	3	284	21	0	20	74	13	0	20	118	12	0	789
9:30 AM	6	224	9	0	6	259	14	0	20	46	4	0	20	130	10	0	748
9:45 AM	6	260	18	0	7	298	16	0	16	48	9	0	21	99	9	0	807
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	104	2435	110	0	72	3537	227	1	171	553	82	0	196	1146	108	1	8743
APPROACH %'s :	3.93%	91.92%	4.15%	0.00%	1.88%	92.18%	5.92%	0.03%	21.22%	68.61%	10.17%	0.00%	13.51%	78.98%	7.44%	0.07%	
PEAK HR :	08:30 AM - 09:30 AM																TOTAL
PEAK HR VOL :	39	949	37	0	20	1243	84	0	69	228	41	0	76	398	43	0	3227
PEAK HR FACTOR :	0.650	0.889	0.771	0.000	0.833	0.942	0.808	0.000	0.821	0.770	0.788	0.000	0.905	0.843	0.896	0.000	0.963
	0.875				0.959				0.790				0.862				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1	2	0	0	1	2	0	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	15	282	20	1	8	239	13	0	32	109	9	0	11	52	20	0	811
4:15 PM	12	319	13	0	5	277	11	0	21	104	16	0	17	60	14	0	869
4:30 PM	8	260	17	0	9	314	13	0	16	95	8	0	10	73	11	0	834
4:45 PM	12	251	16	0	14	267	11	0	14	110	10	0	20	71	8	0	804
5:00 PM	12	297	15	0	13	289	20	0	32	126	15	0	23	72	13	0	927
5:15 PM	15	290	10	0	6	264	21	0	21	119	19	0	19	75	13	0	872
5:30 PM	7	253	19	0	10	242	24	0	16	124	12	1	19	75	16	0	818
5:45 PM	13	260	23	0	8	292	23	0	30	105	11	0	16	68	18	0	867
6:00 PM	7	309	13	1	7	312	33	0	29	126	10	0	18	77	13	0	955
6:15 PM	27	273	17	0	12	280	25	0	30	123	9	0	24	86	13	0	919
6:30 PM	10	254	16	1	16	232	26	0	33	127	10	0	18	78	11	0	832
6:45 PM	13	295	10	0	14	241	18	0	28	128	14	0	18	85	13	0	877
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	151	3343	189	3	122	3249	238	0	302	1396	143	1	213	872	163	0	10385
APPROACH %'s :	4.10%	90.69%	5.13%	0.08%	3.38%	90.02%	6.59%	0.00%	16.40%	75.79%	7.76%	0.05%	17.07%	69.87%	13.06%	0.00%	
PEAK HR :	06:00 PM - 07:00 PM																TOTAL
PEAK HR VOL :	57	1131	56	2	49	1065	102	0	120	504	43	0	78	326	50	0	3583
PEAK HR FACTOR :	0.528	0.915	0.824	0.500	0.766	0.853	0.773	0.000	0.909	0.984	0.768	0.000	0.813	0.948	0.962	0.000	0.938
	0.944				0.864				0.981				0.923				

Prepared by National Data & Surveying Services

Vine St & Fountain Ave

Peak Hour Turning Movement Count

ID: 18-05272-056
City: Hollywood

Day: Wednesday
Date: 05/16/2018

	PEAK HOURS	COUNT PERIODS
AM	08:30 AM - 09:30 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	06:00 PM - 07:00 PM	04:00 PM - 07:00 PM

Vine St — SOUTHBOUND

	Right	Thru	Left	U-turn	Approach exit
AM	84	1243	20	0	1061
NOON	0	0	0	0	0
PM	102	1065	49	0	1301
Lanes	0	2	1	0	

Fountain Ave — EASTBOUND

	AM	NOON	PM	Lanes
Exit	521	0	485	
U-turn	0	0	0	0
Left	69	0	120	1
Thru	228	0	504	1
Right	41	0	43	0

Fountain Ave — WESTBOUND

	Lanes	PM	NOON	AM
Right	0	50	0	43
Thru	1	326	0	398
Left	1	78	0	76
U-turn	0	0	0	0
Exit		609	0	285

CONTROL

Signalized

	AM	NOON	PM
TEV	3227	0	3583
PHF	0.96		0.94

Vine St — NORTHBOUND

	Exit	U-turn	Left	Thru	Right
Lanes		0	1	2	0
PM	1188	2	57	1131	56
NOON	0	0	0	0	0
AM	1360	0	39	949	37

Total Vehicles (AM)

Approach	Left	Thru	Right
Southbound	20	1243	84
Eastbound	69	228	41
Westbound	76	398	43
Northbound	39	949	37

Total Vehicles (Noon)

Approach	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Total Vehicles (PM)

Approach	Left	Thru	Right
Southbound	49	1065	102
Eastbound	120	504	43
Westbound	78	326	50
Northbound	57	113	56

Bikes (AM)

Approach	Left	Thru	Right
Southbound	1	6	1
Eastbound	0	3	0
Westbound	0	12	1
Northbound	1	8	0

Bikes (NOON)

Approach	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Bikes (PM)

Approach	Left	Thru	Right
Southbound	1	14	1
Eastbound	0	9	0
Westbound	1	7	0
Northbound	0	9	2

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North	Eastbound	12	0	16
North	Westbound	19	0	7
West	Southbound	22	0	52
West	Northbound	23	0	56
East	Southbound	49	0	68
East	Northbound	69	0	60
South	Eastbound	16	0	26
South	Westbound	27	0	27
Diagonal (each corner)		0	0	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Vine St & Lexington Ave
City: Hollywood
Control: Signalized

Project ID: 18-05272-058
Date: 5/16/2018

Total

NS/EW Streets:	Vine St				Vine St				Lexington Ave				Lexington Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	166	2	0	2	282	5	0	2	6	2	0	2	4	6	0	482
7:15 AM	3	149	3	1	1	283	9	0	3	2	3	0	10	15	6	0	488
7:30 AM	11	156	4	0	4	327	9	0	1	8	7	0	10	20	9	0	566
7:45 AM	6	193	4	1	3	298	12	0	1	5	8	0	13	24	6	0	574
8:00 AM	9	208	8	0	10	297	20	0	3	6	14	0	14	16	8	0	613
8:15 AM	15	246	3	0	3	279	15	0	1	10	11	0	11	24	6	0	624
8:30 AM	3	214	1	0	6	315	7	0	6	11	10	0	5	13	3	0	594
8:45 AM	5	262	3	0	4	330	14	0	3	6	6	0	3	16	14	0	666
9:00 AM	2	273	7	1	3	322	15	0	8	6	5	0	8	14	5	0	669
9:15 AM	7	228	3	0	9	292	12	0	2	5	6	0	12	19	6	0	601
9:30 AM	3	258	1	1	8	271	5	0	1	3	5	0	6	13	4	0	579
9:45 AM	7	258	3	0	5	317	6	0	6	3	3	0	4	21	10	0	643
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	74	2611	42	4	58	3613	129	0	37	71	80	0	98	199	83	0	7099
APPROACH %'s :	2.71%	95.61%	1.54%	0.15%	1.53%	95.08%	3.39%	0.00%	19.68%	37.77%	42.55%	0.00%	25.79%	52.37%	21.84%	0.00%	
PEAK HR :	08:15 AM - 09:15 AM																TOTAL
PEAK HR VOL :	25	995	14	1	16	1246	51	0	18	33	32	0	27	67	28	0	2553
PEAK HR FACTOR :	0.417	0.911	0.500	0.250	0.667	0.944	0.850	0.000	0.563	0.750	0.727	0.000	0.614	0.698	0.500	0.000	0.954
	0.914				0.943				0.769				0.744				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	323	12	0	6	246	5	0	2	15	9	0	7	6	17	0	650
4:15 PM	4	325	10	0	7	295	8	0	4	23	9	0	3	12	7	0	707
4:30 PM	1	273	8	0	8	305	4	1	6	16	8	0	3	13	7	0	653
4:45 PM	6	268	9	0	9	255	12	1	8	29	8	0	8	8	9	0	630
5:00 PM	10	295	5	0	14	279	12	0	12	32	15	0	14	6	18	0	712
5:15 PM	6	320	3	0	9	309	8	1	7	29	13	0	12	10	7	0	734
5:30 PM	5	262	5	0	5	250	5	0	5	16	11	0	5	7	15	0	591
5:45 PM	7	286	10	0	7	298	11	1	9	26	19	0	5	6	6	0	691
6:00 PM	2	290	12	0	12	305	8	0	13	26	11	0	4	11	9	0	703
6:15 PM	3	286	6	1	2	307	5	0	9	44	9	0	6	16	21	0	715
6:30 PM	5	288	8	0	5	263	4	0	9	24	6	0	5	11	15	0	643
6:45 PM	6	303	7	0	12	254	10	0	9	14	12	0	10	3	11	0	651
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	57	3519	95	1	96	3366	92	4	93	294	130	0	82	109	142	0	8080
APPROACH %'s :	1.55%	95.83%	2.59%	0.03%	2.70%	94.60%	2.59%	0.11%	17.99%	56.87%	25.15%	0.00%	24.62%	32.73%	42.64%	0.00%	
PEAK HR :	05:45 PM - 06:45 PM																TOTAL
PEAK HR VOL :	17	1150	36	1	26	1173	28	1	40	120	45	0	20	44	51	0	2752
PEAK HR FACTOR :	0.607	0.991	0.750	0.250	0.542	0.955	0.636	0.250	0.769	0.682	0.592	0.000	0.833	0.688	0.607	0.000	0.962
	0.990				0.945				0.827				0.669				

Prepared by National Data & Surveying Services

Vine St & Lexington Ave

Peak Hour Turning Movement Count

ID: 18-05272-058
City: Hollywood

Day: Wednesday
Date: 05/16/2018

PEAK HOURS		COUNT PERIODS
AM	08:15 AM - 09:15 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:45 PM - 06:45 PM	04:00 PM - 07:00 PM

Vine St — SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing
AM	51	1246	16	0	1041
NOON	0	0	0	0	0
PM	28	1173	26	1	1242
Lanes	0	2	1	0	

Lexington Ave — EASTBOUND

	AM	NOON	PM	Lanes
Departing	143	0	89	
U-Turn	0	0	0	0
Left	18	0	40	0
Thru	33	0	120	1
Right	32	0	45	0

Lexington Ave — WESTBOUND

	PM	NOON	AM	Lanes
Right	51	0	28	0
Thru	44	0	67	1
Left	20	0	27	0
U-Turn	0	0	0	0
Departing	182	0	63	

Vine St — NORTHBOUND

	Departing	U-Turn	Left	Thru	Right
Lanes		0	1	2	0
PM	1239	1	17	1150	36
NOON	0	0	0	0	0
AM	1306	1	25	995	14

CONTROL

Signalized

	AM	NOON	PM
TEV	2553	0	2752
PHF	0.95		0.96

Total Vehicles (AM)

Approach	Left	Thru	Right
Southbound	16	1246	51
Eastbound	18	33	32
Westbound	27	67	28
Northbound	25	995	14

Total Vehicles (Noon)

Approach	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Total Vehicles (PM)

Approach	Left	Thru	Right
Southbound	26	1173	28
Eastbound	40	120	45
Westbound	20	44	51
Northbound	17	1150	36

Bikes (AM)

Approach	Left	Thru	Right
Southbound	1	4	1
Eastbound	1	0	0
Westbound	0	6	0
Northbound	0	9	0

Bikes (NOON)

Approach	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Bikes (PM)

Approach	Left	Thru	Right
Southbound	0	9	2
Eastbound	1	5	0
Westbound	0	4	2
Northbound	1	7	2

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North leg	Eastbound	8	0	24
North leg	Westbound	4	0	26
West leg	Southbound	27	0	44
West leg	Northbound	19	0	36
East leg	Southbound	33	0	62
East leg	Northbound	37	0	54
South leg	Eastbound	15	0	20
South leg	Westbound	13	0	23
NW corner diagonal		0	0	0
NE corner diagonal		0	0	0
SW corner diagonal		0	0	0
SE corner diagonal		0	0	0

Attachment C

Plans, Policies, and Programs Consistency Worksheet

LADOT Attachment D: Plan, Policy, and Program Consistency Worksheet

Plans, Policies and Programs Consistency Worksheet

The worksheet provides a structured approach to evaluate the threshold T-1 question below, that asks whether a project conflicts with a program, plan, ordinance or policy addressing the circulation system. The intention of the worksheet is to streamline the project review by highlighting the most relevant plans, policies and programs when assessing potential impacts to the City's circulation system.

> ***Threshold T-1***: Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?

This worksheet does not include an exhaustive list of City policies, and does not include community plans, specific plans, or any area-specific regulatory overlays. The Department of City Planning project planner will need to be consulted to determine if the project would obstruct the City from carrying out a policy or program in a community plan, specific plan, streetscape plan, or regulatory overlay that was adopted to support multimodal transportation options or public safety. LADOT staff should be consulted if a project would lead to a conflict with a mobility investment in the Public Right of Way (PROW) that is currently undergoing planning, design, or delivery. This worksheet must be completed for all projects that meet the Section I. Screening Criteria. For description of the relevant planning documents, **see Attachment D.1.**

For any response to the following questions that checks the box in **bold text** ((i.e.☐ **Yes** or ☐ **No**), further analysis is needed to demonstrate that the project does not conflict with a plan, policy, or program.

I. SCREENING CRITERIA FOR POLICY ANALYSIS

If the answer is 'yes' to any of the following questions, further analysis will be required:

Does the project require a discretionary action that requires the decision maker to find that the project would substantially conform to the purpose, intent and provisions of the General Plan?

☑ Yes ☐ No

Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety?

☐ Yes ☑ No

Is the project required to or proposing to make any voluntary modifications to the public right-of-way (i.e., dedications and/or improvements in the right-of-way, reconfigurations of curb line, etc.)?

☐ Yes ☑ No

II. PLAN CONSISTENCY ANALYSIS

A. Mobility Plan 2035 PROW Classification Standards for Dedications and Improvements

These questions address potential conflict with:

LADOT

Plan, Policy, and Program Consistency Worksheet

***Mobility Plan 2035 Policy 2.1** – Adaptive Reuse of Streets. Design, plan, and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands.*

***Mobility Plan 2035 Policy 2.3** – Pedestrian Infrastructure. Recognize walking as a component of every trip, and ensure high quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.*

***Mobility Plan 2035 Policy 3.2 –** People with Disabilities. Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.*

Mobility Plan 2035 Street Designations and Standard Roadway Dimensions

A.1 Does the project include additions or new construction along a street designated as a Boulevard I, and II, and/or Avenue I, II, or III on property zoned for R3 or less restrictive zone? ☑ Yes ☐ No

A.2 If **A.1 is yes**, is the project required to make additional dedications or improvements to the Public Right of Way as demonstrated by the street designation. ☐ Yes ☑ No ☐ N/A

A.3 If **A.2 is yes**, is the project making the dedications and improvements as necessary to meet the designated dimensions of the fronting street (Boulevard I, and II, or Avenue I, II, or III)?

☐ Yes ☐ No ☑ N/A

If the answer is to **A.1 or A.2 is NO, or to A.1, A.2 and A.3. is YES**, then the project does not conflict with the dedication and improvement requirements that are needed to comply with the Mobility Plan 2035 Street Designations and Standard Roadway Dimensions.

A.4 If the answer to **A.3. is NO**, is the project applicant asking to waive from the dedication standards?
☐ **Yes** ☐ **No** ☑ N/A

Lists any streets subject to dedications or voluntary dedications and include existing roadway and sidewalk widths, required roadway and sidewalk widths, and proposed roadway and sidewalk width or waivers.

Vine Frontage 1 Existing PROW'/Curb' : Existing 68'/90' Required 56'/86' Proposed 68'/90'

Lexington Frontage 2 Existing PROW'/Curb' : Existing 40'/60' Required 36'/60' Proposed 40'/60'

Frontage 3 Existing PROW'/Curb' : Existing ______________Required______________Proposed________________

Frontage 4 Existing PROW'/Curb' : Existing ______________Required______________Proposed________________

If the answer to **A.4 is NO**, the project is inconsistent with Mobility Plan 2035 street designations and must file for a waiver of street dedication and improvement.

If the answer to **A.4 is YES**, additional analysis is necessary to determine if the dedication and/or improvements are necessary to meet the City's mobility needs for the next 20 years. The following factors may contribute to determine if the dedication or improvement is necessary:

Is the project site along any of the following networks identified in the City's Mobility Plan?

- Transit Enhanced Network
- Bicycle Enhanced Network
- Bicycle Lane Network
- Pedestrian Enhanced District
- Neighborhood Enhanced Network

To see the location of the above networks, see **Transportation Assessment Support Map**.[1]

Is the project within the service area of Metro Bike Share, or is there demonstrated demand for micro-mobility services?

If the project dedications and improvements asking to be waived are necessary to meet the City's mobility needs, the project may be found to conflict with a plan that is adopted to protect the environment.

B. Mobility Plan 2035 PROW Policy Alignment with Project-Initiated Changes

B.1 Project-Initiated Changes to the PROW Dimensions

These questions address potential conflict with:

Mobility Plan 2035 Policy 2.1 *– Adaptive Reuse of Streets. Design, plan, and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands.*

Mobility Plan 2035 Policy 2.3 *– Pedestrian Infrastructure. Recognize walking as a component of every trip, and ensure high quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.*

Mobility Plan 2035 Policy 3.2 – *People with Disabilities. Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.*

Mobility Plan 2035 Policy 2.10 *– Loading Areas. Facilitate the provision of adequate on and off-site street loading areas.*

Mobility Plan 2035 Street Designations and Standard Roadway Dimensions

B.1 Does the project propose, above and beyond any PROW changes needed to comply with Section 12.37 of the LAMC as discussed in Section II.A, physically modify the curb placement or turning radius and/or physically alter the sidewalk and parkways space that changes how people access a property?

Examples of developer-initiated physical changes to the public right-of-way include:

- widening the roadway,
- narrowing the sidewalk,
- adding space for vehicle turn outs or loading areas,
- removing bicycle lanes, bike share stations, or bicycle parking

[1] LADOT Transportation Assessment Support Map https://arcg.is/fubbD

- modifying existing bus stop, transit shelter, or other street furniture
- paving, narrowing, shifting or removing an existing parkway or tree well

☑ Yes ☐ No

B.2 Driveway Access
These questions address potential conflict with:

Mobility Plan 2035 Policy 2.10 *– Loading Areas. Facilitate the provision of adequate on and off-site street loading areas.*

Mobility Plan 2035 Program PL.1. Driveway Access. *Require driveway access to buildings from non-arterial streets or alleys (where feasible) in order to minimize interference with pedestrian access and vehicular movement.*

Citywide Design Guidelines - Guideline 2*: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.*

Site Planning Best Practices:

- *Prioritize pedestrian access first and automobile access second. Orient parking and driveways toward the rear or side of buildings and away from the public right-of-way. On corner lots, parking should be oriented as far from the corner as possible.*
- *Minimize both the number of driveway entrances and overall driveway widths.*
- *Do not locate drop-off/pick-up areas between principal building entrances and the adjoining sidewalks.*
- *Orient vehicular access as far from street intersections as possible.*
- *Place drive-thru elements away from intersections and avoid placing them so that they create a barrier between the sidewalk and building entrance(s).*
- *Ensure that loading areas do not interfere with on-site pedestrian and vehicular circulation by separating loading areas and larger commercial vehicles from areas that are used for public parking and public entrances.*

B.2 Does the project add new driveways along a street designated as an Avenue or a Boulevard that conflict with LADOT's Driveway Design Guidelines (See Sec. 321 in the Manual of Policies and Procedures) by any of the following:

- locating new driveways for residential properties on an Avenue or Boulevard, and access is otherwise possible using an alley or a collector/local street, or
- locating new driveways for industrial or commercial properties on an Avenue or Boulevard and access is possible along a collector/local street, or
- the total number of new driveways exceeds 1 driveway per every 200 feet[2] along on the Avenue or Boulevard frontage, or
- locating new driveways on an Avenue or Boulevard within 150 feet from the intersecting street, or
- locating new driveways on a collector or local street within 75 feet from the intersecting street, or

[2] for a project frontage that exceeds 400 feet along an Avenue or Boulevard, the incremental additional driveway above 2 is more than 1 driveway for every 400 additional feet.

- locating new driveways near mid-block crosswalks, requiring relocation of the mid-block crosswalk

☐ **Yes** ☑ No

If the answer to **B.1 and B.2 are both NO**, then the project would not conflict with a plan or policies that govern the PROW as a result of the project-initiated changes to the PROW.

Impact Analysis

If the answer to either **B.1 or B.2 are YES**, City plans and policies should be reviewed in light of the proposed physical changes to determine if the City would be obstructed from carrying out the plans and policies. The analysis should pay special consideration to substantial changes to the Public Right of Way that may either degrade existing facilities for people walking and bicycling (e.g., removing a bicycle lane), or preclude the City from completing complete street infrastructure as identified in the Mobility Plan 2035, especially if the physical changes are along streets that are on the High Injury Network (HIN). The analysis should also consider if the project is in a Transit Oriented Community (TOC) area, and would degrade or inhibit trips made by biking, walking and/ or transit ridership. The streets that need special consideration are those that are included on the following networks identified in the Mobility Plan 2035, or the HIN:

- Transit Enhanced Network
- Bicycle Enhanced Network
- Bicycle Lane Network
- Pedestrian Enhanced District
- Neighborhood Enhanced Network
- High Injury Network

To see the location of the above networks, see **Transportation Assessment Support Map**.[3]

Once the project is reviewed relevant to plans and policies, and existing facilities that may be impacted by the project, the analysis will need to answer the following two questions in concluding if there is an impact due to plan inconsistency.

B.2.1 Would the physical changes in the public right of way or new driveways that conflict with LADOT's Driveway Design Guidelines degrade the experience of vulnerable roadway users such as modify, remove, or otherwise negatively impact existing bicycle, transit, and/or pedestrian infrastructure?

☐ **Yes** ☑ No ☐ N/A

B.2.2 Would the physical modifications or new driveways that conflict with LADOT's Driveway Design Guidelines preclude the City from advancing the safety of vulnerable roadway users?

☐ **Yes** ☑ No ☐ N/A

If either of the answers to either **B.2.1 or B.2.2 are YES**, the project may conflict with the Mobility Plan 2035, and therefore conflict with a plan that is adopted to protect the

[3] LADOT Transportation Assessment Support Map https://arcg.is/fubbD

environment. If either of the answers to both **B.2.1. or B.2.2. are NO**, then the project would not be shown to conflict with plans or policies that govern the Public Right-of-Way.

C. Network Access

C. 1 Alley, Street and Stairway Access

These questions address potential conflict with:

Mobility Plan Policy 3.9 *Increased Network Access: Discourage the vacation of public rights-of-way.*

C.1.1 Does the project propose to vacate or otherwise restrict public access to a street, alley, or public stairway?

□ Yes ☑ No

C.1.2 If the answer to C.1.1 is Yes, will the project provide or maintain public access to people walking and biking on the street, alley or stairway?

□ Yes □ **No** ☑ N/A

C.2 New Cul-de-sacs

These questions address potential conflict with:

Mobility Plan 2035 Policy 3.10 *Cul-de-sacs: Discourage the use of cul-de-sacs that do not provide access for active transportation options.*

C.2.1 Does the project create a cul-de-sac or is the project located adjacent to an existing cul-de-sac?

□ Yes ☑ No

C.2.2 If yes, will the cul-de-sac maintain convenient and direct public access to people walking and biking to the adjoining street network?

□ Yes □ **No** ☑ N/A

If the answers to either C.1.2 or C.2.2 are YES, then the project would not conflict with a plan or policies that ensures access for all modes of travel. If the answer to either **C.1.2 or C.2.2 are NO**, the project may conflict with a plan or policies that governs multimodal access to a property. Further analysis must assess to the degree that pedestrians and bicyclists have sufficient public access to the transportation network.

D. Parking Supply and Transportation Demand Management

These questions address potential conflict with:

Mobility Plan 2035 Policy 3.8 *– Bicycle Parking, Provide bicyclists with convenient, secure and well maintained bicycle parking facilities.*

Mobility Plan 2035 Policy 4.8 – *Transportation Demand Management Strategies. Encourage greater utilization of Transportation Demand Management Strategies to reduce dependence on single-occupancy vehicles.*

Plan, Policy, and Program Consistency Worksheet

***Mobility Plan 2035 Policy 4.13** – Parking and Land Use Management: Balance on-street and off-street parking supply with other transportation and land use objectives.*

D.1 Would the project propose a supply of onsite parking that exceeds the baseline amount[4] as required in the Los Angeles Municipal Code or a Specific plan, whichever requirement prevails?

☐ Yes ☑ No

D.2 If the answer to D.1. is YES, would the project propose to actively manage the demand of parking by independently pricing the supply to all users (e.g. parking cash-out), or for residential properties, unbundle the supply from the lease or sale of residential units?

☑ Yes ☑ **No** ☑ N/A

If the answer to **D.2. is NO** the project may conflict with parking management policies. Further analysis is needed to demonstrate how the supply of parking above city requirements will not result in additional (induced) drive-alone trips as compared to an alternative that provided no more parking than the baseline required by the LAMC or Specific Plan. If there is potential for the supply of parking to result in induced demand for drive-alone trips, the project should further explore transportation demand management (TDM) measures to further off-set the induced demands of driving and vehicle miles travelled (VMT) that may result from higher amounts of on-site parking. The TDM measures should specifically focus on strategies that encourage dynamic and context-sensitive pricing solutions and ensure the parking is efficiently allocated, such as providing real time information. Research has demonstrated that charging a user cost for parking or providing a 'cash-out' option in return for not using it is the most effective strategy to reduce the instances of drive-alone trips and increase non-auto mode share to further reduce VMT. To ensure the parking is efficiently managed and reduce the need to build parking for future uses, further strategies should include sharing parking with other properties and/or the general public.

D.3. Would the project provide the minimum on and off-site bicycle parking spaces as required by Section 12.21 A.16 of the LAMC?

☑ Yes ☐ **No**

D.4. Does the Project include more than 25,000 square feet of gross floor area construction of new non-residential gross floor?

☐ Yes ☑ No

D.5 If the answer to D.4. is YES, does the project comply with the City's TDM Ordinance in Section 12.26 J of the LAMC?

☐ Yes ☐ **No** ☑ N/A

If the answer to **D.3. or D.5. is NO** the project conflicts with LAMC code requirements of bicycle parking and TDM measures. If the project includes uses that require bicycle parking (Section 12.21 A.16) or TDM (Section 12.26 J), and the project does not comply with those Sections of the LAMC, further analysis is required to ensure that the project supports the intent of the two LAMC sections. To meet the intent of

[4] The baseline parking is defined here as the default parking requirements in section 12.21 A.4 of the Los Angeles Municipal Code or any applicable Specific Plan, whichever prevails, for each applicable use not taking into consideration other parking incentives to reduce the amount of required parking.

bicycle parking requirements, the analysis should identify how the project commits to providing safe access to those traveling by bicycle and accommodates storing their bicycle in locations that demonstrates priority over vehicle access.

Similarly, to meet the intent of the TDM requirements of Section 12.26 J of the LAMC, the analysis should identify how the project commits to providing effective strategies in either physical facilities or programs that encourage non-drive alone trips to and from the project site and changes in work schedule that move trips out of the peak period or eliminate them altogether (as in the case in telecommuting or compressed work weeks).

E. Consistency with Regional Plans

This section addresses potential inconsistencies with greenhouse gas (GHG) reduction targets forecasted in the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) / Sustainable Communities Strategy (SCS).

E.1 Does the Project or Plan apply one the City's efficiency-based impact thresholds (i.e. VMT per capita, VMT per employee, or VMT per service population) as discussed in **Section 2.2.3** of the TAG?

☑ Yes ☐ No

E.2 If the Answer to **E.1 is YES**, does the Project or Plan result in a significant VMT impact?

☐ **Yes** ☑ No ☐ N/A

E.3 If the Answer to **E.1 is NO**, does the Project result in a net increase in VMT?

☑ **Yes** ☐ No ☐ N/A

If the Answer to **E.2 or E.3 is NO**, then the Project or Plan is shown to align with the long-term VMT and GHG reduction goals of SCAG's RTP/SCS.

E.4 If the Answer to **E.2 or E.3 is YES,** then further evaluation would be necessary to determine whether such a project or land use plan would be shown to be consistent with VMT and GHG reduction goals of the SCAG RTP/SCS. For the purpose of making a finding that a project is consistent with the GHG reduction targets forecasted in the SCAG RTP/SCS, the project analyst should consult **Section 2.2.4** of the Transportation Assessment Guidelines (TAG). **Section 2.2.4** provides the methodology for evaluating a land use project's cumulative impacts to VMT, and the appropriate reliance on SCAG's most recently adopted RTP/SCS in reaching that conclusion.

The analysis methods therein can further support findings that the project is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy for which the State Air Resources Board, pursuant to Section 65080(b)(2)(H) of the Government Code, has accepted a metropolitan planning organization's determination that the sustainable communities strategy or the alternative planning strategy would, if implemented, achieve the greenhouse gas emission reduction targets.

LADOT Plan, Policy, and Program Consistency Worksheet

References

BOE Street Standard Dimensions S-470-1
http://eng2.lacity.org/techdocs/stdplans/s-400/S-470-1_20151021_150849.pdf

LADCP Citywide Design Guidelines.
https://planning.lacity.org/odocument/f6608be7-d5fe-4187-bea6-20618eec5049/Citywide_Design_Guidelines.pdf

LADOT Transportation Assessment Support Map https://arcg.is/fubbD

Mobility Plan 2035
https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf

SCAG. Connect SoCal, 2020-2045 RTP/SCS, https://www.connectsocal.org/Pages/default.aspx

ATTACHMENT D.1: CITY PLAN, POLICIES AND GUIDELINES

The Transportation Element of the City's General Plan, Mobility Plan 2035, established the "Complete Streets Design Guide" as the City's document to guide the operations and design of streets and other public rights-of-way. It lays out a vision for designing safer, more vibrant streets that are accessible to people, no matter what their mode choice. As a living document, it is intended to be frequently updated as City departments identify and implement street standards and experiment with different configurations to promote complete streets. The guide is meant to be a toolkit that provides numerous examples of what is possible in the public right-of-way and that provides guidance on context-sensitive design.

The Plan for A Healthy Los Angeles (March 2015) includes policies directing several City departments to develop plans that promote active transportation and safety.

The City of Los Angeles Community Plans, which make up the Land Use Element of the City's General Plan, guide the physical development of neighborhoods by establishing the goals and policies for land use. The 35 Community Plans provide specific, neighborhood-level detail for land uses and the transportation network, relevant policies, and implementation strategies necessary to achieve General Plan and community-specific objectives.

The stated goal of Vision Zero is to eliminate traffic-related deaths in Los Angeles by 2025 through a number of strategies, including modifying the design of streets to increase the safety of vulnerable road users. Extensive crash data analysis is conducted on an ongoing basis to prioritize intersections and corridors for implementation of projects that will have the greatest effect on overall fatality reduction. The City designs and deploys Vision Zero Corridor Plans as part of the implementation of Vision Zero. If a project is proposed whose site lies on the High Injury Network (HIN), the applicant should consult with LADOT to inform the project's site plan and to determine appropriate improvements, whether by funding their implementation in full or by making a contribution toward their implementation.

The Citywide Design Guidelines (October 24, 2019) includes sections relevant to development projects where improvements are proposed within the public realm. Specifically, Guidelines one through three provide building design strategies that support the pedestrian experience. The Guidelines provide best practices in designing that apply in three spatial categories of site planning, building design and public right of way. The Guidelines should be followed to ensure that the project design supports pedestrian safety, access and comfort as they access to and from the building and the immediate public right of way.

The City's Transportation Demand Management (TDM) Ordinance (LA Municipal Code 12.26.J) requires certain projects to incorporate strategies that reduce drive-alone vehicle trips and improve access to destinations and services. The ordinance is revised and updated periodically and should be reviewed for application to specific projects as they are reviewed.

The City's LAMC Section 12.37 (Waivers of Dedication and Improvement) requires certain projects to dedicate and/or implement improvements within the public right-of-way to meet the street designation standards of the Mobility Plan 2035.

The Bureau of Engineering (BOE) Street Standard Dimensions S-470-1 provides the specific street widths and public right of way dimensions associated with the City's street standards.

Attachment D

VMT Worksheets

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

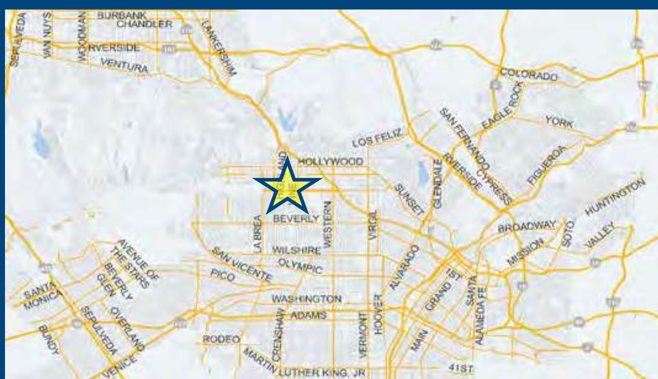
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 1200 Vine Street

Scenario: www

Address: 1200 N VINE ST, 90038



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit

Yes No

Existing Land Use

Land Use Type	Value	Unit
Housing | Single Family		DU

Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	7	ksf
Housing | Multi-Family	135	DU
Housing | Affordable Housing - Family	18	DU
Retail | High-Turnover Sit-Down Restaurant	7	ksf

Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed
0 Daily Vehicle Trips	1,025 Daily Vehicle Trips
0 Daily VMT	6,092 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station.

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	1,025 Net Daily Trips
The net increase in daily VMT ≤ 0	6,092 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	7.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

9/13/2022

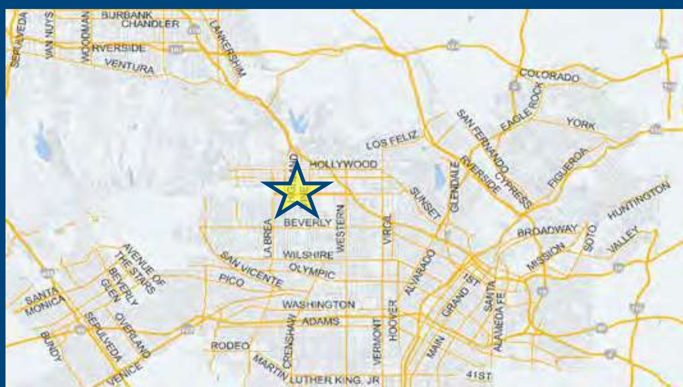
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 1200 Vine Street

Scenario:

Address: 1200 N VINE ST, 90038



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	135	DU
Housing | Affordable Housing - Family	18	DU
Retail | High-Turnover Sit-Down Restaurant	7	ksf

TDM Strategies

Select each section to show individual strategies

Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

A Parking

B Transit

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

Implement/Improve On-street Bicycle Facility — Select Proposed Prj or Mitigation to include this strategy

☐ Proposed Prj ☐ Mitigation

Include Bike Parking Per LAMC — Select Proposed Prj or Mitigation to include this strategy

☑ Proposed Prj ☐ Mitigation

Include Secure Bike Parking and Showers — Select Proposed Prj or Mitigation to include this strategy

☐ Proposed Prj ☐ Mitigation

G Neighborhood Enhancement

Analysis Results

Proposed Project	With
892 Daily Vehicle Trips	**892** Daily Vehicle Trips
5,297 Daily VMT	**5,297** Daily VMT
3.7 Household VMT per Capita	**3.7** Household VMT
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: N/A Threshold = 7.6 15% Below APC	**Work: N/A** Threshold = 7.6 15% Below APC

Measuring the Miles

9/13/2022

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: September 13, 2022
Project Name: 1200 Vine Street
Project Scenario:
Project Address: 1200 N VINE ST, 90038

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	Single Family	0	DU
	Multi Family	135	DU
	Townhouse	0	DU
	Hotel	0	Rooms
	Motel	0	Rooms
Affordable Housing	Family	18	DU
	Senior	0	DU
	Special Needs	0	DU
	Permanent Supportive	0	DU
Retail	General Retail	0.000	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	7.000	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
Office	General Office	0.000	ksf
	Medical Office	0.000	ksf
Industrial	Light Industrial	0.000	ksf
	Manufacturing	0.000	ksf
	Warehousing/Self-Storage	0.000	ksf
School	University	0	Students
	High School	0	Students
	Middle School	0	Students
	Elementary	0	Students
	Private School (K-12)	0	Students
Other		0	Trips

Analysis Results

Total Employees: 28
Total Population: 361

Proposed Project		*With Mitigation*	
892	**Daily Vehicle Trips**	**892**	**Daily Vehicle Trips**
5,297	**Daily VMT**	**5,297**	**Daily VMT**
3.7	**Household VMT per Capita**	**3.7**	**Household VMT per Capita**
N/A	**Work VMT per Employee**	**N/A**	**Work VMT per Employee**

Significant VMT Impact?

APC: Central

Impact Threshold: 15% Below APC Average
Household = 6.0
Work = 7.6

Proposed Project		*With Mitigation*	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	N/A	Work > 7.6	N/A

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	Reduce parking supply	City code parking provision (spaces)	311	311
		Actual parking provision (spaces)	93	93
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	*Employees and residents eligible (%)*	*0%*	*0%*
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	*$0.00*
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	*Employees and residents participating (%)*	*0%*	*0%*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	*Required commute trip reduction program*	*Employees participating (%)*	*0%*	*0%*
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	*Car share*	*Car share project setting (Urban, Suburban, All Other)*	*0*	*0*
	Bike share	*Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)*	*0*	*0*
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	*Includes indoor bike parking/lockers, showers, & repair station (Yes/No)*	*0*	*0*
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	*Included (within project and connecting off-site/within project only)*	*0*	*0*

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

TDM Adjustments by Trip Purpose & Strategy

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Neighborhood Enhancement	Traffic calming improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*
MAX. TDM EFFECT	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*

= Minimum (X%, 1-[(1-A)*(1-B)...])
where X%=

PLACE TYPE MAX:	urban	75%
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)...]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,...). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: September 13, 2022
Project Name: 1200 Vine Street
Project Scenario:
Project Address: 1200 N VINE ST, 90038

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	136	-31.6%	93	7.1	966	660
Home Based Other Production	377	-48.3%	195	4.4	1,659	858
Non-Home Based Other Production	306	-6.9%	285	6.9	2,111	1,967
Home-Based Work Attraction	41	-48.8%	21	8.5	349	179
Home-Based Other Attraction	477	-43.0%	272	5.3	2,528	1,442
Non-Home Based Other Attraction	172	-7.6%	159	6.2	1,066	986

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-13.0%	81	574	-13.0%	81	574
Home Based Other Production	-13.0%	170	746	-13.0%	170	746
Non-Home Based Other Production	-13.0%	248	1,710	-13.0%	248	1,710
Home-Based Work Attraction	-13.0%	18	156	-13.0%	18	156
Home-Based Other Attraction	-13.0%	237	1,254	-13.0%	237	1,254
Non-Home Based Other Attraction	-13.0%	138	857	-13.0%	138	857

MXD VMT Methodology Per Capita & Per Employee

Total Population: 361
Total Employees: 28
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**1,320**	**1,320**
Total Home Based Work Attraction VMT	**156**	**156**
Total Home Based VMT Per Capita	**3.7**	**3.7**
Total Work Based VMT Per Employee	**N/A**	**N/A**

Attachment E

HCM Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	237	43	79	414	45	41	988	39	21	1293	87
Future Volume (veh/h)	72	237	43	79	414	45	41	988	39	21	1293	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	258	47	86	450	49	45	1074	42	23	1405	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	538	98	315	580	63	152	1872	73	351	1814	122
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	1.00	1.00	1.00	0.54	0.54	0.54
Sat Flow, veh/h	899	1539	280	1074	1657	180	350	3486	136	505	3379	228
Grp Volume(v), veh/h	78	0	305	86	0	499	45	547	569	23	737	763
Grp Sat Flow(s),veh/h/ln	899	0	1820	1074	0	1838	350	1777	1846	505	1777	1829
Q Serve(g_s), s	7.6	0.0	11.8	6.1	0.0	21.8	9.4	0.0	0.0	2.0	29.5	29.8
Cycle Q Clear(g_c), s	29.4	0.0	11.8	17.9	0.0	21.8	39.2	0.0	0.0	2.0	29.5	29.8
Prop In Lane	1.00		0.15	1.00		0.10	1.00		0.07	1.00		0.12
Lane Grp Cap(c), veh/h	177	0	637	315	0	643	152	954	991	351	954	982
V/C Ratio(X)	0.44	0.00	0.48	0.27	0.00	0.78	0.30	0.57	0.57	0.07	0.77	0.78
Avail Cap(c_a), veh/h	178	0	639	317	0	645	152	954	991	351	954	982
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	0.0	22.9	29.8	0.0	26.1	12.1	0.0	0.0	10.1	16.5	16.6
Incr Delay (d2), s/veh	1.7	0.0	0.6	0.5	0.0	5.9	4.9	2.5	2.4	0.4	6.0	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	0.0	8.7	2.9	0.0	15.5	1.4	1.2	1.2	0.4	18.3	19.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.0	0.0	23.4	30.3	0.0	32.0	17.0	2.5	2.4	10.5	22.5	22.6
LnGrp LOS	D	A	C	C	A	C	B	A	A	B	C	C
Approach Vol, veh/h		383			585			1161			1523	
Approach Delay, s/veh		27.0			31.8			3.0			22.4	
Approach LOS		C			C			A			C	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		53.1		36.9		53.1		36.9
Change Period (Y+Rc), s		* 4.8		* 5.4		* 4.8		* 5.4
Max Green Setting (Gmax), s		* 48		* 32		* 48		* 32
Max Q Clear Time (g_c+I1), s		41.2		31.4		31.8		23.8
Green Ext Time (p_c), s		4.2		0.0		10.0		2.2

Intersection Summary	
HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	34	33	28	70	29	26	1035	15	17	1297	53
Future Volume (veh/h)	19	34	33	28	70	29	26	1035	15	17	1297	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	37	36	30	76	32	28	1125	16	18	1410	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	86	70	77	111	42	363	2814	40	418	2729	112
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.78	0.78	0.78	1.00	1.00	1.00
Sat Flow, veh/h	253	824	669	269	1062	402	361	3587	51	493	3479	143
Grp Volume(v), veh/h	94	0	0	138	0	0	28	557	584	18	719	749
Grp Sat Flow(s),veh/h/ln	1746	0	0	1733	0	0	361	1777	1861	493	1777	1845
Q Serve(g_s), s	0.0	0.0	0.0	2.3	0.0	0.0	1.6	8.9	8.9	0.4	0.0	0.0
Cycle Q Clear(g_c), s	4.5	0.0	0.0	6.8	0.0	0.0	1.6	8.9	8.9	9.3	0.0	0.0
Prop In Lane	0.22		0.38	0.22		0.23	1.00		0.03	1.00		0.08
Lane Grp Cap(c), veh/h	231	0	0	230	0	0	363	1394	1460	418	1394	1447
V/C Ratio(X)	0.41	0.00	0.00	0.60	0.00	0.00	0.08	0.40	0.40	0.04	0.52	0.52
Avail Cap(c_a), veh/h	483	0	0	491	0	0	363	1394	1460	418	1394	1447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	0.0	0.0	39.1	0.0	0.0	2.3	3.0	3.0	0.6	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	2.5	0.0	0.0	0.4	0.9	0.8	0.2	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	0.0	0.0	5.5	0.0	0.0	0.2	4.2	4.4	0.0	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	0.0	0.0	41.6	0.0	0.0	2.7	3.9	3.9	0.8	1.4	1.3
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		94			138			1169			1486	
Approach Delay, s/veh		39.3			41.6			3.9			1.3	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		75.2		14.8		75.2		14.8				
Change Period (Y+Rc), s		4.6		* 5.4		4.6		* 5.4				
Max Green Setting (Gmax), s		56.4		* 24		56.4		* 24				
Max Q Clear Time (g_c+I1), s		10.9		6.5		11.3		8.8				
Green Ext Time (p_c), s		23.7		0.4		31.5		0.6				

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	524	45	81	339	52	59	1177	58	51	1108	106
Future Volume (veh/h)	125	524	45	81	339	52	59	1177	58	51	1108	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	570	49	88	368	57	64	1279	63	55	1204	115
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	672	58	153	626	97	161	1693	83	270	1610	153
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.98	0.98	0.98	0.49	0.49	0.49
Sat Flow, veh/h	962	1698	146	804	1581	245	416	3447	170	407	3278	312
Grp Volume(v), veh/h	136	0	619	88	0	425	64	659	683	55	651	668
Grp Sat Flow(s),veh/h/ln	962	0	1844	804	0	1826	416	1777	1840	407	1777	1814
Q Serve(g_s), s	11.7	0.0	27.5	8.1	0.0	16.5	12.2	2.3	2.3	7.5	26.5	26.7
Cycle Q Clear(g_c), s	28.2	0.0	27.5	35.6	0.0	16.5	38.9	2.3	2.3	9.8	26.5	26.7
Prop In Lane	1.00		0.08	1.00		0.13	1.00		0.09	1.00		0.17
Lane Grp Cap(c), veh/h	284	0	729	153	0	722	161	873	904	270	873	891
V/C Ratio(X)	0.48	0.00	0.85	0.58	0.00	0.59	0.40	0.75	0.76	0.20	0.75	0.75
Avail Cap(c_a), veh/h	284	0	729	153	0	722	161	873	904	270	873	891
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	24.7	41.7	0.0	21.4	12.5	0.4	0.4	14.9	18.4	18.4
Incr Delay (d2), s/veh	1.2	0.0	9.3	5.3	0.0	1.3	7.2	6.0	5.9	1.7	5.8	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	0.0	19.2	3.9	0.0	11.4	2.2	3.0	3.1	1.4	17.1	17.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	0.0	34.0	46.9	0.0	22.7	19.7	6.4	6.3	16.6	24.2	24.2
LnGrp LOS	C	A	C	D	A	C	B	A	A	B	C	C
Approach Vol, veh/h		755			513			1406			1374	
Approach Delay, s/veh		34.0			26.8			7.0			23.9	
Approach LOS		C			C			A			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		49.0		41.0		49.0		41.0				
Change Period (Y+Rc), s		* 4.8		* 5.4		* 4.8		* 5.4				
Max Green Setting (Gmax), s		* 44		* 36		* 44		* 36				
Max Q Clear Time (g_c+I1), s		40.9		30.2		28.7		37.6				
Green Ext Time (p_c), s		2.6		2.3		8.8		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			20.3
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	125	47	21	46	53	18	1197	37	27	1221	29
Future Volume (veh/h)	42	125	47	21	46	53	18	1197	37	27	1221	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	136	51	23	50	58	20	1301	40	29	1327	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	178	61	75	126	122	371	2556	79	311	2576	62
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.73	0.73	0.73	1.00	1.00	1.00
Sat Flow, veh/h	250	1097	378	174	773	753	401	3520	108	408	3546	85
Grp Volume(v), veh/h	233	0	0	131	0	0	20	656	685	29	664	695
Grp Sat Flow(s),veh/h/ln	1725	0	0	1700	0	0	401	1777	1851	408	1777	1855
Q Serve(g_s), s	5.5	0.0	0.0	0.0	0.0	0.0	1.3	14.4	14.5	1.6	0.0	0.0
Cycle Q Clear(g_c), s	11.6	0.0	0.0	6.2	0.0	0.0	1.3	14.4	14.5	16.0	0.0	0.0
Prop In Lane	0.20		0.22	0.18		0.44	1.00		0.06	1.00		0.05
Lane Grp Cap(c), veh/h	328	0	0	323	0	0	371	1290	1344	311	1290	1347
V/C Ratio(X)	0.71	0.00	0.00	0.41	0.00	0.00	0.05	0.51	0.51	0.09	0.51	0.52
Avail Cap(c_a), veh/h	530	0	0	517	0	0	371	1290	1344	311	1290	1347
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	0.0	0.0	34.1	0.0	0.0	3.5	5.3	5.4	1.8	0.0	0.0
Incr Delay (d2), s/veh	2.8	0.0	0.0	0.8	0.0	0.0	0.3	1.4	1.4	0.6	1.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	0.0	0.0	4.7	0.0	0.0	0.2	8.2	8.4	0.2	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.1	0.0	0.0	35.0	0.0	0.0	3.8	6.8	6.7	2.4	1.5	1.4
LnGrp LOS	D	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		233			131			1361			1388	
Approach Delay, s/veh		39.1			35.0			6.7			1.5	
Approach LOS		D			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		70.0		20.0		70.0		20.0				
Change Period (Y+Rc), s		4.6		* 5.4		4.6		* 5.4				
Max Green Setting (Gmax), s		54.4		* 26		54.4		* 26				
Max Q Clear Time (g_c+I1), s		16.5		13.6		18.0		8.2				
Green Ext Time (p_c), s		25.4		1.0		25.2		0.6				

Intersection Summary			
HCM 6th Ctrl Delay			8.0
HCM 6th LOS			A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	237	44	79	414	45	47	1004	63	30	1295	87
Future Volume (veh/h)	72	237	44	79	414	45	47	1004	63	30	1295	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	258	48	86	450	49	51	1091	68	33	1408	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	536	100	314	580	63	151	1824	114	340	1814	122
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	1.00	1.00	1.00	0.54	0.54	0.54
Sat Flow, veh/h	899	1534	285	1073	1657	180	349	3397	212	485	3379	227
Grp Volume(v), veh/h	78	0	306	86	0	499	51	570	589	33	738	765
Grp Sat Flow(s),veh/h/ln	899	0	1819	1073	0	1838	349	1777	1832	485	1777	1829
Q Serve(g_s), s	7.6	0.0	11.8	6.1	0.0	21.8	11.2	0.0	0.0	3.0	29.6	29.9
Cycle Q Clear(g_c), s	29.4	0.0	11.8	18.0	0.0	21.8	41.2	0.0	0.0	3.0	29.6	29.9
Prop In Lane	1.00		0.16	1.00		0.10	1.00		0.12	1.00		0.12
Lane Grp Cap(c), veh/h	177	0	636	314	0	643	151	954	984	340	954	982
V/C Ratio(X)	0.44	0.00	0.48	0.27	0.00	0.78	0.34	0.60	0.60	0.10	0.77	0.78
Avail Cap(c_a), veh/h	178	0	639	316	0	645	151	954	984	340	954	982
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	0.0	22.9	29.9	0.0	26.1	12.8	0.0	0.0	10.4	16.5	16.6
Incr Delay (d2), s/veh	1.7	0.0	0.6	0.5	0.0	5.9	5.9	2.8	2.7	0.6	6.1	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	0.0	8.7	2.9	0.0	15.5	1.7	1.3	1.3	0.6	18.4	19.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.0	0.0	23.4	30.4	0.0	32.0	18.7	2.8	2.7	10.9	22.6	22.7
LnGrp LOS	D	A	C	C	A	C	B	A	A	B	C	C
Approach Vol, veh/h		384			585			1210			1536	
Approach Delay, s/veh		27.0			31.8			3.4			22.4	
Approach LOS		C			C			A			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		53.1		36.9		53.1		36.9				
Change Period (Y+Rc), s		* 4.8		* 5.4		* 4.8		* 5.4				
Max Green Setting (Gmax), s		* 48		* 32		* 48		* 32				
Max Q Clear Time (g_c+I1), s		43.2		31.4		31.9		23.8				
Green Ext Time (p_c), s		3.4		0.0		10.0		2.2				

Intersection Summary			
HCM 6th Ctrl Delay			18.2
HCM 6th LOS			B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	35	33	44	80	56	26	1044	17	20	1297	53
Future Volume (veh/h)	28	35	33	44	80	56	26	1044	17	20	1297	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	38	36	48	87	61	28	1135	18	22	1410	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	110	82	95	120	75	349	2673	42	387	2597	107
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.75	0.75	0.75	1.00	1.00	1.00
Sat Flow, veh/h	311	775	575	316	847	525	361	3580	57	487	3479	143
Grp Volume(v), veh/h	104	0	0	196	0	0	28	563	590	22	719	749
Grp Sat Flow(s),veh/h/ln	1661	0	0	1688	0	0	361	1777	1860	487	1777	1845
Q Serve(g_s), s	0.0	0.0	0.0	5.1	0.0	0.0	1.9	10.6	10.6	0.7	0.0	0.0
Cycle Q Clear(g_c), s	4.9	0.0	0.0	10.0	0.0	0.0	1.9	10.6	10.6	11.3	0.0	0.0
Prop In Lane	0.29		0.35	0.24		0.31	1.00		0.03	1.00		0.08
Lane Grp Cap(c), veh/h	288	0	0	290	0	0	349	1327	1389	387	1327	1377
V/C Ratio(X)	0.36	0.00	0.00	0.68	0.00	0.00	0.08	0.42	0.42	0.06	0.54	0.54
Avail Cap(c_a), veh/h	473	0	0	484	0	0	349	1327	1389	387	1327	1377
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.2	0.0	0.0	37.3	0.0	0.0	3.1	4.2	4.2	0.9	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	2.8	0.0	0.0	0.4	1.0	1.0	0.3	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.8	0.0	0.0	7.7	0.0	0.0	0.3	5.8	6.0	0.1	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	0.0	0.0	40.0	0.0	0.0	3.6	5.2	5.2	1.2	1.6	1.5
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		104			196			1181			1490	
Approach Delay, s/veh		36.0			40.0			5.2			1.6	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		71.8		18.2		71.8		18.2
Change Period (Y+Rc), s		4.6		* 5.4		4.6		* 5.4
Max Green Setting (Gmax), s		56.4		* 24		56.4		* 24
Max Q Clear Time (g_c+I1), s		12.6		6.9		13.3		12.0
Green Ext Time (p_c), s		23.5		0.4		30.6		0.8

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	524	47	81	339	52	63	1188	76	62	1113	106
Future Volume (veh/h)	125	524	47	81	339	52	63	1188	76	62	1113	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	570	51	88	368	57	68	1291	83	67	1210	115
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	669	60	151	626	97	160	1665	107	263	1611	153
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.98	0.98	0.98	0.49	0.49	0.49
Sat Flow, veh/h	962	1692	151	803	1581	245	414	3390	218	395	3280	311
Grp Volume(v), veh/h	136	0	621	88	0	425	68	675	699	67	654	671
Grp Sat Flow(s),veh/h/ln	962	0	1843	803	0	1826	414	1777	1831	395	1777	1814
Q Serve(g_s), s	11.7	0.0	27.6	8.0	0.0	16.5	13.5	2.5	2.6	9.9	26.7	26.9
Cycle Q Clear(g_c), s	28.2	0.0	27.6	35.6	0.0	16.5	40.4	2.5	2.6	12.5	26.7	26.9
Prop In Lane	1.00		0.08	1.00		0.13	1.00		0.12	1.00		0.17
Lane Grp Cap(c), veh/h	284	0	729	151	0	722	160	873	899	263	873	891
V/C Ratio(X)	0.48	0.00	0.85	0.58	0.00	0.59	0.43	0.77	0.78	0.26	0.75	0.75
Avail Cap(c_a), veh/h	284	0	729	151	0	722	160	873	899	263	873	891
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	24.8	41.8	0.0	21.4	13.1	0.4	0.4	15.7	18.4	18.5
Incr Delay (d2), s/veh	1.2	0.0	9.5	5.6	0.0	1.3	8.1	6.6	6.5	2.3	5.9	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	0.0	19.4	3.9	0.0	11.4	2.4	3.3	3.4	1.8	17.2	17.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	0.0	34.3	47.4	0.0	22.7	21.2	7.1	7.0	18.0	24.3	24.3
LnGrp LOS	C	A	C	D	A	C	C	A	A	B	C	C
Approach Vol, veh/h		757			513			1442			1392	
Approach Delay, s/veh		34.2			26.9			7.7			24.0	
Approach LOS		C			C			A			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		49.0		41.0		49.0		41.0				
Change Period (Y+Rc), s		* 4.8		* 5.4		* 4.8		* 5.4				
Max Green Setting (Gmax), s		* 44		* 36		* 44		* 36				
Max Q Clear Time (g_c+I1), s		42.4		30.2		28.9		37.6				
Green Ext Time (p_c), s		1.5		2.3		9.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			20.5
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	128	47	32	52	79	18	1208	42	34	1221	29
Future Volume (veh/h)	53	128	47	32	52	79	18	1208	42	34	1221	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	139	51	35	57	86	20	1313	46	37	1327	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	181	61	85	111	138	366	2501	88	297	2532	61
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.71	0.71	0.71	1.00	1.00	1.00
Sat Flow, veh/h	305	1032	346	211	634	790	401	3503	123	401	3546	85
Grp Volume(v), veh/h	248	0	0	178	0	0	20	665	694	37	664	695
Grp Sat Flow(s),veh/h/ln	1684	0	0	1635	0	0	401	1777	1848	401	1777	1855
Q Serve(g_s), s	3.9	0.0	0.0	0.0	0.0	0.0	1.4	15.4	15.5	2.3	0.0	0.0
Cycle Q Clear(g_c), s	12.7	0.0	0.0	8.8	0.0	0.0	1.4	15.4	15.5	17.8	0.0	0.0
Prop In Lane	0.23		0.21	0.20		0.48	1.00		0.07	1.00		0.05
Lane Grp Cap(c), veh/h	344	0	0	334	0	0	366	1269	1320	297	1269	1325
V/C Ratio(X)	0.72	0.00	0.00	0.53	0.00	0.00	0.05	0.52	0.53	0.12	0.52	0.52
Avail Cap(c_a), veh/h	521	0	0	505	0	0	366	1269	1320	297	1269	1325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	0.0	0.0	34.2	0.0	0.0	3.9	5.9	5.9	2.1	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.0	0.0	1.3	0.0	0.0	0.3	1.6	1.5	0.9	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	0.0	0.0	6.6	0.0	0.0	0.2	8.8	9.1	0.3	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	0.0	0.0	35.5	0.0	0.0	4.2	7.4	7.4	3.0	1.5	1.5
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		248			178			1379			1396	
Approach Delay, s/veh		38.6			35.5			7.4			1.6	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	68.9	21.1	68.9	21.1
Change Period (Y+Rc), s	4.6	* 5.4	4.6	* 5.4
Max Green Setting (Gmax), s	54.4	* 26	54.4	* 26
Max Q Clear Time (g_c+I1), s	17.5	14.7	19.8	10.8
Green Ext Time (p_c), s	25.3	1.0	24.5	0.8

Intersection Summary	
HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	291	46	96	452	49	47	1244	63	26	1566	114
Future Volume (veh/h)	101	291	46	96	452	49	47	1244	63	26	1566	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	316	50	104	491	53	51	1352	68	28	1702	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	553	88	271	583	63	93	1844	93	169	1800	130
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	862	1576	249	1016	1659	179	255	3443	173	378	3361	243
Grp Volume(v), veh/h	110	0	366	104	0	544	51	696	724	28	892	934
Grp Sat Flow(s),veh/h/ln	862	0	1825	1016	0	1838	255	1777	1839	378	1777	1827
Q Serve(g_s), s	7.1	0.0	14.6	8.3	0.0	24.5	4.5	26.9	27.1	5.5	42.1	43.7
Cycle Q Clear(g_c), s	31.6	0.0	14.6	23.0	0.0	24.5	48.2	26.9	27.1	32.6	42.1	43.7
Prop In Lane	1.00		0.14	1.00		0.10	1.00		0.09	1.00		0.13
Lane Grp Cap(c), veh/h	148	0	641	271	0	645	93	952	985	169	952	978
V/C Ratio(X)	0.75	0.00	0.57	0.38	0.00	0.84	0.55	0.73	0.73	0.17	0.94	0.95
Avail Cap(c_a), veh/h	148	0	641	271	0	645	93	952	985	169	952	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	0.0	23.7	33.0	0.0	26.9	44.4	16.0	16.0	28.5	19.5	19.9
Incr Delay (d2), s/veh	18.5	0.0	1.2	0.9	0.0	9.9	21.5	5.0	4.9	2.1	17.5	19.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.7	0.0	10.4	3.8	0.0	17.8	3.0	16.8	17.3	1.1	27.6	29.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	0.0	24.9	33.9	0.0	36.8	65.9	20.9	20.9	30.6	37.0	39.6
LnGrp LOS	E	A	C	C	A	D	E	C	C	C	D	D
Approach Vol, veh/h		476			648			1471			1854	
Approach Delay, s/veh		33.3			36.3			22.5			38.2	
Approach LOS		C			D			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		53.0		37.0		53.0		37.0				
Change Period (Y+Rc), s		* 4.8		* 5.4		* 4.8		* 5.4				
Max Green Setting (Gmax), s		* 48		* 32		* 48		* 32				
Max Q Clear Time (g_c+I1), s		50.2		33.6		45.7		26.5				
Green Ext Time (p_c), s		0.0		0.0		2.2		1.8				

Intersection Summary			
HCM 6th Ctrl Delay			32.2
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	37	39	29	79	30	56	1324	16	18	1587	56
Future Volume (veh/h)	20	37	39	29	79	30	56	1324	16	18	1587	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	40	42	32	86	33	61	1439	17	20	1725	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	90	79	78	123	43	286	2795	33	309	2720	96
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.78	0.78	0.78	1.00	1.00	1.00
Sat Flow, veh/h	238	802	704	264	1095	380	265	3597	42	365	3502	123
Grp Volume(v), veh/h	104	0	0	151	0	0	61	710	746	20	872	914
Grp Sat Flow(s),veh/h/ln	1744	0	0	1739	0	0	265	1777	1863	365	1777	1848
Q Serve(g_s), s	0.0	0.0	0.0	2.5	0.0	0.0	6.0	13.4	13.4	1.0	0.0	0.0
Cycle Q Clear(g_c), s	5.0	0.0	0.0	7.5	0.0	0.0	6.0	13.4	13.4	14.4	0.0	0.0
Prop In Lane	0.21		0.40	0.21		0.22	1.00		0.02	1.00		0.07
Lane Grp Cap(c), veh/h	244	0	0	243	0	0	286	1380	1447	309	1380	1436
V/C Ratio(X)	0.43	0.00	0.00	0.62	0.00	0.00	0.21	0.51	0.52	0.06	0.63	0.64
Avail Cap(c_a), veh/h	483	0	0	492	0	0	286	1380	1447	309	1380	1436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	0.0	0.0	38.7	0.0	0.0	2.9	3.7	3.7	1.4	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	2.6	0.0	0.0	1.7	1.4	1.3	0.4	2.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	0.0	0.0	6.1	0.0	0.0	0.6	6.7	7.0	0.1	1.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	0.0	0.0	41.3	0.0	0.0	4.6	5.1	5.0	1.8	2.2	2.2
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		104			151			1517			1806	
Approach Delay, s/veh		38.9			41.3			5.1			2.2	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		74.5		15.5		74.5		15.5
Change Period (Y+Rc), s		4.6		* 5.4		4.6		* 5.4
Max Green Setting (Gmax), s		56.4		* 24		56.4		* 24
Max Q Clear Time (g_c+I1), s		15.4		7.0		16.4		9.5
Green Ext Time (p_c), s		31.0		0.4		34.5		0.6

Intersection Summary	
HCM 6th Ctrl Delay	6.1
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	569	76	108	398	67	69	1461	74	55	1338	133
Future Volume (veh/h)	156	569	76	108	398	67	69	1461	74	55	1338	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	618	83	117	433	73	75	1588	80	60	1454	145
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	639	86	95	617	104	105	1691	85	193	1604	159
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.98	0.98	0.98	0.49	0.49	0.49
Sat Flow, veh/h	893	1614	217	745	1560	263	318	3443	173	298	3266	323
Grp Volume(v), veh/h	170	0	701	117	0	506	75	816	852	60	786	813
Grp Sat Flow(s),veh/h/ln	893	0	1831	745	0	1823	318	1777	1839	298	1777	1812
Q Serve(g_s), s	14.7	0.0	33.7	1.9	0.0	20.9	7.0	9.0	10.1	14.1	36.4	37.2
Cycle Q Clear(g_c), s	35.6	0.0	33.7	35.6	0.0	20.9	44.2	9.0	10.1	24.2	36.4	37.2
Prop In Lane	1.00		0.12	1.00		0.14	1.00		0.09	1.00		0.18
Lane Grp Cap(c), veh/h	226	0	724	95	0	721	105	873	903	193	873	890
V/C Ratio(X)	0.75	0.00	0.97	1.23	0.00	0.70	0.72	0.94	0.94	0.31	0.90	0.91
Avail Cap(c_a), veh/h	226	0	724	95	0	721	105	873	903	193	873	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	0.0	26.6	44.8	0.0	22.8	21.8	0.5	0.5	21.7	20.9	21.1
Incr Delay (d2), s/veh	13.3	0.0	25.6	164.9	0.0	3.1	34.3	18.3	19.0	4.2	14.3	15.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	26.2	11.7	0.0	14.1	4.4	8.3	8.7	2.1	24.2	25.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.0	0.0	52.2	209.7	0.0	25.8	56.1	18.8	19.5	25.9	35.2	36.4
LnGrp LOS	D	A	D	F	A	C	E	B	B	C	D	D
Approach Vol, veh/h		871			623			1743			1659	
Approach Delay, s/veh		52.2			60.3			20.7			35.4	
Approach LOS		D			E			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		49.0		41.0		49.0		41.0				
Change Period (Y+Rc), s		* 4.8		* 5.4		* 4.8		* 5.4				
Max Green Setting (Gmax), s		* 44		* 36		* 44		* 36				
Max Q Clear Time (g_c+I1), s		46.2		37.6		39.2		37.6				
Green Ext Time (p_c), s		0.0		0.0		4.1		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			36.3
HCM 6th LOS			D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	135	49	22	49	56	19	1507	39	28	1511	30
Future Volume (veh/h)	44	135	49	22	49	56	19	1507	39	28	1511	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	147	53	24	53	61	21	1638	42	30	1642	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	190	63	76	132	128	292	2540	65	219	2557	51
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.72	0.72	0.72	1.00	1.00	1.00
Sat Flow, veh/h	247	1111	369	171	771	747	296	3540	91	294	3563	71
Grp Volume(v), veh/h	248	0	0	138	0	0	21	820	860	30	817	858
Grp Sat Flow(s),veh/h/ln	1727	0	0	1690	0	0	296	1777	1854	294	1777	1857
Q Serve(g_s), s	5.9	0.0	0.0	0.0	0.0	0.0	1.9	21.8	22.0	3.6	0.0	0.0
Cycle Q Clear(g_c), s	12.4	0.0	0.0	6.5	0.0	0.0	1.9	21.8	22.0	25.6	0.0	0.0
Prop In Lane	0.19		0.21	0.17		0.44	1.00		0.05	1.00		0.04
Lane Grp Cap(c), veh/h	344	0	0	337	0	0	292	1275	1330	219	1275	1333
V/C Ratio(X)	0.72	0.00	0.00	0.41	0.00	0.00	0.07	0.64	0.65	0.14	0.64	0.64
Avail Cap(c_a), veh/h	531	0	0	516	0	0	292	1275	1330	219	1275	1333
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.9	0.0	0.0	33.6	0.0	0.0	3.9	6.7	6.7	4.4	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.0	0.0	0.8	0.0	0.0	0.5	2.5	2.4	1.3	2.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	0.0	0.0	4.9	0.0	0.0	0.2	11.7	12.1	0.4	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	0.0	0.0	34.4	0.0	0.0	4.3	9.2	9.1	5.7	2.5	2.4
LnGrp LOS	D	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		248			138			1701			1705	
Approach Delay, s/veh		38.8			34.4			9.1			2.5	
Approach LOS		D			C			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		69.2		20.8		69.2		20.8
Change Period (Y+Rc), s		4.6		* 5.4		4.6		* 5.4
Max Green Setting (Gmax), s		54.4		* 26		54.4		* 26
Max Q Clear Time (g_c+I1), s		24.0		14.4		27.6		8.5
Green Ext Time (p_c), s		26.1		1.1		23.4		0.7

Intersection Summary		
HCM 6th Ctrl Delay		9.0
HCM 6th LOS		A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	291	47	96	452	49	53	1260	87	35	1568	114
Future Volume (veh/h)	101	291	47	96	452	49	53	1260	87	35	1568	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	316	51	104	491	53	58	1370	95	38	1704	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	552	89	271	583	63	92	1806	125	158	1800	130
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	862	1571	254	1015	1659	179	255	3372	233	362	3361	242
Grp Volume(v), veh/h	110	0	367	104	0	544	58	720	745	38	893	935
Grp Sat Flow(s),veh/h/ln	862	0	1825	1015	0	1838	255	1777	1828	362	1777	1827
Q Serve(g_s), s	7.1	0.0	14.7	8.3	0.0	24.5	4.4	28.5	28.7	8.3	42.2	43.8
Cycle Q Clear(g_c), s	31.6	0.0	14.7	23.0	0.0	24.5	48.2	28.5	28.7	37.0	42.2	43.8
Prop In Lane	1.00		0.14	1.00		0.10	1.00		0.13	1.00		0.13
Lane Grp Cap(c), veh/h	148	0	641	271	0	645	92	952	979	158	952	978
V/C Ratio(X)	0.75	0.00	0.57	0.38	0.00	0.84	0.63	0.76	0.76	0.24	0.94	0.96
Avail Cap(c_a), veh/h	148	0	641	271	0	645	92	952	979	158	952	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	0.0	23.7	33.1	0.0	26.9	44.5	16.3	16.4	30.9	19.5	19.9
Incr Delay (d2), s/veh	18.5	0.0	1.2	0.9	0.0	9.9	28.1	5.6	5.6	3.6	17.6	19.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.7	0.0	10.5	3.8	0.0	17.8	3.6	17.7	18.3	1.6	27.7	29.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	0.0	25.0	34.0	0.0	36.8	72.7	21.9	21.9	34.5	37.1	39.8
LnGrp LOS	E	A	C	C	A	D	E	C	C	C	D	D
Approach Vol, veh/h		477			648			1523			1866	
Approach Delay, s/veh		33.3			36.4			23.9			38.4	
Approach LOS		C			D			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		53.0		37.0		53.0		37.0				
Change Period (Y+Rc), s		* 4.8		* 5.4		* 4.8		* 5.4				
Max Green Setting (Gmax), s		* 48		* 32		* 48		* 32				
Max Q Clear Time (g_c+I1), s		50.2		33.6		45.8		26.5				
Green Ext Time (p_c), s		0.0		0.0		2.1		1.8				

Intersection Summary			
HCM 6th Ctrl Delay			32.7
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	38	39	45	89	57	56	1333	18	21	1587	56
Future Volume (veh/h)	29	38	39	45	89	57	56	1333	18	21	1587	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	41	42	49	97	62	61	1449	20	23	1725	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	111	89	95	132	75	276	2656	37	283	2592	91
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.74	0.74	0.74	1.00	1.00	1.00
Sat Flow, veh/h	299	744	600	305	887	506	265	3589	50	361	3502	123
Grp Volume(v), veh/h	115	0	0	208	0	0	61	717	752	23	872	914
Grp Sat Flow(s),veh/h/ln	1644	0	0	1698	0	0	265	1777	1861	361	1777	1848
Q Serve(g_s), s	0.0	0.0	0.0	5.1	0.0	0.0	7.0	15.8	15.9	1.5	0.0	0.0
Cycle Q Clear(g_c), s	5.5	0.0	0.0	10.6	0.0	0.0	7.0	15.8	15.9	17.3	0.0	0.0
Prop In Lane	0.28		0.37	0.24		0.30	1.00		0.03	1.00		0.07
Lane Grp Cap(c), veh/h	296	0	0	302	0	0	276	1315	1378	283	1315	1368
V/C Ratio(X)	0.39	0.00	0.00	0.69	0.00	0.00	0.22	0.55	0.55	0.08	0.66	0.67
Avail Cap(c_a), veh/h	471	0	0	486	0	0	276	1315	1378	283	1315	1368
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	0.0	0.0	37.0	0.0	0.0	3.9	5.1	5.1	2.1	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	2.8	0.0	0.0	1.8	1.6	1.6	0.6	2.6	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	0.0	0.0	8.1	0.0	0.0	0.8	8.6	8.9	0.2	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	0.0	0.0	39.8	0.0	0.0	5.8	6.7	6.7	2.6	2.6	2.6
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		115			208			1530			1809	
Approach Delay, s/veh		35.7			39.8			6.7			2.6	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		71.2		18.8		71.2		18.8				
Change Period (Y+Rc), s		4.6		* 5.4		4.6		* 5.4				
Max Green Setting (Gmax), s		56.4		* 24		56.4		* 24				
Max Q Clear Time (g_c+I1), s		17.9		7.5		19.3		12.6				
Green Ext Time (p_c), s		29.8		0.5		32.3		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			7.5									
HCM 6th LOS			A									
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0.2					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	37	1383	35	0	1664
Future Vol, veh/h	0	37	1383	35	0	1664
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	40	1503	38	0	1809

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	771	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	343	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	343	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	343	-
HCM Lane V/C Ratio	-	-	0.117	-
HCM Control Delay (s)	-	-	16.9	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.4	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	70	170	2	7	20
Future Vol, veh/h	7	70	170	2	7	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	76	185	2	8	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	187	0	-	0	278	186
Stage 1	-	-	-	-	186	-
Stage 2	-	-	-	-	92	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1387	-	-	-	712	856
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	932	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1387	-	-	-	708	856
Mov Cap-2 Maneuver	-	-	-	-	708	-
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	932	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1387	-	-	-	812
HCM Lane V/C Ratio	0.005	-	-	-	0.036
HCM Control Delay (s)	7.6	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	569	78	108	398	67	73	1472	92	66	1343	133
Future Volume (veh/h)	156	569	78	108	398	67	73	1472	92	66	1343	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	618	85	117	433	73	79	1600	100	72	1460	145
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	637	88	94	617	104	104	1669	104	176	1604	158
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.98	0.98	0.98	0.49	0.49	0.49
Sat Flow, veh/h	893	1609	221	744	1560	263	316	3398	211	288	3267	322
Grp Volume(v), veh/h	170	0	703	117	0	506	79	832	868	72	789	816
Grp Sat Flow(s),veh/h/ln	893	0	1831	744	0	1823	316	1777	1832	288	1777	1812
Q Serve(g_s), s	14.7	0.0	33.9	1.7	0.0	20.9	6.7	11.8	14.4	20.0	36.6	37.5
Cycle Q Clear(g_c), s	35.6	0.0	33.9	35.6	0.0	20.9	44.2	11.8	14.4	34.4	36.6	37.5
Prop In Lane	1.00		0.12	1.00		0.14	1.00		0.12	1.00		0.18
Lane Grp Cap(c), veh/h	226	0	724	94	0	721	104	873	900	176	873	890
V/C Ratio(X)	0.75	0.00	0.97	1.25	0.00	0.70	0.76	0.95	0.96	0.41	0.90	0.92
Avail Cap(c_a), veh/h	226	0	724	94	0	721	104	873	900	176	873	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	0.0	26.7	44.9	0.0	22.8	21.9	0.5	0.5	26.8	21.0	21.2
Incr Delay (d2), s/veh	13.3	0.0	26.3	172.8	0.0	3.1	40.5	21.1	22.5	6.9	14.6	15.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	26.4	11.8	0.0	14.1	4.8	9.2	9.9	3.0	24.3	25.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.0	0.0	53.0	217.7	0.0	25.8	62.4	21.6	23.1	33.8	35.6	36.9
LnGrp LOS	D	A	D	F	A	C	E	C	C	C	D	D
Approach Vol, veh/h		873			623			1779			1677	
Approach Delay, s/veh		52.8			61.9			24.1			36.1	
Approach LOS		D			E			C			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		49.0		41.0		49.0		41.0				
Change Period (Y+Rc), s		* 4.8		* 5.4		* 4.8		* 5.4				
Max Green Setting (Gmax), s		* 44		* 36		* 44		* 36				
Max Q Clear Time (g_c+I1), s		46.2		37.6		39.5		37.6				
Green Ext Time (p_c), s		0.0		0.0		4.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			38.0									
HCM 6th LOS			D									
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	138	49	33	55	82	19	1518	44	35	1511	30
Future Volume (veh/h)	55	138	49	33	55	82	19	1518	44	35	1511	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	150	53	36	60	89	21	1650	48	38	1642	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	192	62	86	117	144	288	2485	72	208	2511	50
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.70	0.70	0.70	1.00	1.00	1.00
Sat Flow, veh/h	297	1045	339	207	636	781	296	3526	102	289	3563	71
Grp Volume(v), veh/h	263	0	0	185	0	0	21	829	869	38	817	858
Grp Sat Flow(s),veh/h/ln	1681	0	0	1623	0	0	296	1777	1852	289	1777	1857
Q Serve(g_s), s	4.3	0.0	0.0	0.0	0.0	0.0	2.0	23.2	23.5	5.4	0.0	0.0
Cycle Q Clear(g_c), s	13.5	0.0	0.0	9.2	0.0	0.0	2.0	23.2	23.5	28.9	0.0	0.0
Prop In Lane	0.23		0.20	0.19		0.48	1.00		0.06	1.00		0.04
Lane Grp Cap(c), veh/h	359	0	0	347	0	0	288	1252	1305	208	1252	1309
V/C Ratio(X)	0.73	0.00	0.00	0.53	0.00	0.00	0.07	0.66	0.67	0.18	0.65	0.66
Avail Cap(c_a), veh/h	521	0	0	503	0	0	288	1252	1305	208	1252	1309
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	0.0	33.6	0.0	0.0	4.2	7.4	7.4	5.3	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.0	0.0	1.3	0.0	0.0	0.5	2.8	2.7	1.9	2.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.7	0.0	0.0	6.8	0.0	0.0	0.3	12.6	13.1	0.6	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.3	0.0	0.0	34.9	0.0	0.0	4.7	10.1	10.1	7.3	2.7	2.6
LnGrp LOS	D	A	A	C	A	A	A	B	B	A	A	A
Approach Vol, veh/h		263			185			1719			1713	
Approach Delay, s/veh		38.3			34.9			10.0			2.7	
Approach LOS		D			C			B			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		68.0		22.0		68.0		22.0
Change Period (Y+Rc), s		4.6		* 5.4		4.6		* 5.4
Max Green Setting (Gmax), s		54.4		* 26		54.4		* 26
Max Q Clear Time (g_c+I1), s		25.5		15.5		30.9		11.2
Green Ext Time (p_c), s		25.1		1.1		20.9		0.9

Intersection Summary	
HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	27	1612	42	0	1577
Future Vol, veh/h	0	27	1612	42	0	1577
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	29	1752	46	0	1714

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	899	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	282	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	282	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	282	-
HCM Lane V/C Ratio	-	-	0.104	-
HCM Control Delay (s)	-	-	19.2	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	203	159	5	4	11
Future Vol, veh/h	16	203	159	5	4	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	221	173	5	4	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	178	0	-	0	431	176
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	255	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1398	-	-	-	581	867
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	788	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1398	-	-	-	573	867
Mov Cap-2 Maneuver	-	-	-	-	573	-
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	788	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1398	-	-	-	763
HCM Lane V/C Ratio	0.012	-	-	-	0.021
HCM Control Delay (s)	7.6	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

FORM GEN. 160A (Rev. 1/82)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

1200 N Vine St
DOT Case No. CEN22-53727

Date: December 19, 2022

To: Milena Zasadzien, Senior City Planner
Department of City Planning

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION ASSESSMENT FOR THE PROPOSED MIXED-USE DEVELOPMENT LOCATED AT 1200 NORTH VINE STREET (CPC-2022-7047-CU-DB-SPR-HCA/ ENV-2022-7048-CE/PAR-2022-4084-AHRF)**

The Los Angeles Department of Transportation (LADOT) has reviewed the transportation assessment prepared by Gibson Transportation Consulting, Inc. (GTC), dated November 2, 2022, for the proposed mixed-use project at 1200, 1204, 1214, and 1218 North Vine Street and 6245 and 6247 West Lexington Avenue within the Central Area Planning Commission (APC) and a Transit Oriented Community (TOC) Tier 1. In compliance with Senate Bill (SB) 743 and the California Environmental Quality Act (CEQA), a vehicle miles traveled (VMT) analysis is required to identify the project's ability to promote the reduction of green-house gas emissions, the access to diverse land uses, and the development of multi-modal networks. The significance of a project's impact in this regard is measured against the VMT thresholds established in LADOT's Transportation Assessment Guidelines (TAG), as described below.

DISCUSSION AND FINDINGS

A. Project Description

The project proposes to construct an eight-story mixed-use development consisting of 153 (135 multi-family housing and 18 affordable housing) residential units and 7,000 square feet of commercial uses on the northeast corner of Vine Street and Lexington Avenue. A total of 93 vehicle parking spaces and 120 (106 long-term and 14 short-term) bicycle parking spaces will be provided onsite within one ground level and one above-grade level. Parking and the onsite loading zone will be accessed via one shared commercial and residential right-turn ingress and egress driveway on Vine Street and one residential only full access driveway on Lexington Avenue as illustrated in **Attachment A**. The project will also provide 174 (168 residential and six commercial) bicycle parking spaces onsite. The residential bicycle parking will have 153 long-term and 15 short-term spaces and the commercial bicycle parking will have three long-term and three short-term spaces. The project is expected to be completed by 2027.

B. Freeway Safety Analysis

Per the Interim Guidance for Freeway Safety Analysis memorandum issued by LADOT on May 1, 2020 to address Caltrans safety concerns on freeways, the study addresses the project's effects on vehicle queuing on freeway off-ramps. Such an evaluation measures the project's potential to lengthen a forecasted off-ramp queue and create speed differentials between vehicles exiting the freeway off-ramps and vehicles operating on the freeway mainline. The evaluation identified the number of project trips expected to be added to nearby freeway off-ramps serving the project site. It was determined that project traffic at any freeway off-ramp will not exceed 25 peak hour trips. Therefore, a freeway ramp analysis is not required.

C. CEQA Screening Threshold

Prior to accounting for trip reductions resulting from the application of Transportation Demand Management (TDM) Strategies, a trip generation analysis was conducted to determine if the project would exceed the net 250 daily vehicle trips screening threshold. Using the City of Los Angeles VMT Calculator tool, which draws upon trip rate estimates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition as well as applying trip generation adjustments when applicable, based on sociodemographic data and the built environment factors of the project's surroundings, it was determined that the project **does** exceed the net 250 daily vehicle trips threshold.

Additionally, the analysis included further discussion of the transportation impact thresholds:

- T-1 Conflicting with plans, programs, ordinances, or policies
- T-2.1 Causing substantial vehicle miles traveled
- T-3 Substantially increasing hazards due to a geometric design feature or incompatible use.

The assessment determined that the project would **not** have a significant transportation impact under Thresholds T-1 and T-3. A project's impacts per Threshold T-2.1 is determined by using the VMT calculator and is discussed further below. A copy of the VMT Calculator summary report is provided as **Attachment B** to this report.

D. Transportation Impacts

On July 30, 2019, pursuant to SB 743 and the recent changes to Section 15064.03 of the State's CEQA Guidelines, the City of Los Angeles adopted VMT as criteria in determining transportation impacts under CEQA. The LADOT TAG provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds.

The LADOT VMT Calculator tool measures project impact in terms of Household VMT per Capita, and Work VMT per Employee. LADOT identified distinct thresholds for significant VMT impacts for each of the seven APC areas in the City. For the Central APC area, in which the project is located, the following thresholds have been established:

- Household VMT per Capita: 6.0
- Work VMT per Employee: 7.6

As cited in the VMT Analysis report prepared by GTC, the project proposes to incorporate the TDM strategies of reducing the parking supply from 311 to 93 spaces and including bike parking per Los Angeles Municipal Code (LAMC) as project design features. With the application of this TDM strategy, the proposed project is projected to have a Household VMT per capita of 3.7 and no Work VMT. Therefore, it is concluded that implementation of the project would result in no significant VMT impact. A copy of the VMT Calculator summary report is provided as **Attachment B**.

E. Access and Circulation

During preparation of the new CEQA guidelines, the State's Office of Planning and Research stressed that lead agencies can continue to apply traditional operational analysis requirements to inform land use decisions provided that such analyses were outside of the CEQA process. The authority for requiring non-CEQA transportation analysis and requiring improvements to address potential circulation deficiencies, lies in the City of Los Angeles' Site Plan Review authority as established in Section 16.05 of the LAMC. Therefore, LADOT continues to require and review a project's site access, circulation, and operational plan to determine if any access enhancements, transit amenities, intersection improvements, traffic signal upgrades, neighborhood traffic calming, or other improvements are needed. In accordance with this authority, the project has completed a circulation analysis using a "level of service" screening methodology that indicates that the trips generated by the proposed development will not likely result in adverse circulation conditions at several locations. Vehicular access to the project will be provided along Vine Street and Lexington Avenue. LADOT has reviewed this analysis and determined that it adequately discloses operational concerns. A copy of the circulation analysis table that summarizes these potential deficiencies is provided as **Attachment C** to this report.

PROJECT REQUIREMENTS

Non-CEQA-Related Requirements and Considerations
To comply with transportation and mobility goals and provisions of adopted City plans and ordinances, the applicant should be required to implement the following:

1. Parking Requirements
The project would provide parking for 93 vehicles and 174 bicycles. The applicant should check with the Departments of Building and Safety and City Planning on the number of parking spaces required for this project within a TOC Tier 3.

2. Highway Dedication and Street Widening Requirements
Per the new Mobility Element of the General Plan, **Vine Street**, an Avenue II, would require a 40-foot half-width roadway within a 55-foot half-width right-of-way and **Lexington Avenue**, a Local Street, would require an 18-foot roadway within a 30-foot half-width right-of-way. The applicant should coordinate with the Bureau of Engineering's Land Development Group who will determine if there are any other applicable highway dedication, street widening and/or sidewalk requirements for this project.

3. Project Access and Circulation
The conceptual site plan for the project (see **Attachment A**) is acceptable to LADOT. The project would be accessed along Vine Street and Lexington Avenue. Review of this study does not constitute approval of the dimensions for any new proposed driveways. Review and approval of new driveways should be coordinated with LADOT's Citywide Planning Coordination Section (201 North Figueroa Street, 5th Floor, Room 550, at 213-482-7024). In order to minimize and prevent last minute building design changes, the applicant should contact LADOT for driveway width and internal circulation requirements prior to the commencement of building or parking layout design. The applicant should check with City Planning regarding the project's vehicular access and design.

4. Worksite Traffic Control Requirements
LADOT recommends that a construction work site traffic control plan be submitted to LADOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. Refer to http://ladot.lacity.org/businesses/temporary-traffic-control-plans to determine which section to coordinate review of the work site traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. LADOT also recommends that all construction related truck traffic be restricted to off-peak hours to the extent feasible.

5. <u>TDM Ordinance Requirements</u>

The TDM Ordinance (LAMC 12.26 J) is currently being updated. The updated ordinance, which is currently progressing through the City's approval process, will:

- Expand the reach and application of TDM strategies to more land uses and neighborhoods,
- Rely on a broader range of strategies that can be updated to keep pace with technology, and
- Provide flexibility for developments and communities to choose strategies that work best for their neighborhood context.

Although not yet adopted, LADOT recommends that the applicant be subject to the terms of the proposed TDM Ordinance update. The updated ordinance is expected to be completed prior to the anticipated construction of this project, if approved.

6. <u>Development Review Fees</u>

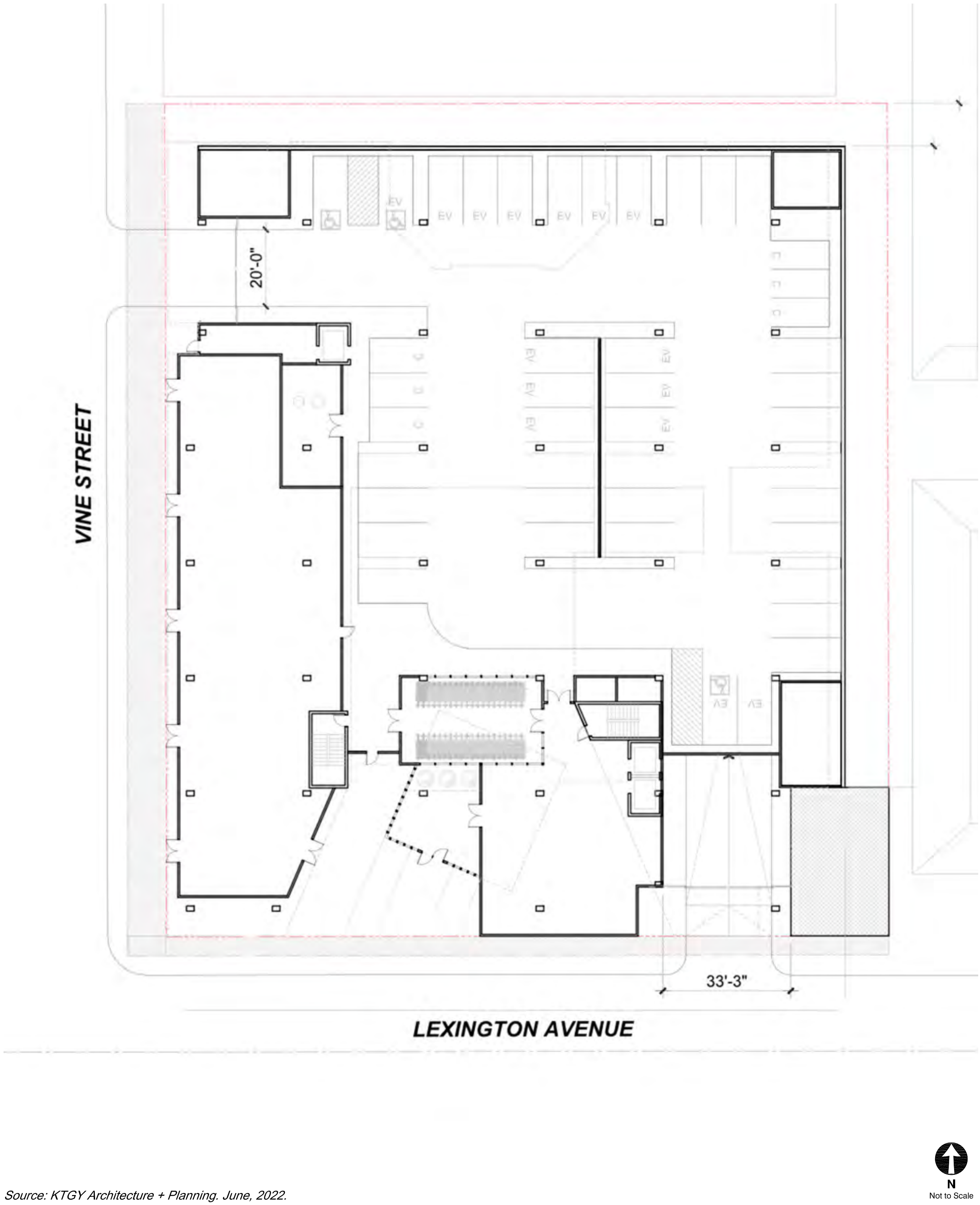
Section 19.15 of the LAMC identifies specific fees for traffic study review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact Eileen Hunt of my staff at (213) 972-8481.

Attachments

K:\Letters\2022\CEN22-53727_1200 Vine St_MU_ltr.docx

c: Council District 13
Hokchi Chiu, Central District, BOE
Bhuvan Bajaj, Hollywood-Wilshire District, DOT
Taimour Tanavoli, Case Management Office, DOT
Lauren Mullarkey-Williams/Emily Wong, GTC



Source: KTGY Architecture + Planning. June, 2022.

PROJECT SITE PLAN	FIGURE 1

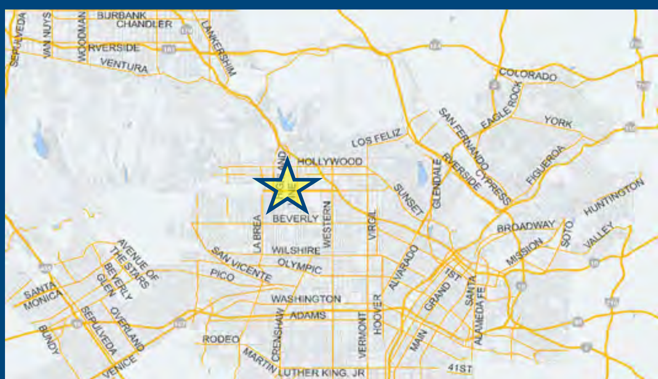
ATTACHMENT B
CEN22-53727_1200 N Vine St

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 1200 Vine Street
Scenario: www
Address: 1200 N VINE ST, 90038



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
Housing | Single Family		DU

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	7	ksf
Housing | Multi-Family	135	DU
Housing | Affordable Housing - Family	18	DU
Retail | High-Turnover Sit-Down Restaurant	7	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed
0 Daily Vehicle Trips	**1,025** Daily Vehicle Trips
0 Daily VMT	**6,092** Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	1,025 Net Daily Trips
The net increase in daily VMT ≤ 0	6,092 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	7.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

9/13/2022

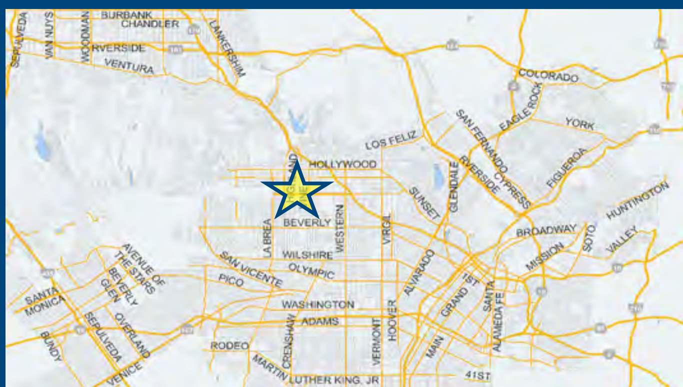
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 1200 Vine Street

Scenario:

Address: 1200 N VINE ST, 90038



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	135	DU
Housing | Affordable Housing - Family	18	DU
Retail | High-Turnover Sit-Down Restaurant	7	ksf

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

A Parking

B Transit

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

Implement/Improve On-street Bicycle Facility
☐ Proposed Prj ☐ Mitigation
Select Proposed Prj or Mitigation to include this strategy

Include Bike Parking Per LAMC
☑ Proposed Prj ☐ Mitigation
Select Proposed Prj or Mitigation to include this strategy

Include Secure Bike Parking and Showers
☐ Proposed Prj ☐ Mitigation
Select Proposed Prj or Mitigation to include this strategy

G Neighborhood Enhancement

Analysis Results

Proposed Project	With
892 Daily Vehicle Trips	**892** Daily Vehicle Trips
5,297 Daily VMT	**5,297** Daily VMT
3.7 Household VMT per Capita	**3.7** Household VMT
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: N/A Threshold = 7.6 15% Below APC	**Work: N/A** Threshold = 7.6 15% Below APC

Measuring the Miles

9/13/2022

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: September 13, 2022
Project Name: 1200 Vine Street
Project Scenario:
Project Address: 1200 N VINE ST, 90038

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	Single Family	0	DU
	Multi Family	135	DU
	Townhouse	0	DU
	Hotel	0	Rooms
	Motel	0	Rooms
Affordable Housing	Family	18	DU
	Senior	0	DU
	Special Needs	0	DU
	Permanent Supportive	0	DU
Retail	General Retail	0.000	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	7.000	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
Office	General Office	0.000	ksf
	Medical Office	0.000	ksf
Industrial	Light Industrial	0.000	ksf
	Manufacturing	0.000	ksf
	Warehousing/Self-Storage	0.000	ksf
School	University	0	Students
	High School	0	Students
	Middle School	0	Students
	Elementary	0	Students
	Private School (K-12)	0	Students
Other		0	Trips

Analysis Results

Total Employees: 28
Total Population: 361

Proposed Project		*With Mitigation*	
892	**Daily Vehicle Trips**	**892**	**Daily Vehicle Trips**
5,297	**Daily VMT**	**5,297**	**Daily VMT**
3.7	**Household VMT per Capita**	**3.7**	**Household VMT per Capita**
N/A	**Work VMT per Employee**	**N/A**	**Work VMT per Employee**

Significant VMT Impact?

APC: Central

Impact Threshold: 15% Below APC Average
Household = 6.0
Work = 7.6

Proposed Project		*With Mitigation*	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	N/A	Work > 7.6	N/A

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	Reduce parking supply	City code parking provision (spaces)	311	311
		Actual parking provision (spaces)	93	93
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	*Employees and residents eligible (%)*	*0%*	*0%*
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	*$0.00*
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	*Employees and residents participating (%)*	*0%*	*0%*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	*Required commute trip reduction program*	*Employees participating (%)*	*0%*	*0%*
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	*Car share*	*Car share project setting (Urban, Suburban, All Other)*	*0*	*0*
	Bike share	*Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)*	*0*	*0*
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	*Includes indoor bike parking/lockers, showers, & repair station (Yes/No)*	*0*	*0*
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	*Included (within project and connecting off-site/within project only)*	*0*	*0*

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: September 13, 2022
Project Name: 1200 Vine Street
Project Scenario:
Project Address: 1200 N VINE ST, 90038

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Neighborhood Enhancement	Traffic calming improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*
MAX. TDM EFFECT	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*

= Minimum (X%, 1-[(1-A)*(1-B)...])
where X%=

PLACE TYPE MAX:	urban	75%
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)...]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,...). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: September 13, 2022
Project Name: 1200 Vine Street
Project Scenario:
Project Address: 1200 N VINE ST, 90038

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	136	-31.6%	93	7.1	966	660
Home Based Other Production	377	-48.3%	195	4.4	1,659	858
Non-Home Based Other Production	306	-6.9%	285	6.9	2,111	1,967
Home-Based Work Attraction	41	-48.8%	21	8.5	349	179
Home-Based Other Attraction	477	-43.0%	272	5.3	2,528	1,442
Non-Home Based Other Attraction	172	-7.6%	159	6.2	1,066	986

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-13.0%	81	574	-13.0%	81	574
Home Based Other Production	-13.0%	170	746	-13.0%	170	746
Non-Home Based Other Production	-13.0%	248	1,710	-13.0%	248	1,710
Home-Based Work Attraction	-13.0%	18	156	-13.0%	18	156
Home-Based Other Attraction	-13.0%	237	1,254	-13.0%	237	1,254
Non-Home Based Other Attraction	-13.0%	138	857	-13.0%	138	857

MXD VMT Methodology Per Capita & Per Employee

Total Population: 361
Total Employees: 28
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**1,320**	**1,320**
Total Home Based Work Attraction VMT	**156**	**156**
Total Home Based VMT Per Capita	**3.7**	**3.7**
Total Work Based VMT Per Employee	**N/A**	**N/A**

TABLE 8
FUTURE CONDITIONS (YEAR 2027)
INTERSECTION LEVELS OF SERVICE

No	Intersection [a]	Peak Hour	Future without Project Conditions		Future with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Vine Street & Fountain Avenue	AM PM	32.2 36.3	C D	32.7 38.0	C D
2.	Vine Street & Lexington Avenue	AM PM	6.1 9.0	A A	7.5 9.9	A A

Notes:
Delay is measured in seconds per vehicle. LOS = Level of Service.
[a] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.

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AMBIENT NOISE MEASUREMENTS

DOUGLASKIM+ASSOCIATES,LLC

Figure 1
Noise Measurement Locations

Session Report

9/14/2022

Information Panel

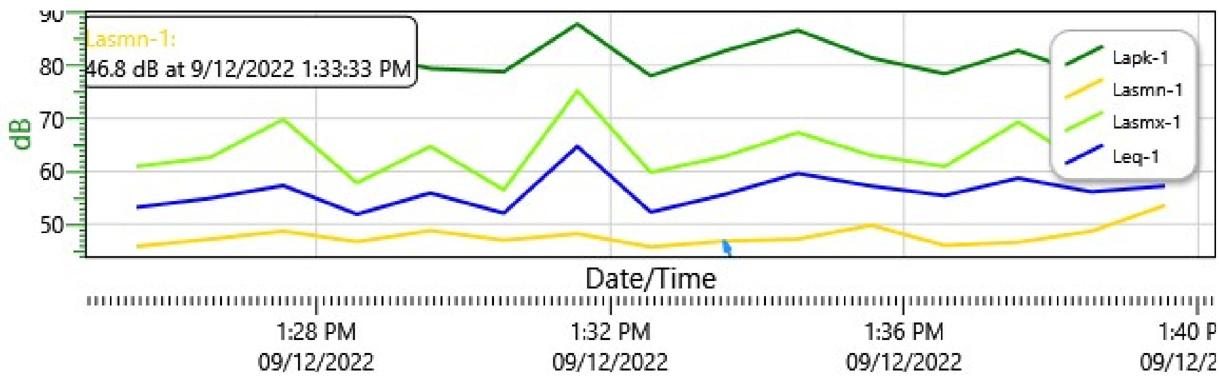
Name	Hotel 6326 Lexington Avenue
Comments	
Start Time	9/12/2022 1:24:33 PM
Stop Time	9/12/2022 1:39:35 PM
Run Time	00:15:02
Serial Number	SE40213991
Device Name	SE40213991
Model Type	Sound Examiner
Device Firmware Rev	R.11C
Company Name	
Description	
Location	
User Name	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	57.6 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF

Logged Data Chart

Hotel 6326 Lexington Avenue: Logged Data Chart



Logged Data Table

Date/Time	Lapk-1	Lasmn-1	Lasmx-1	Leq-1

Date/Time	Lapk-1	Lasmn-1	Lasmx-1	Leq-1
9/12/2022 1:25:33 PM	87.7	45.8	60.9	53.2
1:26:33 PM	85	47.2	62.6	54.9
1:27:33 PM	88.2	48.7	69.8	57.3
1:28:33 PM	82.3	46.7	57.8	51.9
1:29:33 PM	79.4	48.8	64.7	55.9
1:30:33 PM	78.8	47	56.5	52.1
1:31:33 PM	87.8	48.2	75.2	64.7
1:32:33 PM	78	45.7	59.8	52.3
1:33:33 PM	82.7	46.8	62.8	55.6
1:34:33 PM	86.6	47.2	67.3	59.6
1:35:33 PM	81.4	49.8	63	57.2
1:36:33 PM	78.4	46	60.9	55.4
1:37:33 PM	82.8	46.6	69.3	58.7
1:38:33 PM	77.9	48.7	60.7	56.1
1:39:33 PM	79.9	53.6	61.9	57.2

Session Report

9/14/2022

Information Panel

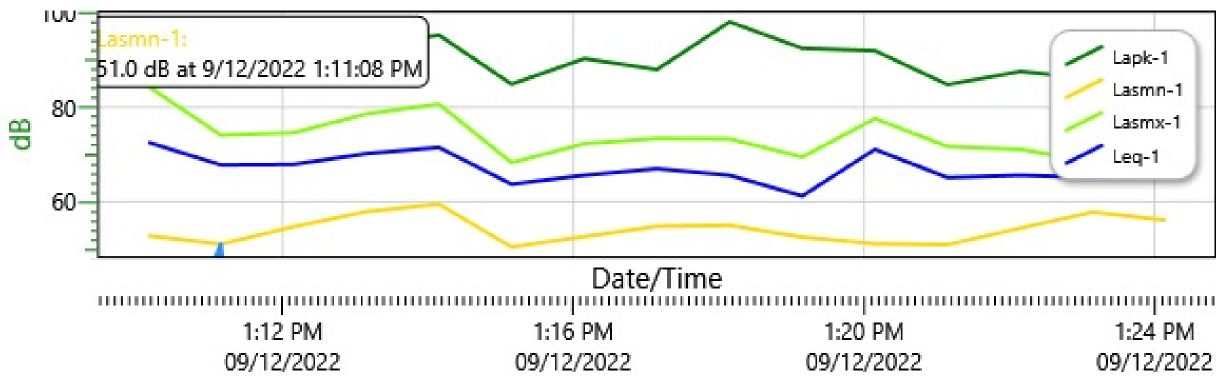
Name	Hollywood Mental Health Center
Comments	
Start Time	9/12/2022 1:09:09 PM
Stop Time	9/12/2022 1:24:11 PM
Run Time	00:15:02
Serial Number	SE40213991
Device Name	SE40213991
Model Type	Sound Examiner
Device Firmware Rev	R.11C
Company Name	
Description	
Location	
User Name	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	68.1 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF

Logged Data Chart

Hollywood Mental Health Center: Logged Data Chart



Logged Data Table

Date/Time	Lapk-1	Lasmn-1	Lasmx-1	Leq-1

Date/Time	Lapk-1	Lasmn-1	Lasmx-1	Leq-1
9/12/2022 1:10:09 PM	97.2	52.8	84.5	72.6
1:11:09 PM	87.2	51	74.1	67.8
1:12:09 PM	87.4	54.7	74.6	67.9
1:13:09 PM	92.9	57.9	78.6	70.2
1:14:09 PM	95.3	59.5	80.7	71.5
1:15:09 PM	84.9	50.4	68.3	63.7
1:16:09 PM	90.3	52.6	72.3	65.6
1:17:09 PM	88	54.8	73.4	67
1:18:09 PM	98.1	55	73.3	65.6
1:19:09 PM	92.5	52.5	69.5	61.2
1:20:09 PM	92	51.1	77.6	71.1
1:21:09 PM	84.8	50.9	71.7	65.1
1:22:09 PM	87.6	54.4	71.1	65.6
1:23:09 PM	86	57.8	68.5	65.1
1:24:09 PM	92.8	56.1	72	66.7

Session Report

9/14/2022

Information Panel

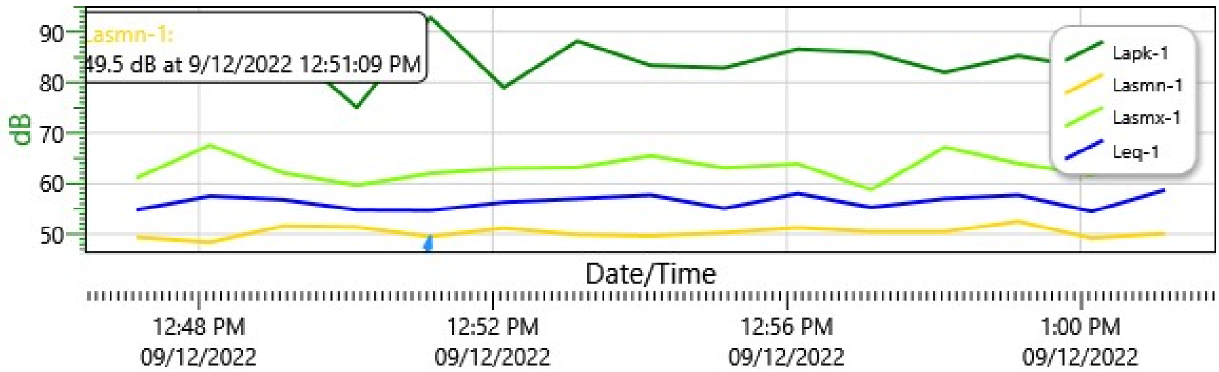
Name	6239 Lexington Avenue
Comments	
Start Time	9/12/2022 12:46:09 PM
Stop Time	9/12/2022 1:01:53 PM
Run Time	00:15:44
Serial Number	SE40213991
Device Name	SE40213991
Model Type	Sound Examiner
Device Firmware Rev	R.11C
Company Name	
Description	
Location	
User Name	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	59.5 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF

Logged Data Chart

6239 Lexington Avenue: Logged Data Chart



Logged Data Table

Date/Time	Lapk-1	Lasmn-1	Lasmx-1	Leq-1

Date/Time	Lapk-1	Lasmn-1	Lasmx-1	Leq-1
9/12/2022 12:47:09 PM	87.9	49.4	61.1	54.8
12:48:09 PM	86.3	48.4	67.6	57.5
12:49:09 PM	87.5	51.6	62.1	56.8
12:50:09 PM	75.1	51.4	59.7	54.8
12:51:09 PM	92.9	49.5	62	54.7
12:52:09 PM	79	51.2	63	56.3
12:53:09 PM	88.2	49.9	63.2	57
12:54:09 PM	83.4	49.6	65.5	57.7
12:55:09 PM	82.9	50.3	63.1	55.1
12:56:09 PM	86.6	51.3	63.9	58
12:57:09 PM	85.9	50.5	58.8	55.3
12:58:09 PM	82	50.5	67.2	57
12:59:09 PM	85.3	52.5	64	57.7
1:00:09 PM	82.8	49.2	61.7	54.5
1:01:09 PM	87.7	50.1	65.7	58.7

Session Report

9/14/2022

Information Panel

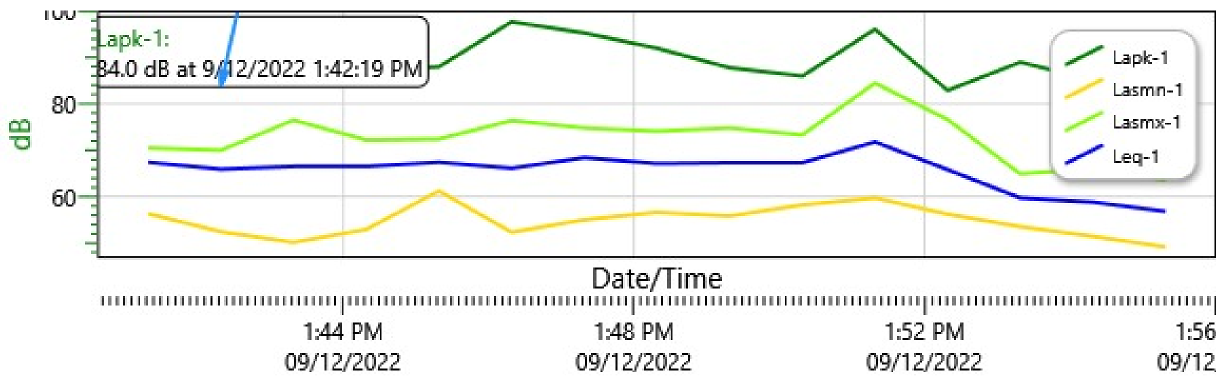
Name	Hampton Hotel
Comments	
Start Time	9/12/2022 1:40:19 PM
Stop Time	9/12/2022 1:55:20 PM
Run Time	00:15:01
Serial Number	SE40213991
Device Name	SE40213991
Model Type	Sound Examiner
Device Firmware Rev	R.11C
Company Name	
Description	
Location	
User Name	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	66.7 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF

Logged Data Chart

Hampton Hotel: Logged Data Chart



Logged Data Table

Date/Time	Lapk-1	Lasmn-1	Lasmx-1	Leq-1

Date/Time	Lapk-1	Lasmn-1	Lasmx-1	Leq-1
9/12/2022 1:41:19 PM	85.1	56.3	70.5	67.4
1:42:19 PM	84	52.4	70	65.9
1:43:19 PM	89.5	50.1	76.5	66.5
1:44:19 PM	87.1	52.9	72.2	66.5
1:45:19 PM	88	61.2	72.4	67.4
1:46:19 PM	97.7	52.3	76.4	66.1
1:47:19 PM	95.3	55	74.8	68.4
1:48:19 PM	92	56.6	74.1	67.1
1:49:19 PM	87.8	55.8	74.8	67.3
1:50:19 PM	86	58.2	73.3	67.3
1:51:19 PM	96.1	59.7	84.5	71.8
1:52:19 PM	82.9	56.2	76.6	65.8
1:53:19 PM	89	53.5	64.9	59.7
1:54:19 PM	85.1	51.4	66	58.8
1:55:19 PM	80.6	49.1	63.5	56.8

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CONSTRUCTION NOISE CALCULATIONS

Noise emissions of industry sources

Source name	Size	Reference	Level			Corrections		
			Day	Evening	Night	Cwall	CI	CT
	m/m²		dB(A)	dB(A)	dB(A)	dB	dB	dB
Construction Site	3922 m²	Lw/unit	109.7	-	-	-	-	-

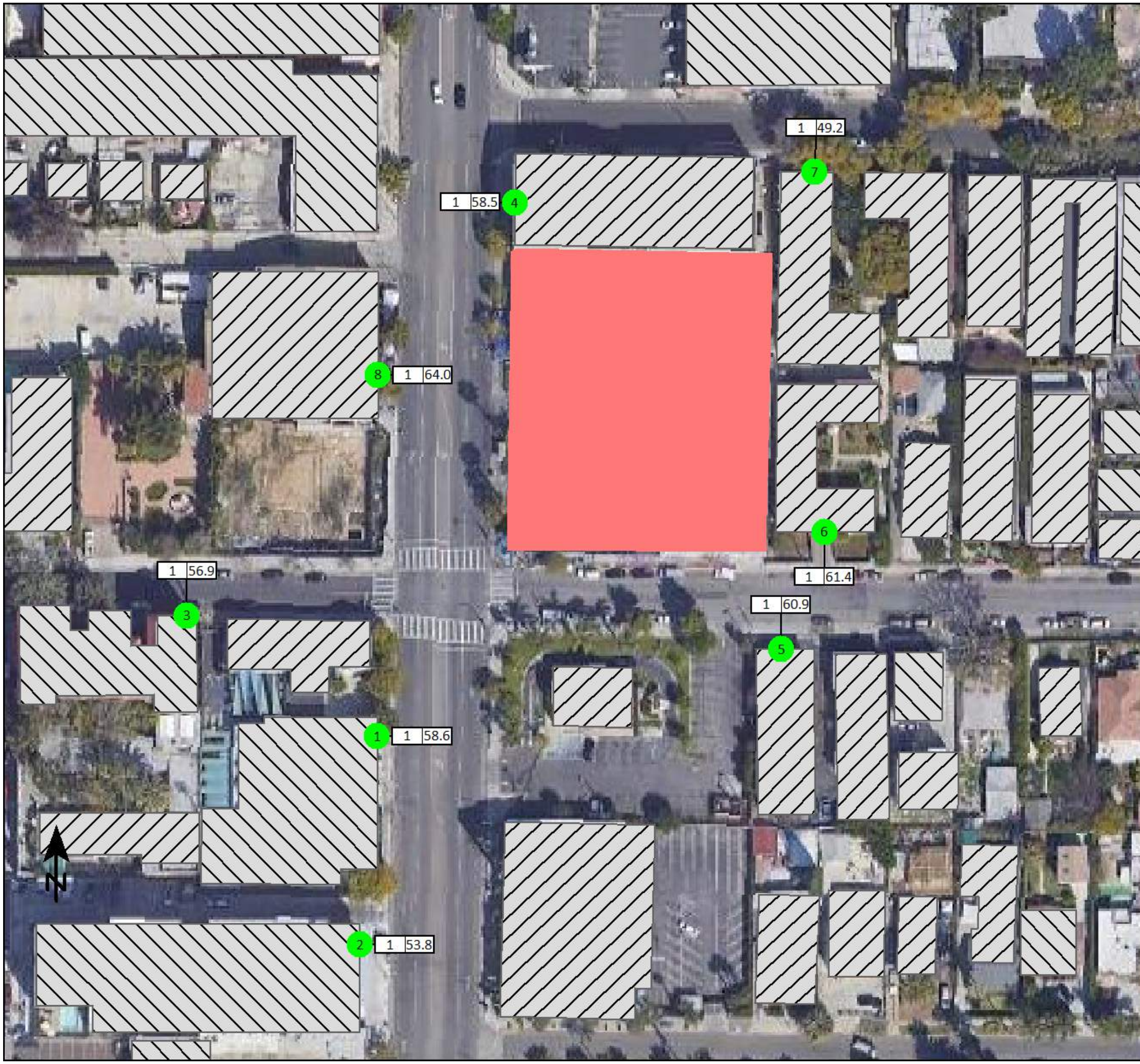
Receiver list

No.	Receiver name	Coordinates X (in meter)	Coordinates Y (in meter)	Building side	Floor	Height abv.grd. m	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	Early Head Start School	11377600.95	3773181.00	East	GF	97.73	-	58.6	-
2	Hotel -1133 Vine St.	11377597.09	3773134.38	East	GF	96.08	-	53.8	-
3	Hotel - 6326 Lexington Ave.	11377558.34	3773208.00	North	GF	96.83	-	56.9	-
4	Mental Health Center	11377631.80	3773300.35	West	GF	98.40	-	58.5	-
5	Residences - 6230-40 Lexington Ave.	11377691.48	3773200.49	North	GF	97.35	-	60.9	-
6	Residences - 6231-39 Lexington Ave.	11377701.12	3773226.73	South	GF	98.57	-	61.4	-
7	Residences - 6232-38 La Mirada Ave.	11377698.88	3773307.22	North	GF	99.01	-	49.2	-
8	Taglyan Complex	11377601.12	3773261.83	East	GF	97.81	-	64.0	-

Contribution levels of the receivers

Source name		Traffic lane	Level Day dB(A)
Early Head Start School	GF		58.6
Construction Site		-	58.6
Hotel -1133 Vine St.	GF		53.8
Construction Site		-	53.8
Hotel - 6326 Lexington Ave.	GF		56.9
Construction Site		-	56.9
Mental Health Center	GF		58.5
Construction Site		-	58.5
Residences - 6230-40 Lexington Ave.	GF		60.9
Construction Site		-	60.9
Residences - 6231-39 Lexington Ave.	GF		61.4
Construction Site		-	61.4
Residences - 6232-38 La Mirada Ave.	GF		49.2
Construction Site		-	49.2
Taglyan Complex	GF		64.0
Construction Site		-	64.0

1200 Vine Street
N
Signs and symbols
Building
Construction Site
Levels in dB(A)
< 35
35 - 40
40 - 45
45 - 50
50 - 55
55 - 60
60 - 65
65 - 70
70 - 75
75 - 80
80 - 85
85 - 90
90 - 95
95 - 100
100 - 105
>= 105
1 : 94
0 15 30 60 90 120 feet
DouglasKim+Associates,LLC



1200 Vine Street

Signs and symbols

Building

Analyzed Sensitive Receptor

Construction Site

1 : 94

0 15 30 60 90 120 feet

DouglasKim+Associates,LLC

Construction Noise Impacts

DouglasKim+Associates,LLC

Reference	15.24	meter
Sound Pressure Level (Lp)	75.0	dBA
Sound Power Level (Lw)	109.7	dB

Receptor	Existing Leq	Noise	New Leq	Difference Leq	Significant?
Taglyan Complex	68.1	64.0	69.5	1.4	**No**
Mental Health Center	68.1	58.5	68.6	0.5	**No**
Early Head Start School	66.7	58.6	67.3	0.6	**No**
Residences - 6231-39 Lexington Ave.	59.5	61.4	63.6	4.1	**No**
Hotel - 1133 Vine St.	66.7	53.8	66.9	0.2	**No**
Residences - 6230-40 Lexington Ave.	59.5	60.9	63.3	3.8	**No**
Hotel - 6326 Lexington Ave.	57.6	56.9	60.3	2.7	**No**
Residences - 6232-38 La Mirada Ave.	59.5	49.2	59.9	0.4	**No**

Note: Sound Power Level (Lw) assumes full sphere propagation

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OPERATIONS NOISE CALCULATIONS

DouglasKim+Associates,LLC

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual* , 10th Edition

Land Use Code			221			
Setting			Multifamily Housing (Mid-Rise)			
Time Period	General Urban/Suburban		Dense Multi-Use Urban		Center City Core	
Trip Type	Weekday		Weekday		Weekday	
# Data Sites	Vehicle		Vehicle		Vehicle	
	8		4		3	
	% of 24-Hour Traffic		% of 24-Hour Traffic		% of 24-Hour Traffic	
Time	Entering	Exiting	Entering	Exiting	Entering	Exiting
12-1 AM	0.7	0.3	0.8	0.2	2.6	0
1-2 AM	0.3	0.2	1.3	0.1	0.4	0
2-3 AM	0.2	0.2	0.8	0.3	0.9	0.9
3-4 AM	0.4	0.3	0.6	0.3	0.4	0
4-5 AM	0.3	0.8	0.6	0.0	0.4	1.8
5-6 AM	0.6	2.7	2.3	1.6	0.4	3.1
6-7 AM	1.5	6.5	4.1	4.1	1.8	8.0
7-8 AM	2.8	12.1	4.2	17.7	5.3	12.0
8-9 AM	3.5	8.8	5.1	9.2	4.8	10.2
9-10 AM	2.9	5.7	2.5	5.6	5.7	4.9
10-11 AM	2.7	4.7	4.4	3.8	2.2	4.9
11-12 PM	4.5	4.5	3.1	5.7	3.9	2.7
12-1 PM	4.8	4.6	4.7	5.2	4.4	2.7
1-2 PM	4.1	4.8	5.3	3.7	3.9	6.7
2-3 PM	5.8	5.0	5.9	3.3	3.9	4.9
3-4 PM	6.7	4.9	6.2	4.4	6.1	4.0
4-5 PM	10.6	6.2	10.0	4.7	4.8	5.8
5-6 PM	12.6	7.7	8.7	4.1	8.3	7.6
6-7 PM	9.3	6.6	6.7	8.6	8.8	4.0
7-8 PM	7.8	4.8	6.7	4.4	7.9	4.4
8-9 PM	7.0	3.3	5.1	4.3	7.0	2.2
9-10 PM	5.5	2.2	4.6	3.1	5.3	4.9
10-11 PM	3.6	1.9	4.4	2.8	7.0	3.1
11-12 AM	2.0	1.1	1.9	2.8	3.5	1.3

			Hourly Trips	Average Daytime	Average Nighttime
12-1 AM	1.0	0.5	2		2
1-2 AM	0.5	0.25	1		1
2-3 AM	0.4	0.2	1		1
3-4 AM	0.7	0.35	2		2
4-5 AM	1.1	0.55	2		2
5-6 AM	3.3	1.65	7		7
6-7 AM	8.0	4	18		18
7-8 AM	14.9	7.45	33	33	
8-9 AM	12.3	6.15	27	27	
9-10 AM	8.6	4.3	19	19	
10-11 AM	7.4	3.7	17	17	
11-12 PM	9.0	4.5	20	20	
12-1 PM	9.4	4.7	21	21	
1-2 PM	8.9	4.45	20	20	
2-3 PM	10.8	5.4	24	24	
3-4 PM	11.6	5.8	26	26	
4-5 PM	16.8	8.4	37	37	
5-6 PM	20.3	10.15	45	45	
6-7 PM	15.9	7.95	35	35	
7-8 PM	12.6	6.3	28		28
8-9 PM	10.3	5.15	23		23
9-10 PM	7.7	3.85	17		17
10-11 PM	5.5	2.75	12		12
11-12 AM	3.1	1.55	7		7
ADT (Vine St Driveway)			446		
				27	10

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 1/29/2019

Project:	**1200 Vine Street**

Project Results Summary

Existing Leqh:	56 dBA
Total Project Leqh:	36 dBA
Total Noise Exposure:	56 dBA
Increase:	0 dB
Impact?:	None

Receiver Parameters	
Receiver:	**Taglyan Complex**
Land Use Category:	**3. Institutional**
Existing Noise (Measured or Generic Value):	**56 dBA**

Distance to Impact Contours

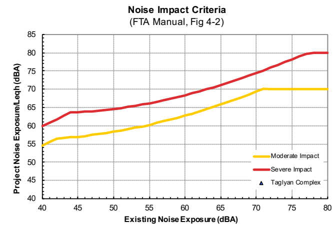
Dist to Mod. Impact Contour (Source 1):	11 ft
Dist to Sev. Impact Contour (Source 1):	6 ft

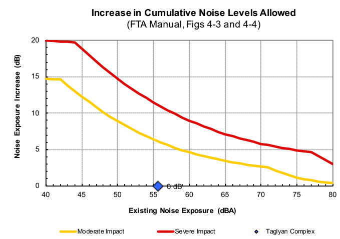
Noise Source Parameters	
Number of Noise Sources:	**1**

Noise Source Parameters		**Source 1**
	Source Type:	Stationary Source
	Specific Source:	Parking Garage
Noisiest hr of Activity During Sensitive hrs	**Number of Autos/hr**	54
Distance	**Distance from Source to Receiver (ft)**	100
	Number of Intervening Rows of Buildings	0
Adjustments	**Noise Barrier?**	No

Source 1 Results

Leqh:	36.2 dBA





Noise Barrier?	No
Joint Track/Crossover?	No
Embedded Track?	No
Aerial Structure?	No

Noise Barrier?	

Noise Barrier?	

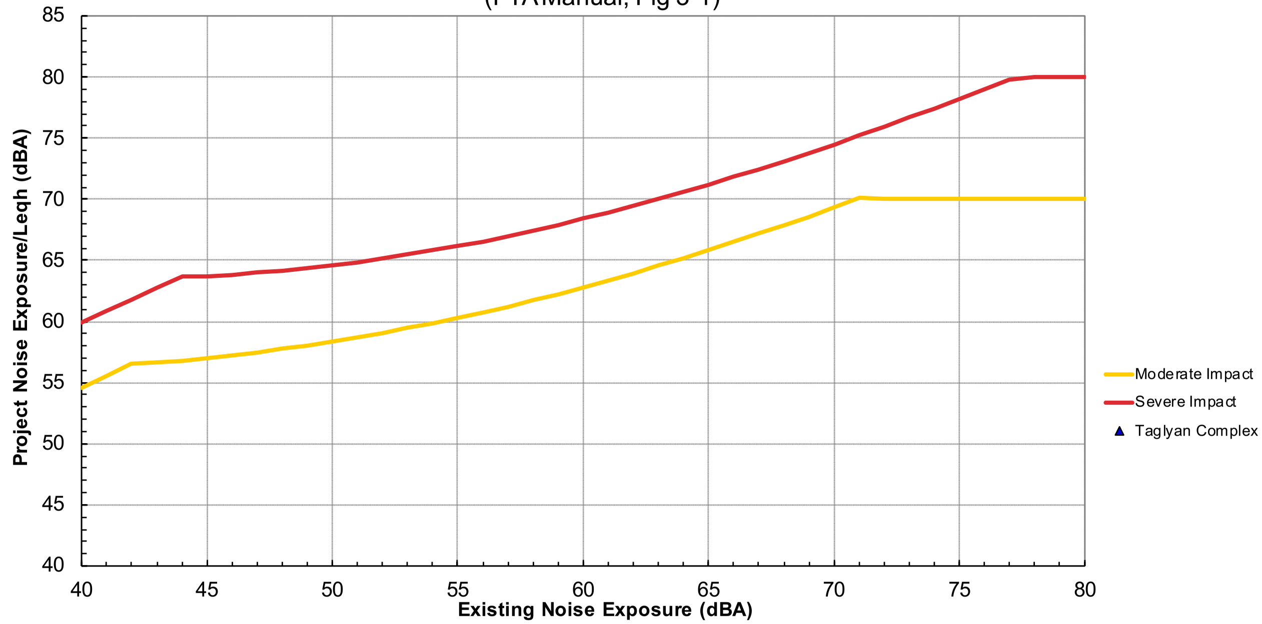
Noise Barrier?	

Noise Barrier?	

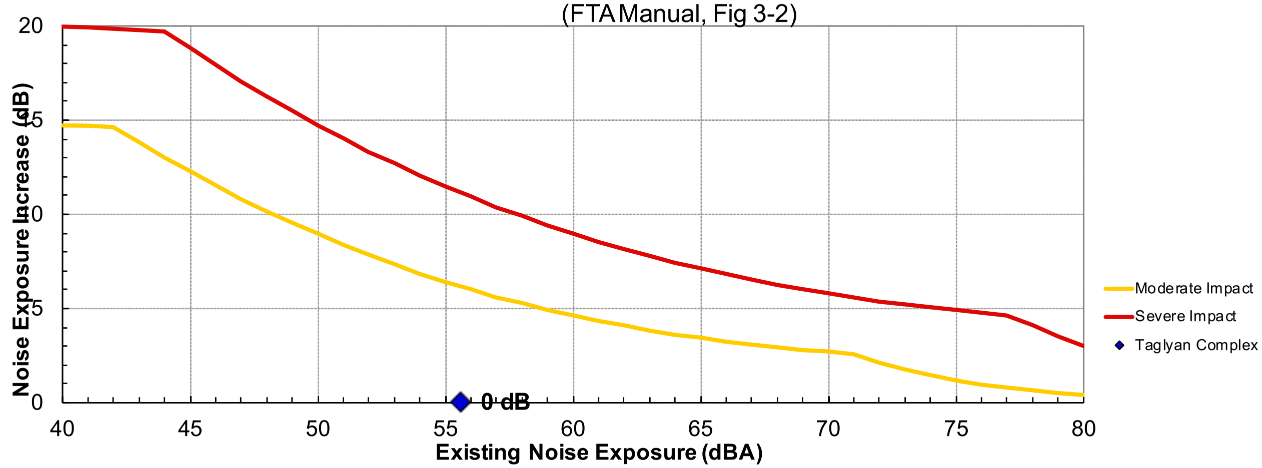
Project: 1200 Vine Street
Receiver: Taglyan Complex

	Source	Distance	Project Leqh	Existing Leqh	Noise Criteria		Impact?
					Mod. Impact	Sev. Impact	
1	Parking Garage	100 ft	36.2 dBA	56 dBA	60 dBA	66 dBA	None
2	--	50 ft		56 dBA	60 dBA	66 dBA	
3	--	50 ft		56 dBA	60 dBA	66 dBA	
4	--	70 ft		56 dBA	60 dBA	66 dBA	
5	--	ft		56 dBA	60 dBA	66 dBA	
6	--	ft	0.0 dBA	56 dBA	60 dBA	66 dBA	None
	Combined Sources		**36 dBA**	**56 dBA**	**60 dBA**	**66 dBA**	**None**

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



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Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual* , 10th Edition

Land Use Code			221			
Setting			Multifamily Housing (Mid-Rise)			
Time Period	General Urban/Suburban		Dense Multi-Use Urban		Center City Core	
Trip Type	Weekday		Weekday		Weekday	
# Data Sites	Vehicle		Vehicle		Vehicle	
	8		4		3	
	% of 24-Hour Traffic		% of 24-Hour Traffic		% of 24-Hour Traffic	
Time	Entering	Exiting	Entering	Exiting	Entering	Exiting
12-1 AM	0.7	0.3	0.8	0.2	2.6	0
1-2 AM	0.3	0.2	1.3	0.1	0.4	0
2-3 AM	0.2	0.2	0.8	0.3	0.9	0.9
3-4 AM	0.4	0.3	0.6	0.3	0.4	0
4-5 AM	0.3	0.8	0.6	0.0	0.4	1.8
5-6 AM	0.6	2.7	2.3	1.6	0.4	3.1
6-7 AM	1.5	6.5	4.1	4.1	1.8	8.0
7-8 AM	2.8	12.1	4.2	17.7	5.3	12.0
8-9 AM	3.5	8.8	5.1	9.2	4.8	10.2
9-10 AM	2.9	5.7	2.5	5.6	5.7	4.9
10-11 AM	2.7	4.7	4.4	3.8	2.2	4.9
11-12 PM	4.5	4.5	3.1	5.7	3.9	2.7
12-1 PM	4.8	4.6	4.7	5.2	4.4	2.7
1-2 PM	4.1	4.8	5.3	3.7	3.9	6.7
2-3 PM	5.8	5.0	5.9	3.3	3.9	4.9
3-4 PM	6.7	4.9	6.2	4.4	6.1	4.0
4-5 PM	10.6	6.2	10.0	4.7	4.8	5.8
5-6 PM	12.6	7.7	8.7	4.1	8.3	7.6
6-7 PM	9.3	6.6	6.7	8.6	8.8	4.0
7-8 PM	7.8	4.8	6.7	4.4	7.9	4.4
8-9 PM	7.0	3.3	5.1	4.3	7.0	2.2
9-10 PM	5.5	2.2	4.6	3.1	5.3	4.9
10-11 PM	3.6	1.9	4.4	2.8	7.0	3.1
11-12 AM	2.0	1.1	1.9	2.8	3.5	1.3

			Hourly Trips	Average Daytime	Average Nighttime
12-1 AM	1.0	0.5	2		2
1-2 AM	0.5	0.25	1		1
2-3 AM	0.4	0.2	1		1
3-4 AM	0.7	0.35	2		2
4-5 AM	1.1	0.55	2		2
5-6 AM	3.3	1.65	7		7
6-7 AM	8.0	4	18		18
7-8 AM	14.9	7.45	33	33	
8-9 AM	12.3	6.15	27	27	
9-10 AM	8.6	4.3	19	19	
10-11 AM	7.4	3.7	17	17	
11-12 PM	9.0	4.5	20	20	
12-1 PM	9.4	4.7	21	21	
1-2 PM	8.9	4.45	20	20	
2-3 PM	10.8	5.4	24	24	
3-4 PM	11.6	5.8	26	26	
4-5 PM	16.8	8.4	37	37	
5-6 PM	20.3	10.15	45	45	
6-7 PM	15.9	7.95	35	35	
7-8 PM	12.6	6.3	28		28
8-9 PM	10.3	5.15	23		23
9-10 PM	7.7	3.85	17		17
10-11 PM	5.5	2.75	12		12
11-12 AM	3.1	1.55	7		7
ADT (Lexington Ave Driveway)			446		
				27	10

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 1/29/2019

Project:	**1200 Vine Street**

Receiver Parameters	
Receiver:	**Residences - 6236-40 Lexington Ave.**
Land Use Category:	**2. Residential**
Existing Noise (Measured or Generic Value):	**56 dBA**

Noise Source Parameters	
Number of Noise Sources:	**1**

Noise Source Parameters		**Source 1**
	Source Type:	Stationary Source
	Specific Source:	Parking Garage
Daytime hrs	**Avg. Number of Autos/hr**	27
Nighttime hrs	**Avg. Number of Autos/hr**	10
Distance	**Distance from Source to Receiver (ft)**	80
	Number of Intervening Rows of Buildings	0
Adjustments	**Noise Barrier?**	No

	Noise Barrier?	No
	Joint Track/Crossover?	No
	Embedded Track?	No
	Aerial Structure?	No

	Noise Barrier?	

	Noise Barrier?	

	Noise Barrier?	

	Noise Barrier?	

Project Results Summary

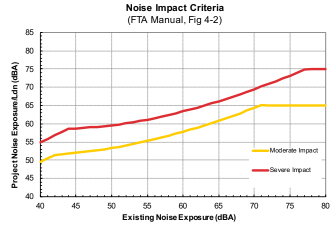
Existing Ldn:	56 dBA
Total Project Ldn:	39 dBA
Total Noise Exposure:	56 dBA
Increase:	0 dB
Impact?:	None

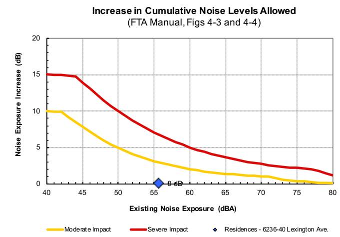
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	17 ft
Dist to Sev. Impact Contour (Source 1):	10 ft

Source 1 Results

Leq(day):	35.6 dBA
Leq(night):	31.3 dBA
Ldn:	38.7 dBA

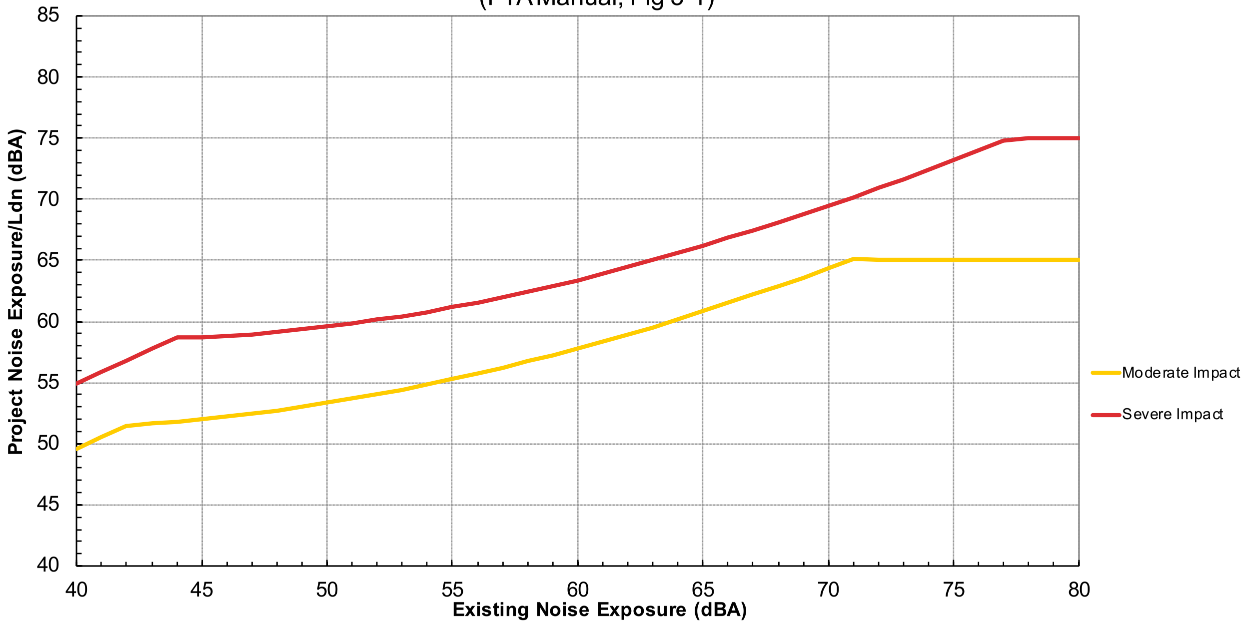




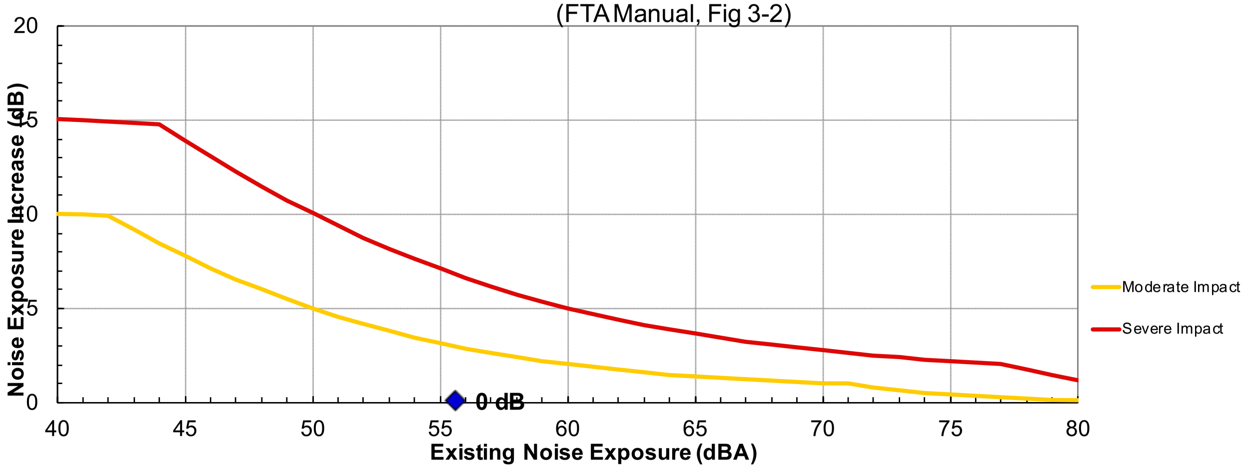
Project: 1200 Vine Street
Receiver: Residences - 6236-40 Lexington Ave.

	Source	Distance	Project Ldn	Existing Ldn	Noise Criteria Mod. Impact	Noise Criteria Sev. Impact	Impact?
1	Parking Garage	80 ft	38.7 dBA	56 dBA	55 dBA	61 dBA	None
2	--	50 ft		56 dBA	55 dBA	61 dBA	
3	--	50 ft		56 dBA	55 dBA	61 dBA	
4	--	70 ft		56 dBA	55 dBA	61 dBA	
5	--	ft		56 dBA	55 dBA	61 dBA	
6	--	ft		56 dBA	55 dBA	61 dBA	
	Combined Sources		**39 dBA**	**56 dBA**	**55 dBA**	**61 dBA**	**None**

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



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DEMOLITION ANALYSIS

DouglasKim+Associates,LLC

CONSTRUCTION BUILDING DEBRIS

Materials	Total SF	Height	Cubic Yards	Pounds per Cub	Tons	Truck Capacity (CY)	Truck Trips	Source
Construction and Debris	0	0	-	484	-	10	-	Florida Department of Environmental Protection A Fact Sheet for C&D Debris Facility Operators
General Building	27,011	12	3,962	1,000	1,981	10	792	*Federal Emergency Management Agency, Debris Estimating Field Guide (FEMA 329), September 2010. General Building Formula*
Single Family Residence	-	12	-	1,000	-	10	-	Federal Emergency Management Agency. Debris Estimating Field Guide (FEMA 329), September 2010. Single Family Residence Formula, assumes 1 story, Medium vegetative cover multiplier (1.3)
Multi-Family Residence		12	-	1,000	-	10	-	
Mobile Home				1,000	-	10	-	
Mixed Debris			-	480	-	10	-	Florida Department of Environmental Protection A Fact Sheet for C&D Debris Facility Operators
Vegetative Debris (Hardwoods)			-	500	-	10	-	
Vegetative Debris (Softwoods)			-	333	-	10	-	
Asphalt or concrete (Constructior	16,000	0.5	296	2,400	356	10	59	
TOTAL			4,258		2,336		852	

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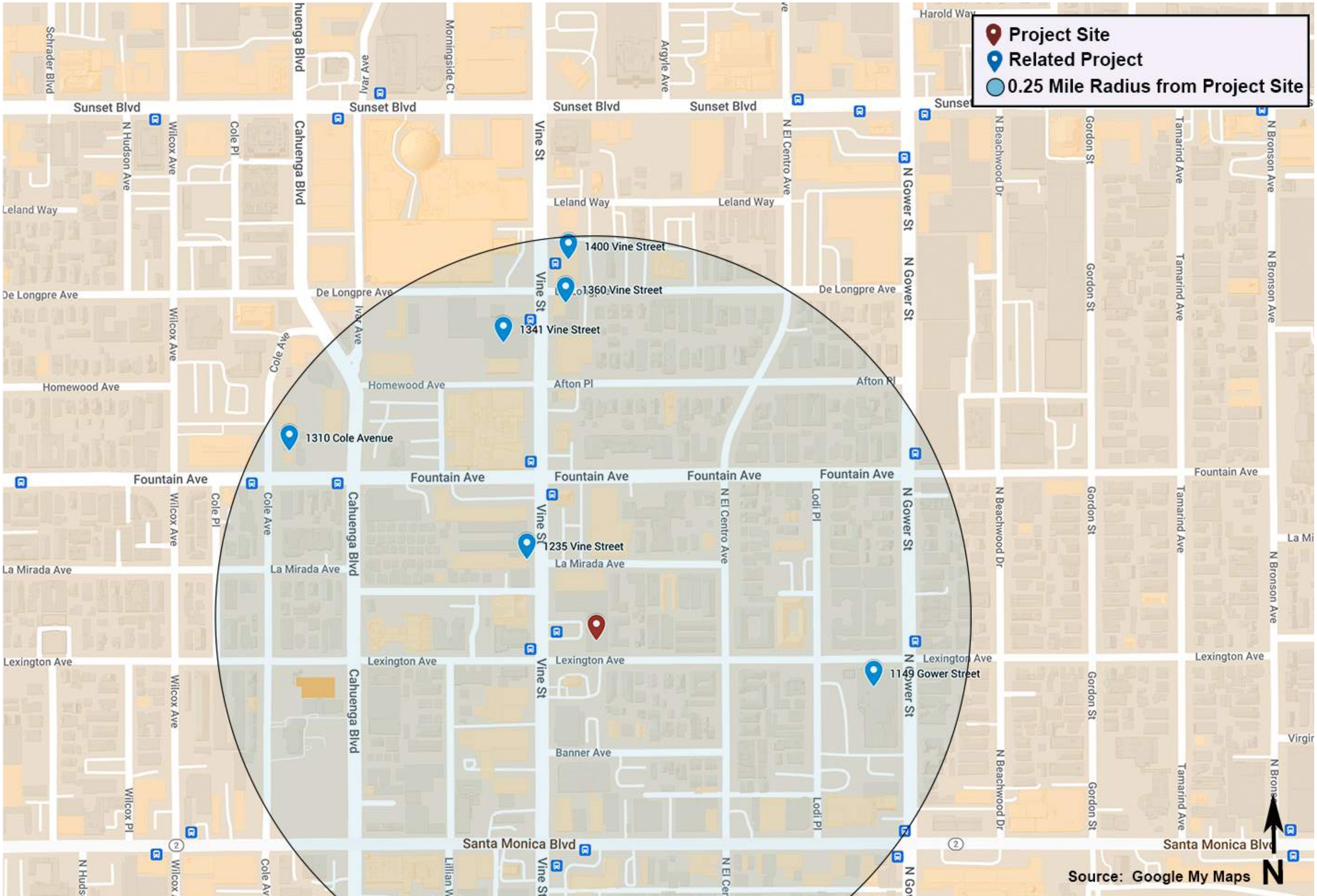
CUMULATIVE PROJECTS



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CUMULATIVE CONSTRUCTION NOISE IMPACTS

Noise emissions of industry sources

Source name	Size	Reference	Level			Corrections		
			Day	Evening	Night	Cwall	CI	CT
	m/m²		dB(A)	dB(A)	dB(A)	dB	dB	dB
Construction Site	3922 m²	Lw/unit	109.7	-	-	-	-	-
Construction Site (Related Project - 1235 Vine St)	1383 m²	Lw/unit	109.7	-	-	-	-	-
Construction Site (Related Project - 1360 Vine St)	586 m²	Lw/unit	109.7	-	-	-	-	-
Construction Site (Related Project - 1440 Vine St)	606 m²	Lw/unit	109.7	-	-	-	-	-
Construction Site (Related Project - 1149 Gower St_	7155 m²	Lw/unit	109.7	-	-	-	-	-

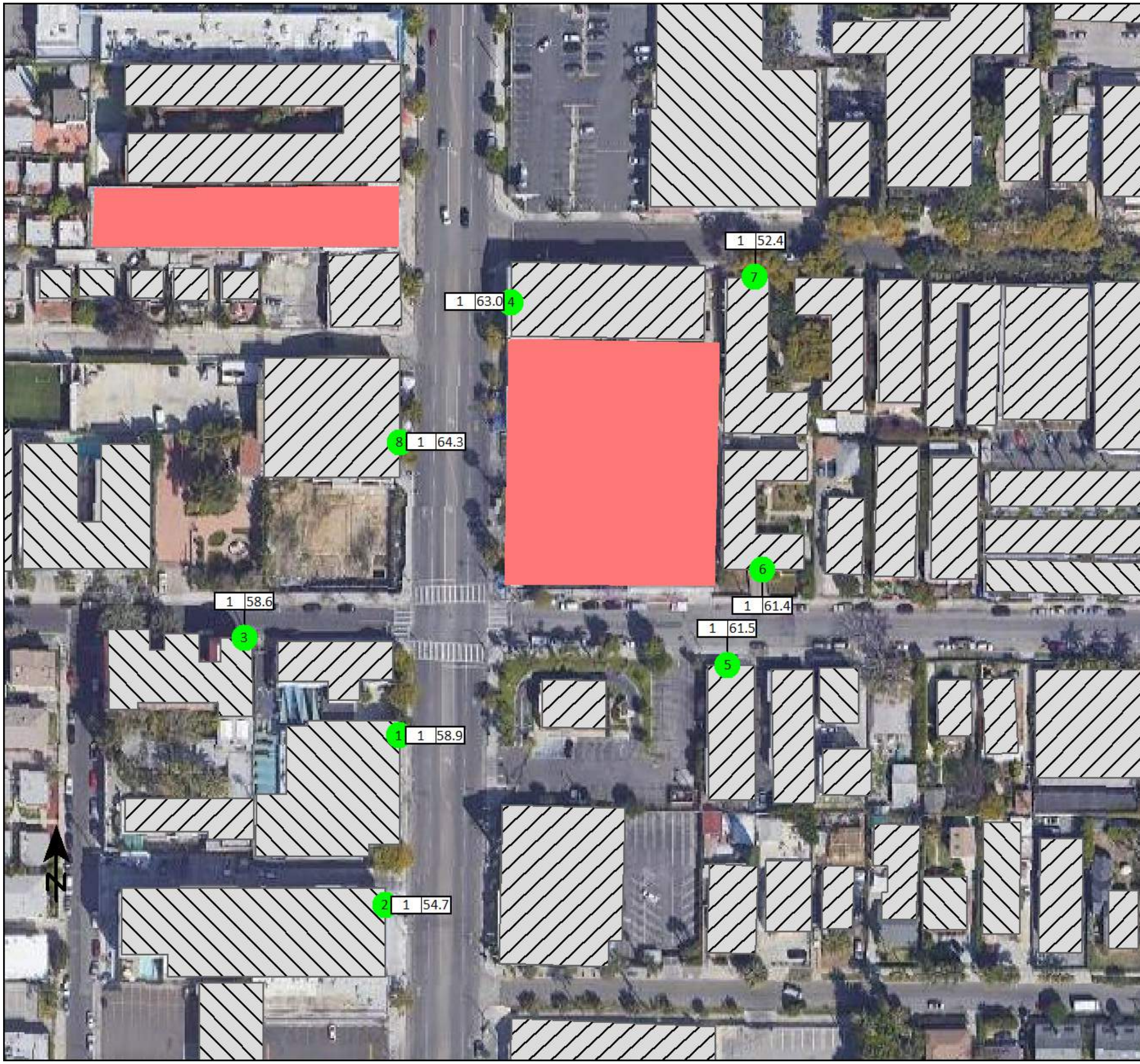
Receiver list

No.	Receiver name	Coordinates X in meter	Coordinates Y in meter	Building side	Floor	Height abv.grd. m	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	Early Head Start School	11377600.95	3773181.00	East	GF	97.73	-	58.9	-
2	Hotel -1133 Vine St.	11377597.09	3773134.38	East	GF	96.08	-	54.7	-
3	Hotel - 6326 Lexington Ave.	11377558.34	3773208.00	North	GF	96.83	-	58.6	-
4	Mental Health Center	11377631.80	3773300.35	West	GF	98.40	-	63.0	-
5	Residences - 6230-40 Lexington Ave.	11377691.48	3773200.49	North	GF	97.35	-	61.5	-
6	Residences - 6231-39 Lexington Ave.	11377701.12	3773226.73	South	GF	98.57	-	61.4	-
7	Residences - 6232-38 La Mirada Ave.	11377698.88	3773307.22	North	GF	99.01	-	52.4	-
8	Taglyan Complex	11377601.12	3773261.83	East	GF	97.81	-	64.3	-

Contribution levels of the receivers

Source name		Traffic lane	Level Day dB(A)
Early Head Start School	GF		58.9
Construction Site		-	58.8
Construction Site (Related Project - 114		-	33.1
Construction Site (Related Project - 123		-	36.3
Construction Site (Related Project - 136		-	38.1
Construction Site (Related Project - 144		-	40.4
Hotel -1133 Vine St.	GF		54.7
Construction Site		-	54.6
Construction Site (Related Project - 114		-	30.1
Construction Site (Related Project - 123		-	32.9
Construction Site (Related Project - 136		-	23.1
Construction Site (Related Project - 144		-	22.4
Hotel - 6326 Lexington Ave.	GF		58.6
Construction Site		-	57.3
Construction Site (Related Project - 114		-	28.1
Construction Site (Related Project - 123		-	52.6
Construction Site (Related Project - 136		-	36.9
Construction Site (Related Project - 144		-	36.4
Mental Health Center	GF		63.0
Construction Site		-	58.3
Construction Site (Related Project - 114		-	25.0
Construction Site (Related Project - 123		-	61.2
Construction Site (Related Project - 136		-	33.9
Construction Site (Related Project - 144		-	29.8
Residences - 6230-40 Lexington Ave.	GF		61.5
Construction Site		-	61.2
Construction Site (Related Project - 114		-	33.0
Construction Site (Related Project - 123		-	48.7
Construction Site (Related Project - 136		-	28.7
Construction Site (Related Project - 144		-	32.2
Residences - 6231-39 Lexington Ave.	GF		61.4
Construction Site		-	61.3
Construction Site (Related Project - 114		-	41.3
Construction Site (Related Project - 123		-	34.5
Construction Site (Related Project - 136		-	28.8
Construction Site (Related Project - 144		-	26.8
Residences - 6232-38 La Mirada Ave.	GF		52.4
Construction Site		-	49.4
Construction Site (Related Project - 114		-	34.2
Construction Site (Related Project - 123		-	49.2
Construction Site (Related Project - 136		-	29.7
Construction Site (Related Project - 144		-	31.1
Taglyan Complex	GF		64.3
Construction Site		-	64.2
Construction Site (Related Project - 114		-	36.9
Construction Site (Related Project - 123		-	45.5
Construction Site (Related Project - 136		-	40.7
Construction Site (Related Project - 144		-	42.5


N
1200 Vine Street
Signs and symbols
Construction Site
Levels in dB(A)
< 35
35 - 40
40 - 45
45 - 50
50 - 55
55 - 60
60 - 65
65 - 70
70 - 75
75 - 80
80 - 85
85 - 90
90 - 95
95 - 100
100 - 105
>= 105
1 : 116
0 30 60 120 180 240 feet
DouglasKim+Associates,LLC



1200 Vine Street

Signs and symbols

Analyzed Sensitive Receptor

Construction Site

1 : 116

0 30 60 120 180 240 feet

DouglasKim+Associates, LLC

Cumulative Construction Noise Impacts

DouglasKim+Associates, LLC

Reference	15.24	meter
Sound Pressure Level (Lp)	75.0	dBA
Sound Power Level (Lw)	109.7	dB

Receptor	Existing Leq	Noise	New Leq	Difference Leq	Significant?
Taglyan Complex	68.1	64.3	69.6	1.5	**No**
Mental Health Center	68.1	63.0	69.3	1.2	**No**
Early Head Start School	66.7	58.9	67.4	0.7	**No**
Residences - 6231-39 Lexington Ave.	59.5	61.4	63.6	4.1	**No**
Hotel - 1133 Vine St.	66.7	54.7	67.0	0.3	**No**
Residences - 6230-40 Lexington Ave.	59.5	61.5	63.6	4.1	**No**
Hotel - 6326 Lexington Ave.	57.6	58.6	61.1	3.5	**No**
Residences - 6232-38 La Mirada Ave.	59.5	52.4	60.3	0.8	**No**

Note: Sound Power Level (Lw) assumes full sphere propagation

DouglasKim+Associates,LLC

FUTURE EMISSIONS

1200 Vine Street (Future) Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	1200 Vine Street (Future)
Lead Agency	City of Los Angeles
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	16.8
Location	1200 Vine St, Los Angeles, CA 90038, USA
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4351
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas

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
Apartments Mid Rise	153	Dwelling Unit	0.90	136,295	2,456	—	361	—
High Turnover (Sit Down Restaurant)	7.00	1000sqft	0.04	7,000	0.00	—	—	—

Enclosed Parking with Elevator	93.0	Space	0.00	37,200	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.78	5.89	17.0	19.2	0.05	0.59	3.41	4.00	0.55	1.36	1.91	—	6,476	6,476	0.31	0.76	11.2	6,723
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.43	5.88	7.26	17.0	0.02	0.27	2.22	2.44	0.25	0.53	0.73	—	4,158	4,158	0.18	0.24	0.24	4,219
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.95	3.04	6.47	10.9	0.02	0.23	1.38	1.60	0.21	0.39	0.60	—	2,842	2,842	0.13	0.21	2.65	2,911
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.17	0.55	1.18	2.00	< 0.005	0.04	0.25	0.29	0.04	0.07	0.11	—	471	471	0.02	0.03	0.44	482

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.78	1.46	17.0	19.2	0.05	0.59	3.41	4.00	0.55	1.36	1.91	—	6,476	6,476	0.31	0.76	11.2	6,723
2025	1.29	1.09	6.55	16.3	0.02	0.23	1.88	2.11	0.21	0.45	0.66	—	3,833	3,833	0.16	0.18	8.57	3,898
2026	1.43	5.89	7.07	18.4	0.02	0.22	2.22	2.44	0.20	0.53	0.73	—	4,267	4,267	0.18	0.19	9.07	4,337
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.36	1.15	7.26	15.6	0.02	0.27	1.88	2.15	0.25	0.45	0.70	—	3,789	3,789	0.16	0.24	0.24	3,847
2025	1.28	1.09	6.65	15.0	0.02	0.23	1.88	2.11	0.21	0.45	0.66	—	3,741	3,741	0.16	0.18	0.22	3,799
2026	1.43	5.88	7.18	17.0	0.02	0.22	2.22	2.44	0.20	0.53	0.73	—	4,158	4,158	0.18	0.19	0.24	4,219
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.95	0.77	6.47	9.77	0.02	0.23	1.38	1.60	0.21	0.39	0.60	—	2,842	2,842	0.13	0.21	2.56	2,911
2025	0.91	0.78	4.79	10.9	0.01	0.16	1.33	1.49	0.15	0.32	0.46	—	2,690	2,690	0.12	0.13	2.65	2,733
2026	0.62	3.04	3.13	7.52	0.01	0.10	0.95	1.05	0.09	0.23	0.31	—	1,794	1,794	0.08	0.08	1.69	1,822
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.17	0.14	1.18	1.78	< 0.005	0.04	0.25	0.29	0.04	0.07	0.11	—	471	471	0.02	0.03	0.42	482
2025	0.17	0.14	0.87	2.00	< 0.005	0.03	0.24	0.27	0.03	0.06	0.08	—	445	445	0.02	0.02	0.44	452
2026	0.11	0.55	0.57	1.37	< 0.005	0.02	0.17	0.19	0.02	0.04	0.06	—	297	297	0.01	0.01	0.28	302

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.04	7.05	2.25	28.9	0.04	0.08	1.48	1.55	0.08	0.26	0.34	108	6,615	6,724	11.3	0.23	24.5	7,100

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.87	5.94	2.30	17.2	0.04	0.07	1.48	1.55	0.07	0.26	0.33	108	6,415	6,523	11.3	0.24	12.2	6,890
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.63	6.66	2.38	24.8	0.04	0.07	1.48	1.55	0.07	0.26	0.34	108	6,482	6,590	11.3	0.24	17.3	6,962
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.66	1.21	0.43	4.53	0.01	0.01	0.27	0.28	0.01	0.05	0.06	18.0	1,073	1,091	1.87	0.04	2.87	1,153

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.83	2.62	1.59	17.9	0.04	0.03	1.48	1.50	0.02	0.26	0.29	—	4,143	4,143	0.23	0.18	12.5	4,214
Area	1.15	4.40	0.10	10.6	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	31.1	31.1	< 0.005	< 0.005	—	31.2
Energy	0.06	0.03	0.56	0.31	< 0.005	0.04	—	0.04	0.04	—	0.04	—	2,340	2,340	0.18	0.02	—	2,350
Water	—	—	—	—	—	—	—	—	—	—	—	15.0	101	116	1.55	0.04	—	166
Waste	—	—	—	—	—	—	—	—	—	—	—	93.5	0.00	93.5	9.34	0.00	—	327
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	11.9
Total	4.04	7.05	2.25	28.9	0.04	0.08	1.48	1.55	0.08	0.26	0.34	108	6,615	6,724	11.3	0.23	24.5	7,100
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.81	2.59	1.74	16.9	0.04	0.03	1.48	1.50	0.02	0.26	0.29	—	3,973	3,973	0.24	0.19	0.32	4,035
Area	0.00	3.32	0.00	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	0.06	0.03	0.56	0.31	< 0.005	0.04	—	0.04	0.04	—	0.04	—	2,340	2,340	0.18	0.02	—	2,350
Water	—	—	—	—	—	—	—	—	—	—	—	15.0	101	116	1.55	0.04	—	166
Waste	—	—	—	—	—	—	—	—	—	—	—	93.5	0.00	93.5	9.34	0.00	—	327
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	11.9
Total	2.87	5.94	2.30	17.2	0.04	0.07	1.48	1.55	0.07	0.26	0.33	108	6,415	6,523	11.3	0.24	12.2	6,890
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.78	2.57	1.75	17.3	0.04	0.03	1.48	1.50	0.02	0.26	0.29	—	4,019	4,019	0.24	0.19	5.41	4,086
Area	0.79	4.06	0.07	7.27	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	0.00	21.3	21.3	< 0.005	< 0.005	—	21.4
Energy	0.06	0.03	0.56	0.31	< 0.005	0.04	—	0.04	0.04	—	0.04	—	2,340	2,340	0.18	0.02	—	2,350
Water	—	—	—	—	—	—	—	—	—	—	—	15.0	101	116	1.55	0.04	—	166
Waste	—	—	—	—	—	—	—	—	—	—	—	93.5	0.00	93.5	9.34	0.00	—	327
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	11.9
Total	3.63	6.66	2.38	24.8	0.04	0.07	1.48	1.55	0.07	0.26	0.34	108	6,482	6,590	11.3	0.24	17.3	6,962
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.51	0.47	0.32	3.15	0.01	< 0.005	0.27	0.27	< 0.005	0.05	0.05	—	665	665	0.04	0.03	0.90	676
Area	0.14	0.74	0.01	1.33	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.53	3.53	< 0.005	< 0.005	—	3.54
Energy	0.01	0.01	0.10	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	387	387	0.03	< 0.005	—	389
Water	—	—	—	—	—	—	—	—	—	—	—	2.48	16.8	19.2	0.26	0.01	—	27.5
Waste	—	—	—	—	—	—	—	—	—	—	—	15.5	0.00	15.5	1.55	0.00	—	54.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.97	1.97
Total	0.66	1.21	0.43	4.53	0.01	0.01	0.27	0.28	0.01	0.05	0.06	18.0	1,073	1,091	1.87	0.04	2.87	1,153

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.51	4.69	5.79	0.01	0.19	—	0.19	0.17	—	0.17	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.48	0.48	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.82	1.01	< 0.005	0.03	—	0.03	0.03	—	0.03	—	149	149	0.01	< 0.005	—	150
Demolition	—	—	—	—	—	—	0.08	0.08	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.06	0.64	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	134	134	0.01	< 0.005	0.01	135
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.10	0.03	1.73	0.60	0.01	0.02	0.11	0.12	0.02	0.04	0.05	—	1,395	1,395	0.07	0.22	0.08	1,464
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.8	23.8	< 0.005	< 0.005	0.04	24.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	< 0.005	0.31	0.11	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	245	245	0.01	0.04	0.24	257
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.94	3.94	< 0.005	< 0.005	0.01	4.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	40.5	40.5	< 0.005	0.01	0.04	42.5

3.3. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	2.07	2.07	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.15	1.40	1.32	< 0.005	0.07	—	0.07	0.06	—	0.06	—	211	211	0.01	< 0.005	—	212
Dust From Material Movement	—	—	—	—	—	—	0.26	0.26	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.26	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.57	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	106	106	< 0.005	< 0.005	0.42	107
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.33	0.09	5.56	2.03	0.03	0.06	0.35	0.41	0.06	0.12	0.18	—	4,657	4,657	0.24	0.75	10.8	4,897
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	12.6	12.6	< 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	0.00
Hauling	0.04	0.01	0.72	0.25	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	574	574	0.03	0.09	0.57	603
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.08	2.08	< 0.005	< 0.005	< 0.005	2.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	95.1	95.1	< 0.005	0.02	0.10	99.8

3.5. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28	0.23	2.34	2.92	0.01	0.11	—	0.11	0.10	—	0.10	—	546	546	0.02	< 0.005	—	548

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.43	0.53	< 0.005	0.02	—	0.02	0.02	—	0.02	—	90.5	90.5	< 0.005	< 0.005	—	90.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.64	0.58	0.62	9.71	0.00	0.00	0.11	0.11	0.00	0.00	0.00	—	1,818	1,818	0.08	0.06	7.17	1,845
Vendor	0.06	0.02	0.90	0.44	0.01	0.01	0.04	0.05	0.01	0.02	0.03	—	761	761	0.03	0.10	2.06	795
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.64	0.57	0.73	8.21	0.00	0.00	0.11	0.11	0.00	0.00	0.00	—	1,723	1,723	0.08	0.06	0.19	1,744
Vendor	0.06	0.02	0.93	0.45	0.01	0.01	0.04	0.05	0.01	0.02	0.03	—	762	762	0.03	0.10	0.05	794
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.24	0.30	3.62	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	732	732	0.03	0.03	1.30	742
Vendor	0.03	0.01	0.39	0.19	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	319	319	0.01	0.04	0.37	333
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.06	0.66	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	121	121	0.01	< 0.005	0.21	123
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	52.8	52.8	< 0.005	0.01	0.06	55.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.67	4.96	0.01	0.16	—	0.16	0.14	—	0.14	—	932	932	0.04	0.01	—	935
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.67	0.90	< 0.005	0.03	—	0.03	0.03	—	0.03	—	154	154	0.01	< 0.005	—	155
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.62	0.55	0.56	8.96	0.00	0.00	0.11	0.11	0.00	0.00	0.00	—	1,780	1,780	0.08	0.06	6.52	1,806
Vendor	0.05	0.02	0.85	0.42	0.01	0.01	0.04	0.05	0.01	0.02	0.02	—	749	749	0.03	0.10	2.05	783
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.55	0.62	7.59	0.00	0.00	0.11	0.11	0.00	0.00	0.00	—	1,687	1,687	0.08	0.06	0.17	1,708
Vendor	0.05	0.02	0.89	0.42	0.01	0.01	0.04	0.05	0.01	0.02	0.02	—	749	749	0.03	0.10	0.05	781
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43	0.39	0.48	5.70	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,223	1,223	0.06	0.04	2.01	1,239
Vendor	0.04	0.02	0.64	0.30	< 0.005	0.01	0.03	0.04	< 0.005	0.01	0.02	—	535	535	0.02	0.07	0.63	558
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.04	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	202	202	0.01	0.01	0.33	205
Vendor	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	88.6	88.6	< 0.005	0.01	0.11	92.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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

Off-Road Equipment	0.59	0.49	4.81	6.91	0.01	0.19	—	0.19	0.17	—	0.17	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.81	6.91	0.01	0.19	—	0.19	0.17	—	0.17	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.99	2.86	< 0.005	0.08	—	0.08	0.07	—	0.07	—	541	541	0.02	< 0.005	—	543
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.36	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	89.6	89.6	< 0.005	< 0.005	—	89.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.47	0.50	8.31	0.00	0.00	0.11	0.11	0.00	0.00	0.00	—	1,744	1,744	0.07	0.06	5.90	1,770
Vendor	0.05	0.02	0.81	0.39	0.01	0.01	0.04	0.05	0.01	0.02	0.02	—	736	736	0.03	0.10	1.99	770
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.47	0.56	7.09	0.00	0.00	0.11	0.11	0.00	0.00	0.00	—	1,653	1,653	0.08	0.06	0.15	1,674

Vendor	0.05	0.02	0.85	0.40	0.01	0.01	0.04	0.05	0.01	0.02	0.02	—	736	736	0.03	0.10	0.05	768
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.19	0.25	3.08	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	696	696	0.03	0.03	1.06	705
Vendor	0.02	0.01	0.35	0.16	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	305	305	0.01	0.04	0.36	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.05	0.56	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	115	115	0.01	< 0.005	0.18	117
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	50.5	50.5	< 0.005	0.01	0.06	52.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	4.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architect Coatings	—	4.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.46	0.61	< 0.005	0.01	—	0.01	0.01	—	0.01	—	71.7	71.7	< 0.005	< 0.005	—	71.9
Architectural Coatings	—	2.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.9	11.9	< 0.005	< 0.005	—	11.9
Architectural Coatings	—	0.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.10	1.66	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	349	349	0.01	0.01	1.18	354
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.11	1.42	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	331	331	0.02	0.01	0.03	335
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.07	0.80	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	180	180	0.01	0.01	0.27	183
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	29.8	29.8	< 0.005	< 0.005	0.05	30.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Trenching (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.27	1.82	1.74	< 0.005	0.09	—	0.09	0.08	—	0.08	—	269	269	0.01	< 0.005	—	270
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.15	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.8	22.8	< 0.005	< 0.005	—	22.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.78	3.78	< 0.005	< 0.005	—	3.79
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.38	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	70.6	70.6	< 0.005	< 0.005	0.28	71.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	5.77	5.77	< 0.005	< 0.005	0.01	5.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.97
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	950	950	0.07	0.01	—	955
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	431	431	0.03	< 0.005	—	433
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	260	260	0.02	< 0.005	—	261
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,641	1,641	0.12	0.02	—	1,649
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	950	950	0.07	0.01	—	955
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	431	431	0.03	< 0.005	—	433

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	260	260	0.02	< 0.005	—	261
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,641	1,641	0.12	0.02	—	1,649
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	157	157	0.01	< 0.005	—	158
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	71.4	71.4	0.01	< 0.005	—	71.7
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	43.0	43.0	< 0.005	< 0.005	—	43.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	272	272	0.02	< 0.005	—	273

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	487	487	0.04	< 0.005	—	488
High Turnover (Sit Down Restaurant)	0.02	0.01	0.18	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	213	213	0.02	< 0.005	—	213

Enclosed Parking with Elevator	0.00	0.00	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	0.06	0.03	0.56	0.31	< 0.005	0.04	—	0.04	0.04	—	0.04	—	699	699	0.06	< 0.005	—	701
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	487	487	0.04	< 0.005	—	488
High Turnover (Sit Down Restaurant)	0.02	0.01	0.18	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	213	213	0.02	< 0.005	—	213
Enclosed Parking with Elevator	0.00	0.00	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	0.06	0.03	0.56	0.31	< 0.005	0.04	—	0.04	0.04	—	0.04	—	699	699	0.06	< 0.005	—	701
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.6	80.6	0.01	< 0.005	—	80.8
High Turnover (Sit Down Restaurant)	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.2	35.2	< 0.005	< 0.005	—	35.3
Enclosed Parking with Elevator	0.00	0.00	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	0.01	0.10	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	116	116	0.01	< 0.005	—	116

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	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	—	3.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.15	1.08	0.10	10.6	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Total	1.15	4.40	0.10	10.6	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	31.1	31.1	< 0.005	< 0.005	—	31.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	3.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	3.32	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer Products	—	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.14	0.13	0.01	1.33	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.53	3.53	< 0.005	< 0.005	—	3.54
Total	0.14	0.74	0.01	1.33	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.53	3.53	< 0.005	< 0.005	—	3.54

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	10.9	73.9	84.8	1.13	0.03	—	121
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	4.07	27.4	31.4	0.42	0.01	—	45.0
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	15.0	101	116	1.55	0.04	—	166

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	10.9	73.9	84.8	1.13	0.03	—	121
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	4.07	27.4	31.4	0.42	0.01	—	45.0
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	15.0	101	116	1.55	0.04	—	166
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1.81	12.2	14.0	0.19	< 0.005	—	20.0
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	0.67	4.53	5.20	0.07	< 0.005	—	7.44
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.48	16.8	19.2	0.26	0.01	—	27.5

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	48.6	0.00	48.6	4.86	0.00	—	170
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	44.9	0.00	44.9	4.49	0.00	—	157
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	93.5	0.00	93.5	9.34	0.00	—	327
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	48.6	0.00	48.6	4.86	0.00	—	170
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	44.9	0.00	44.9	4.49	0.00	—	157
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	93.5	0.00	93.5	9.34	0.00	—	327
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	8.05	0.00	8.05	0.80	0.00	—	28.2

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	7.43	0.00	7.43	0.74	0.00	—	26.0
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	15.5	0.00	15.5	1.55	0.00	—	54.2

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.98	0.98
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.9	10.9
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	11.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.98	0.98

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.9	10.9
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	11.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.16	0.16
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.81	1.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.97	1.97

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/2/2024	3/31/2024	5.00	64.0	—
Grading	Grading	4/1/2024	5/31/2024	5.00	45.0	—
Building Construction	Building Construction	6/1/2024	7/31/2026	5.00	565	—
Architectural Coating	Architectural Coating	3/2/2026	11/30/2026	5.00	196	—
Trenching	Trenching	6/1/2024	7/15/2024	5.00	31.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Trenching	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Trenching	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50

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	10.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	13.3	30.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2

Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	44.4	30.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	129	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	23.6	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	25.7	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
Trenching	—	—	—	—
Trenching	Worker	5.00	18.5	LDA,LDT1,LDT2
Trenching	Vendor	—	10.2	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	275,997	91,999	10,500	3,500	—

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 (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	2,336	—
Grading	—	10,000	0.94	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
High Turnover (Sit Down Restaurant)	0.00	0%
Enclosed Parking with Elevator	0.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	690	0.05	0.01
2025	0.00	690	0.05	0.01
2026	0.00	690	0.05	0.01

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
Total all Land Uses	892	892	892	325,580	5,297	5,297	5,297	1,933,405

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	153
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)
275997.375	91,999	10,500	3,500	—

5.10.3. Landscape Equipment

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)
Apartments Mid Rise	502,375	690	0.0489	0.0069	1,518,580
High Turnover (Sit Down Restaurant)	227,991	690	0.0489	0.0069	663,107
Enclosed Parking with Elevator	137,321	690	0.0489	0.0069	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	5,702,891	42,099
High Turnover (Sit Down Restaurant)	2,124,736	0.00
Enclosed Parking with Elevator	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)

Apartments Mid Rise	38.2	0.00
High Turnover (Sit Down Restaurant)	83.3	0.00
Enclosed Parking with Elevator	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.38	annual days of extreme heat
Extreme Precipitation	6.85	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	59.7

AQ-PM	77.2
AQ-DPM	98.1
Drinking Water	92.5
Lead Risk Housing	68.0
Pesticides	0.00
Toxic Releases	72.2
Traffic	66.2
Effect Indicators	—
CleanUp Sites	77.0
Groundwater	73.5
Haz Waste Facilities/Generators	73.8
Impaired Water Bodies	0.00
Solid Waste	12.9
Sensitive Population	—
Asthma	60.2
Cardio-vascular	54.9
Low Birth Weights	93.7
Socioeconomic Factor Indicators	—
Education	55.8
Housing	67.7
Linguistic	96.0
Poverty	95.1
Unemployment	98.4

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract

Economic	—
Above Poverty	7.160272039
Employed	33.54292314
Median HI	0.61593738
Education	—
Bachelor's or higher	59.70742974
High school enrollment	100
Preschool enrollment	95.7141024
Transportation	—
Auto Access	0.949570127
Active commuting	95.70127037
Social	—
2-parent households	5.594764532
Voting	22.44321827
Neighborhood	—
Alcohol availability	4.516874118
Park access	81.35506224
Retail density	98.37033235
Supermarket access	94.25125112
Tree canopy	25.47157706
Housing	—
Homeownership	3.015526755
Housing habitability	16.14269216
Low-inc homeowner severe housing cost burden	14.65417683
Low-inc renter severe housing cost burden	54.95957911
Uncrowded housing	24.00872578
Health Outcomes	—

Insured adults	31.56679071
Arthritis	18.8
Asthma ER Admissions	42.0
High Blood Pressure	13.8
Cancer (excluding skin)	32.7
Asthma	32.2
Coronary Heart Disease	4.7
Chronic Obstructive Pulmonary Disease	9.6
Diagnosed Diabetes	15.4
Life Expectancy at Birth	83.7
Cognitively Disabled	41.3
Physically Disabled	21.0
Heart Attack ER Admissions	47.6
Mental Health Not Good	27.8
Chronic Kidney Disease	10.6
Obesity	27.3
Pedestrian Injuries	65.9
Physical Health Not Good	17.0
Stroke	7.6
Health Risk Behaviors	—
Binge Drinking	75.2
Current Smoker	28.0
No Leisure Time for Physical Activity	27.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	88.7

Elderly	8.1
English Speaking	1.3
Foreign-born	95.9
Outdoor Workers	54.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	5.6
Traffic Density	86.9
Traffic Access	87.4
Other Indices	—
Hardship	79.2
Other Decision Support	—
2016 Voting	11.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	95.0
Healthy Places Index Score for Project Location (b)	18.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project plans. Population estimate from LA VMT Calculator, v1.3
Construction: Construction Phases	Developer information
Construction: Off-Road Equipment	Consultant assumptions for trenching
Construction: Dust From Material Movement	Estimates provided by the Applicant, July 2022. Assumes 8,439 cy with a soil swell percent of 18.5% = 10,000 cy.
Construction: Trips and VMT	10cy haul truck capacity
Operations: Hearths	Project plans

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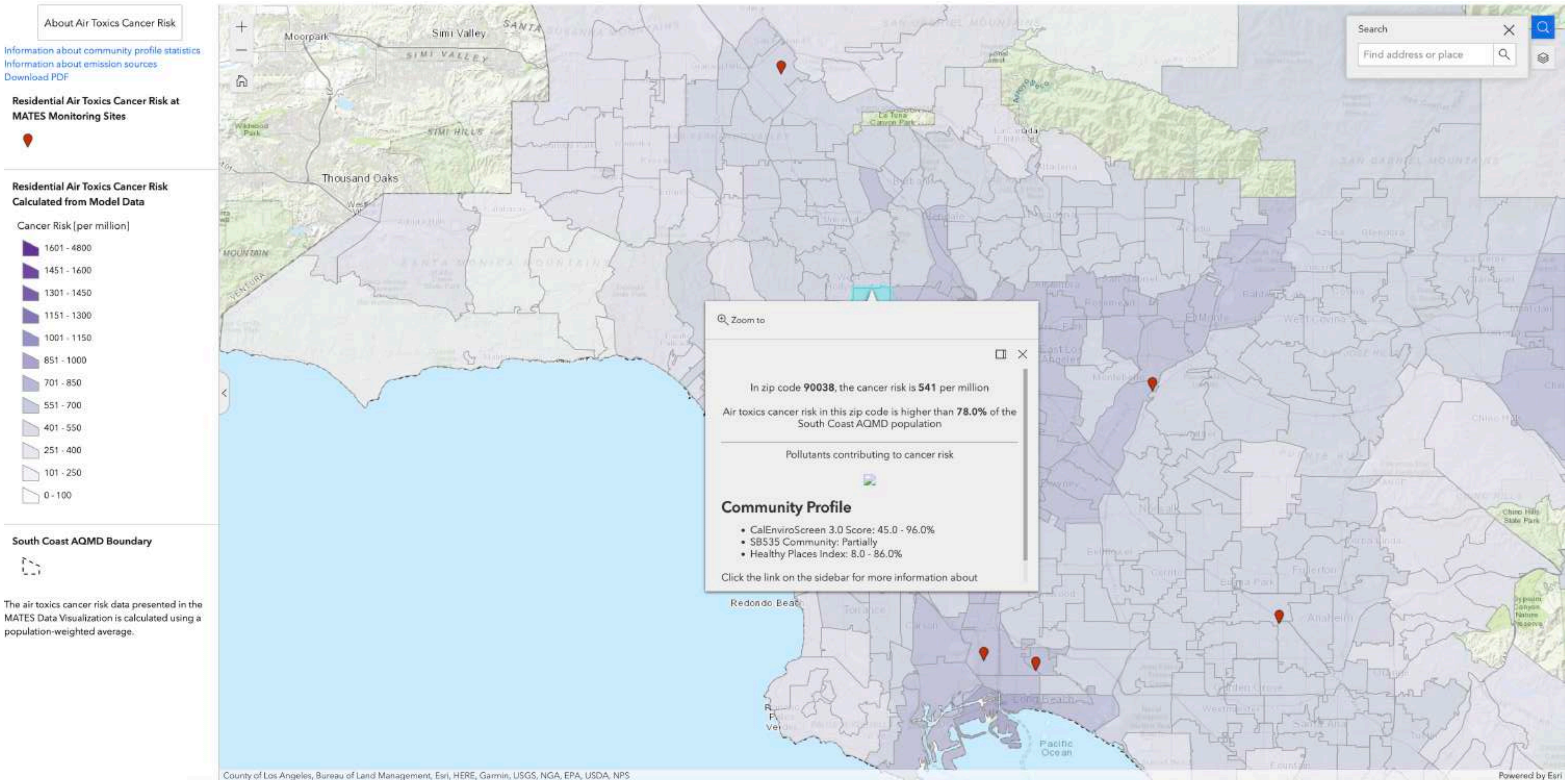
MATES V TOXIC EMISSIONS OVERVIEW


About Air Toxics Cancer Risk
Information about community profile statistics
Information about emission sources
Download PDF
Residential Air Toxics Cancer Risk at MATES Monitoring Sites
Residential Air Toxics Cancer Risk Calculated from Model Data
Cancer Risk [per million]
1601 - 4800
1451 - 1600
1301 - 1450
1151 - 1300
1001 - 1150
851 - 1000
701 - 850
551 - 700
401 - 550
251 - 400
101 - 250
0 - 100
South Coast AQMD Boundary
The air toxics cancer risk data presented in the MATES Data Visualization is calculated using a population-weighted average.
Moorpark
Simi Valley
SIMI VALLEY
SIMI HILLS
Thousand Oaks
SANTA MONICA MOUNTAINS
Search
Find address or place
Zoom to
In zip code **90038**, the cancer risk is **541** per million
Air toxics cancer risk in this zip code is higher than **78.0%** of the South Coast AQMD population
Pollutants contributing to cancer risk
Community Profile
• CalEnviroScreen 3.0 Score: 45.0 - 96.0%
• SB535 Community: Partially
• Healthy Places Index: 8.0 - 86.0%
Click the link on the sidebar for more information about
Redondo Beac
Pacific Ocean
County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS
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CALENVIROSCREEN 4.0 OUTPUT

CalEnviroScreen 4.0

from OEHHA

SB 535 Disadvantaged Communities Map | CalEnviroScreen Website | Indicator Maps | About

The CalEnviroScreen 4.0 tool shows cumulative impacts in California communities by census tract.

How to use this map

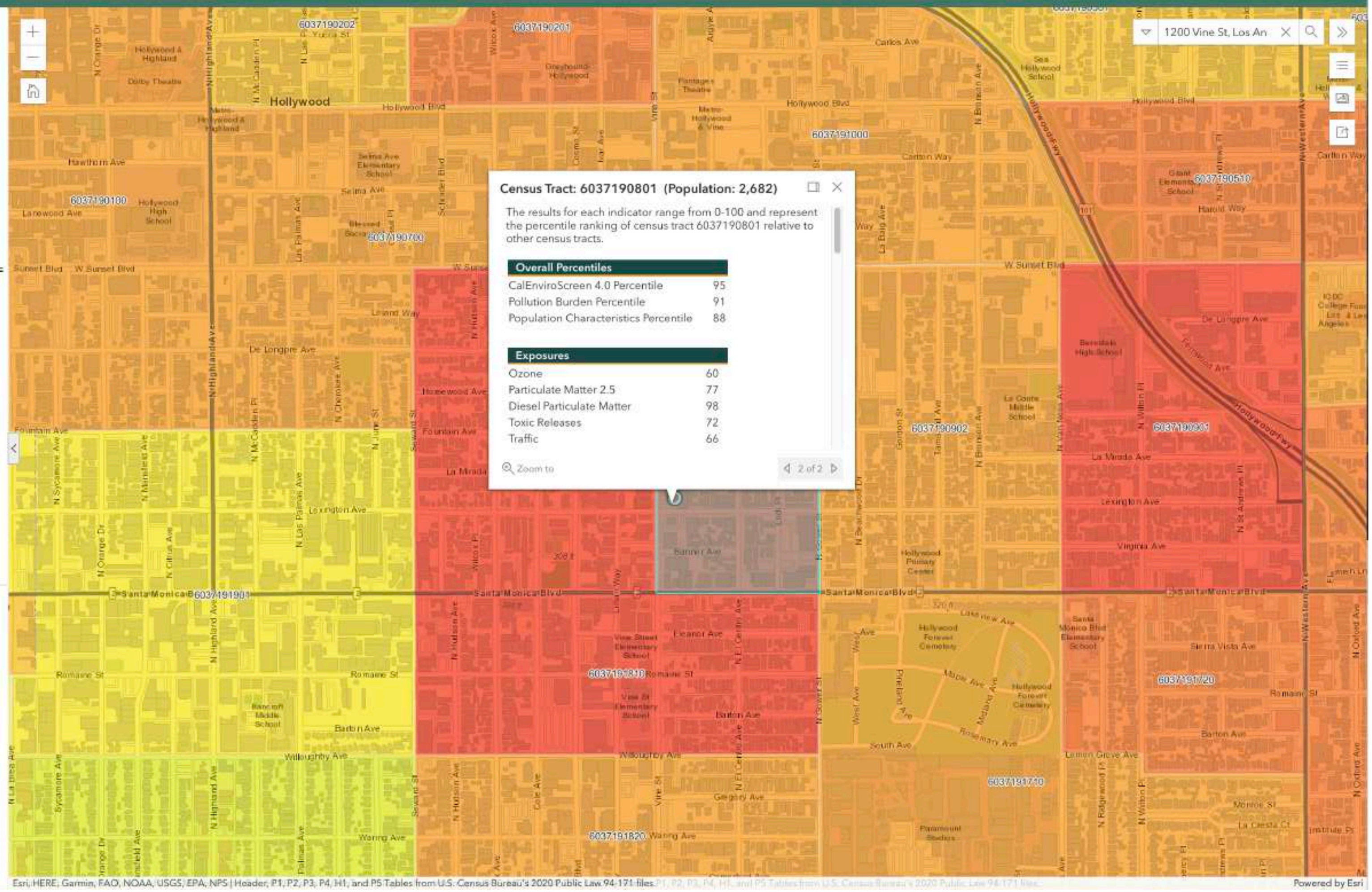
- Use your mouse or touchpad to pan around.
- Zoom in/out with a mouse wheel or the +/- icons.
- Search by location or census tract number with the search icon.
- Click on a census tract to view additional information in the pop-up window.
- Dock the pop-up window to the side of the screen by clicking the dock icon.
- Export a map view that includes the legend and popup using the screenshot widget.
- Learn more about CalEnviroScreen 4.0 and how this map was created here

Overall Percentile

CalEnviroScreen 4.0 Results

- >90 - 100 (Highest Scores)
- >80 - 90
- >70 - 80
- >60 - 70
- >50 - 60
- >40 - 50
- >30 - 40
- >20 - 30
- >10 - 20
- 0 - 10 (Lowest Scores)

CalEnviroScreen 4.0 High Pollution, Low Population



Census Tract: 6037190801 (Population: 2,682)

The results for each indicator range from 0-100 and represent the percentile ranking of census tract 6037190801 relative to other census tracts.

Overall Percentiles	
CalEnviroScreen 4.0 Percentile	95
Pollution Burden Percentile	91
Population Characteristics Percentile	88

Exposures	
Ozone	60
Particulate Matter 2.5	77
Diesel Particulate Matter	98
Toxic Releases	72
Traffic	66

Zoom to   2 of 2

Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS | Header, P1, P2, P3, P4, H1, and P5 Tables from U.S. Census Bureau's 2020 Public Law 94-171 files.

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DEMOLITION ANALYSIS

DouglasKim+Associates, LLC

CONSTRUCTION BUILDING DEBRIS

Materials	Total SF	Height	Cubic Yards	Pounds per Cub	Tons	Truck Capacity (CY)	Truck Trips	Source
Construction and Debris	0	0	-	484	-	10	-	Florida Department of Environmental Protection A Fact Sheet for C&D Debris Facility Operators
General Building	27,011	12	3,962	1,000	1,981	10	792	*Federal Emergency Management Agency, Debris Estimating Field Guide (FEMA 329), September 2010. General Building Formula*
Single Family Residence	-	12	-	1,000	-	10	-	Federal Emergency Management Agency. Debris Estimating Field Guide (FEMA 329), September 2010. Single Family Residence Formula, assumes 1 story, Medium vegetative cover multiplier (1.3)
Multi-Family Residence		12	-	1,000	-	10	-	
Mobile Home				1,000	-	10	-	
Mixed Debris			-	480	-	10	-	Florida Department of Environmental Protection A Fact Sheet for C&D Debris Facility Operators
Vegetative Debris (Hardwoods)			-	500	-	10	-	
Vegetative Debris (Softwoods)			-	333	-	10	-	
Asphalt or concrete (Constructior	16,000	0.5	296	2,400	356	10	59	
TOTAL			4,258		2,336		852	

FUSCOE ENGINEERING

WATER RESOURCES TECHNICAL REPORT

1200 Vine Street

1200 – 1218 N Vine Street
6245 – 6247 W Lexington Avenue
Los Angeles, California 90038

Prepared For

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Date Prepared: October 25, 2022

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Attachment B – Local Storm Drain System Exhibit

Attachment C – Existing On-Site Hydrology

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Attachment H – HydroCalc Hydrology Results for Proposed Site

Attachment I – LA County GIS 85th Percentile Map

1. INTRODUCTION

1.1 PROJECT DESCRIPTION

Vine Street Los Angeles Apartments, LLC (Applicant) is proposing to develop a new mixed-use residential development (Project) on an approximate 0.94-acre site, located at 1200 – 1218 N Vine Street and 6245 – 6247 W Lexington Avenue in the City of Los Angeles. The Project proposes an 8 – story structure with two levels of above ground parking. The Project will include 153 residential units (21 – Studio, 89 – 1 Bedroom, 43 – 2 Bedroom) on six levels of residential housing, 7,000 square feet of high-turnover sit-down restaurant areas, 13,919 square feet of amenity areas (indoor and outdoor open spaces and gym/fitness facility), and parking areas (78 – Residential Spaces, 15 – Commercial Spaces).

The existing Project Site consists of two, 1 – story concrete buildings with the remainder of the site being a paved surface parking lot. There are also existing concrete masonry unit perimeter walls and fencing that run along the entire western, and southern perimeters of the paved parking. Based upon the proposed building program, the existing building structure, foundations, parking lot surface, fencing, walls, gates, and all existing flatwork will need to be demolished. This includes the existing signs, guard post, handrails, ramps, and light fixtures within the parking lot area of the Project Site. The Project will consist of a redevelopment of the existing parking lot and commercial building into a multi-family mixed-use apartment and commercial building.

The project is bounded by a Commercial Development that continues to La Mirada Avenue to the North, Commercial and Residential Developments that continue to El Centro Avenue to the East, Lexington Avenue to the South, and Vine Street to the West.

Project Site: Thomas Grid - Page 593 – Grid F5

1.2 SCOPE OF WORK

As part of the California Environmental Quality Act (CEQA) analysis , this report will examine surface water quality, hydrology, and groundwater in both existing and Project buildout scenarios. The ultimate goal of this report is to determine the capacity of existing utilities to serve the Project area, and to assess any major changes to hydrologic resources that may occur under proposed conditions.

2. REGULATORY FRAMEWORK

2.1 SURFACE WATER HYDROLOGY

County of Los Angeles Hydrology Manual

The Project Site is located within the Ballona Creek Watershed, which covers approximately 130 square miles. The Los Angeles County Flood Control District (LACFCD) is responsible for providing flood protection, water conservation, recreation, and aesthetic enhancement within this entire watershed. The Los Angeles County Flood Control District (LACFCD) is responsible for providing flood protection, water conservation, recreation and aesthetic enhancement within this entire watershed. The Los Angeles County Department of Public Works (LACDPW) developed a Hydrology Manual (January 2006), which establishes the LACDPW hydrologic design procedures based on historic rainfall and runoff data collected within the County. The Project is required to utilize the 2006 Hydrology Manual and accompanying hydrologic tools including the HydroCalc Calculator to calculate existing and proposed discharges and volumes from the Project.

Los Angeles Municipal Code

Any proposed drainage improvements within the street right-of-way or any other property owned by, to be owned by, or under control of the City requires approval through the B-Permit process (Section 62.105, Los Angeles Municipal Code (LAMC)). Through the B-Permit process, storm drain installation plans which include any connections to the City's storm drain system from a property line to a catch basin or storm drainpipe, are subject to review and approval by the City of Los Angeles Department of Public Works, Bureau of Engineering.

2.2 SURFACE WATER QUALITY

Clean Water Act

In 1972, the federal Clean Water Act[1] (CWA) was established, which provided the regulatory framework for surface water quality protection. The United States Congress amended the CWA in 1987 to specifically regulate discharges to waters of the United States from public storm drain systems and storm water flows from industrial facilities, including construction sites, and require such discharges be regulated through permits under the National Pollutant Discharge Elimination System (NPDES).[2] CWA regulation calls for the implementation of Best Management Practices (BMPs) to reduce or prevent the discharge of pollutants from these activities to the Maximum Extent Practicable (MEP) for urban runoff and meeting the Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) standards for construction storm water. Regulations and permits have been implemented at the federal, state, and local level to form a comprehensive regulatory framework to serve and protect the quality of the nation's surface water resources.

The CWA Federal Anti-Degradation Policy [40 Code of Federal Regulations (CFR) Section 131.12] requires states to develop statewide anti-degradation policies and identify methods for implementing them.

---

[1] Also referred to as the Federal Water Pollution Control Act of 1972.
[2] CWA Section 402(p).

Pursuant to the CFR, state anti-degradation policies and implementation methods shall, at a minimum, protect and maintain (1) existing in-stream water uses; (2) existing water quality, where the quality of the water exceeds levels necessary to support existing beneficial uses, unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and (3) water quality in waters considered an outstanding national resource.

Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

As required by the California Water Code (CWC), the LARWQCB has adopted a plan entitled "Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties" (Basin Plan). Specifically, the Basin Plan designates beneficial uses for surface and groundwaters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy, and describes implementation programs to protect all waters in the Los Angeles Region. In addition, the Basin Plan incorporates (by reference) all applicable state and regional board plans and policies and other pertinent water quality policies and regulations. Those of other agencies are referenced in appropriate sections throughout the Basin Plan.

The General Permit for Construction Activities

SWRCB Order No. 2009-0009-DWQ known as the "Construction General Permit" was adopted on September 2, 2009 and was amended by Order No. 2010-0014-DWQ on February 14, 2011 and Order No 2012-0006-DWQ which became effective on July 17, 2012. This NPDES permit establishes a risk-based approach to stormwater control requirements for construction projects by identifying three project risk levels. The main objectives of the General Permit are to:

- Reduce erosion
- Minimize or eliminate sediment in stormwater discharges
- Prevent materials used at a construction site from contacting stormwater
- Implement a sampling and analysis program
- Eliminate unauthorized non-stormwater discharges from construction sites
- Implement appropriate measures to reduce potential impacts on waterways both during and after construction of projects
- Establish maintenance commitments on post-construction pollution control measures

California mandates requirements for all construction activities disturbing more than one acre of land to develop and implement Stormwater Pollution Prevention Plans (SWPPPs). The SWPPP documents the selection and implementation of BMPs for a specific construction project, charging owners with stormwater quality management responsibilities. A construction site subject to the General Permit must prepare and implement a SWPPP that meets the requirements of the General Permit.

As part of the Project, preparation, and implementation of a SWPPP will not be required, as the Project Site is under one acre (lot area is 0.936 acres).

Los Angeles County Municipal Storm Water System (MS4) Permit

As described above, USEPA regulations require that MS4 permittees implement a program to monitor and control pollutants being discharged to the municipal system from both industrial and commercial projects that contribute a substantial pollutant load to the MS4. On December 13, 2001, the NPDES

Permit or MS4 permit were adopted for municipal stormwater and urban runoff discharges within Los Angeles County, covering 84 cities and most of the unincorporated areas of Los Angeles County. The requirements of this Order (the "Permit") cover 84 cities and most of the unincorporated areas of Los Angeles County. Under the Permit, LACFCD is designated as the Principal Permittee. The 84 Los Angeles County cities (including the City of Los Angeles) and unincorporated areas within Los Angeles County are the "Co-Permittees". The Principal Permittee helps to facilitate activities necessary to comply with the requirements outlined in the Permit but is not responsible for ensuring compliance of any of the Permittees.

Since adoption of Order No. 01-182, the LARWQCB has adopted Order No. R4-2012-0175, as amended by State Water Board Order WQ 2015-0075 NPDES Permit No. CAS004001 on November 8, 2012. This current permit continues to serve as guiding documentation for the region while a new permit is developed. As a Co-Permittee, the City of Los Angeles is subject to the requirements set forth in Order No. R4-2012-0175, as amended by State Water Board Order WQ 2015-0075, NPDES Permit No. CAS004001.

Los Angeles Municipal Code

Section 64.70 of LAMC sets forth the City's Stormwater and Urban Runoff Pollution Control Ordinance. The ordinance prohibits the discharge of the following items into any storm drain systems:

- Any liquids, solids, or gasses which by reason of their nature or quantity are flammable, reactive, explosive, corrosive, or radioactive, or by interaction with other materials could result in fire, explosion or injury.
- Any solid or viscous materials, which could cause obstruction to the flow or operation of the storm drain system.
- Any pollutant that injures or constitutes a hazard to human, animal, plant or fish life, or creates a public nuisance.
- Any noxious or malodorous liquid, gas, or solid in sufficient quantity, either singly or by interaction with other materials, which creates a public nuisance, hazard to life, or inhibits authorized entry of any person into the storm drain system.
- Any medical, infectious, toxic or hazardous material or waste.

Earthwork activities, including grading, are overseen by the Los Angeles Building Code, which is contained in LAMC, Chapter IX, Article 1. Section 91.7013 contains regulations pertaining to erosion control and drainage devices and Section 91.7014 provide requirements for flood, mudflow protection and general construction requirements.

Low Impact Development

LID is a stormwater strategy that is used to mitigate the impacts of runoff and stormwater pollution as close to its source as possible. Urban runoff discharged may contain pollutants such as trash and debris, bacteria and viruses, oil and grease, sediments, nutrients, metals, and toxic chemicals that can negatively affect the ocean, rivers, plant and animal life, and public health. LID encompasses a set of site design approaches and BMPs that are designed to address runoff and pollution at the source. These LID practices can effectively remove nutrients, bacteria, and metals, while reducing the volume and intensity of stormwater flows.

The Project is subject to runoff mitigation in a manner that captures or treats rainwater at its source, while utilizing natural resources. Stormwater runoff shall either be infiltrated, evapotranspired, captured and used, or treated through high removal efficiency BMPs, onsite, through stormwater management techniques that comply with provisions of the City of Los Angeles Planning and Land Development Handbook for Low Impact Development (May 2016). The LARWQCB has a BMP Hierarchy in which the project must follow when selecting the type or types of BMPs to be constructed on site. The following isthe BMP Hierarchy, per Order No. R4-2012-0175 as amended by Order WQ 2015-0075 NPDES NO. CAS004001:

1. On-site infiltration,
2. On-site bioretention and/or harvest and use,
3. On-site biofiltration, off-site ground water replenishment, and/or off-site retrofit

Hydromodification

In addition to the LID requirements listed in the MS4 Permit, the Permit also addresses requirements for Hydromodification as pertaining to the project. Per Part VI.D.7.c.iv of the Permit:

> Each Permittee shall require all New Development and Redevelopment projects located within natural drainage systems as described in Part VI.D.7.c.iv.(1)(a)(iii) to implement hydrologic control measures, to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems. The purpose of the hydrologic controls is to minimize changes in post-development hydrologic storm water runoff discharge rates, velocities, and duration. This shall be achieved by maintaining the project's pre-project stormwater runoff flow rates and durations.

However, per Part VI.D.7.c.iv.(1)(b)(iv) of the Permit, the Project is exempt from such requirements as runoff from the Project Site is discharged directly via storm drain to a receiving water that is not susceptible to hydromodification impacts. Specifically, the Project Site discharges via storm drain into Ballona Creek, which is categorized as not susceptible to hydromodification. Therefore, the Project is not required to implement hydrologic control measures as mitigation for hydromodification impacts. In addition, implementation of the Project will result in a reduction of peak flows and volumes as compared to existing conditions, thereby satisfying hydromodification requirements in addition to the receiving water exemption.

Ballona Creek Watershed Enhanced Watershed Management Program

The County of Los Angeles, the City of Los Angeles and all other cities in the Los Angeles Watershed are responsible for the implementation of watershed improvement plans or Enhanced Watershed Management Programs (EWMP) to improve water quality and assist in meeting the Total Maximum Daily Load (TMDL) milestones. An EWMP for the Ballona Creek Watershed was approved on April 20, 2016 (BC EWMP, January 2016), prepared with the City of Los Angeles as the lead coordinating agency, is in the process of review by the LARWQCB. The objective of the EWMP Plan is to determine the network of control measures (often referred to as best management practices [BMPs]) that will achieve required pollutant reductions while also providing multiple benefits to the community and leveraging sustainable green infrastructure practices (BC
EWMP, January 2016).

The EWMP identifies a toolbox of distributed and regional watershed control measures to address applicable stormwater quality regulations including the following:

- LID at the individual parcels
- Green Streets features within the public right-of-way and privately maintained streets

- Regional projects that retain and treat runoff from large upstream areas
- Institutional control measures to prevent transport of pollutants in the watershed

The Project Site, located in the Ballona Creek watershed, falls within the BC EWMP and ultimately discharges into the Ballona Creek Estuary. The BC EWMP does not identify any regional BMP projects in the vicinity of the Project. Therefore, LID BMP's will be implemented at the individual parcels associated with the Project to meet the local MS4 Permit requirements and remain consistent with the objectives of the BC EWMP.

2.3 GROUNDWATER

California Groundwater Sustainability Act

On Sept. 16, 2014, California Governor Jerry Brown signed into law a three-bill legislative package, known as the Sustainable Groundwater Management Act of 2014 (SGMA). The SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for state intervention only if necessary, to protect the resource.

The SGMA requires the formation of local groundwater sustainability agencies (GSAs) that must assess conditions in their local water basins and adopt locally based management plans. The act provides substantial time – 20 years – for GSAs to implement plans and achieve long-term groundwater sustainability. It protects existing surface water and groundwater rights and does not impact current drought response measures.

The California Water Commission (CWC) requires a statewide prioritization of California's groundwater basins using the following eight criteria:

1. Overlying population;
2. Projected growth of overlying population;
3. Public supply wells;
4. Total wells;
5. Overlying irrigated acreage;
6. Reliance on groundwater as the primary source of water;
7. Impacts on the groundwater—including overdraft, subsidence, saline intrusion, and other water quality degradation;
8. Any other information determined to be relevant by the Department.

The Project Site is not located within a high priority California Statewide Groundwater Elevation Monitoring groundwater basin. It is located within the Coastal Plain of Los Angeles Groundwater Basin, in the Hollywood Subbasin, which currently does not have any California Statewide Groundwater Elevation Monitoring System wells. The subbasin is under the Los Angeles GSA, but there are currently no GSPs which include this location.[3,4] GSAs responsible for high-and medium-priority basins must adopt groundwater sustainability plans within five to seven years. Plans must include a physical description of the basin, including groundwater levels, groundwater quality, subsidence, information on

[3] https://sgma.water.ca.gov/portal/gsa/all
[4] https://sgma.water.ca.gov/portal/gsp/status

groundwater-surface water interaction, data on historical and projected water demands and supplies, monitoring and management provisions, and a description of how the plan will affect other plans, including city and county general plans. Plans will be evaluated every five years.

Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

As required by the CWC, the LARWQCB has adopted a plan entitled "Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties" (Basin Plan). Specifically, the Basin Plan designates beneficial uses for surface and groundwaters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy and describes implementation programs to protect all waters in the Los Angeles Region. In addition, the Basin Plan incorporates (by reference) all applicable state and regional board plans and policies and other pertinent water quality policies and regulations. Those of other agencies are referenced in appropriate sections throughout the Basin Plan.

The Basin Plan is a resource for the LARWQCB and others who use water and/or discharge wastewater in the Los Angeles Region. Other agencies and organizations involved in environmental permitting and resource management activities also use the Basin Plan. Finally, the Basin Plan provides valuable information to the public about local water quality issues.

3. ENVIRONMENTAL SETTING

3.1 SURFACE WATER HYDROLOGY

3.1.1 REGIONAL

The Project Site is located within the Ballona Creek Watershed, which covers approximately 130 square miles. The watershed includes the cities of Beverly Hills, West Hollywood, portions of the cities of Los Angeles, Culver City, Inglewood and Santa Monica, unincorporated areas of Los Angeles County, and areas under the jurisdiction of Caltrans. Ballona Creek flows as an open channel for just under 10 miles from mid-Los Angeles (south of Hancock Park) through Culver City, reaching the Pacific Ocean at Playa del Rey (Marina del Rey Harbor). Ballona Creek watershed is highly developed with 49% of the watershed covered by impervious surfaces.

Major tributaries of Ballona Creek include Centinela Creek, Sepulveda Channel and Benedict Canyon Channel. The Project falls within the Ballona Creek Watershed (See **Attachment A – Ballona Creek Watershed Map**) for a map of the watershed.

3.1.2 LOCAL

Stormwater runoff is collected from the Project Site and conveyed through an offsite storm drain facility along Vine Street, with excess stormwater flowing further down to El Centro Avenue. Existing city records per NavigateLA, and per a Project Site visitation, indicate that there is one (1) existing 7-foot diameter storm drain in Vine St resides west of the Project. The storm drain on Vine Street is owned and maintained by the City of Los Angeles. This 84-inch (7-foot) main line in Vine Street flows in a southwesterly direction and discharges into Ballona Creek Reach 1.

There are two (2) existing catch basins at the southwest corner of the project site, the intersection between Vine Street and Lexington Avenue (one on each respective street). Excess flows from Vine Street and along Lexington Avenue discharge towards these catch basins. The two catch basins connect to the 84-inch storm drain pipe along Vine Street through a 12-inch storm drain pipe, which ultimately flow south. These drains eventually discharge into Ballona Creek Reach 1 (See **Attachment B – Local Storm Drain System Exhibit**).

All the stormwater runoff from the Project Site, which is within Ballona Creek watershed, is discharged into Ballona Creek Reach 1 which makes its way to the Ballona Creek Estuary and ultimately into the Pacific Ocean. Ballona Creek Reach 1 is approximately 2 miles long, spanning from Cochran Avenue to National Boulevard and covering areas above National Boulevard. It includes the Los Angeles neighborhoods of West Hollywood and portions of other cities of Los Angeles County.

3.1.3 ON SITE

The existing Project Site consists of one (1) retail/commercial structure with the remainder of the site being mostly paved as a surface parking lot. Stormwater runoff is collected and conveyed on all adjacent streets, Vine Street and Lexington Avenue fronting the Project Site, on the westerly and southerly edges of the project, respectively. The parking area sheet flows down sloped drive aisles and gravity flow into a catch basin along the easterly edge of Vine Street, or to the catch basin along Lexington Avenue. There is no known drain located in the parking lot area. The city owned 12-inch storm drain line from the catch basins on Vine Street and Lexington Avenue connect and discharge into a city owned 84-inch main line in Vine Street. The existing drainage pattern and existing hydrology of the Project Site have been mapped out (See **Attachment C – Existing On-Site Hydrology Map**).

Table 1 provides the 10-year, 25-year, and 50-year storm frequency analysis for the Project Site's existing conditions, using the post-dedication acreage. The existing imperviousness was obtained from Appendix D (Proportion Impervious Data) of the LACDPW Hydrology Manual (2006).

Hydrology analysis was conducted at the Project Site to determine any increases in peak flows during the 10-year, 25-year, and 50-year storm event in the existing and proposed conditions. See **Table 1** below for the existing conditions hydrology analysis results. Output hydrology calculations are provided (See **Attachment C – HydroCalc Hydrology Results for Existing Site**). The existing hydrology calculations were based on the gross area of the existing project site, which includes any dedications and or easements within the property. For an analysis comparing existing peak flows to proposed peak flows refer to Section 4.2.1.

Table 1 – Existing Drainage Conditions

Drainage Area	Area (acres)	% Imperviousness	Q10 (cfs)	Q25 (cfs)	Q50 (cfs)
A-1 (Vine Street)	0.33	100	0.68	0.91	1.04
A-2 (Vine Street)	0.44	97.3	0.89	1.10	1.25
A-3 (Lexington Avenue)	0.28	100	0.63	0.77	0.88
TOTAL	**1.01**	**99.1**	**2.20**	**2.78**	**3.17**

Under existing conditions, the Project Site discharges southerly into Lexington Avenue and westerly into Vine Street. The Vine Street runoff (Drainage Area A-1 and A-2) discharges into a 3.5-foot wide curbside catch basin approximately 15-feet west of the project site. The Lexington Avenue runoff (Drainage Area A-3) discharges into a a 3.5-foot wide curbside catch basins approximately 12-feet south of the project site. A portion of the project runoff from the Project Site is captured by the catch basin located along Lexington Avenue and a majority of the project site flows into Vine Street which both converge into a catch basin along Vine Street. These runoff values were calculated using the gross area of the project site as the pervious areas were both inside and outside the project's property line.

The total amount of runoff produced from the Drainage Area A-1 during 10-year, 25-year, and 50-year storm events are 0.68 cfs, 0.91 cfs, and 1.04 cfs respectively. The total amount of runoff produced from the Drainage Area A-2 during 10-year, 25-year, and 50-year storm events are 0.89 cfs, 1.10 cfs, and 1.25 cfs respectively. The total amount of runoff produced from the Drainage Area A-3 during 10-year, 25-year, and 50-year storm events are 0.63 cfs, 0.77 cfs, and 0.88 cfs respectively. The gross area was used to calculate the runoff values in the existing conditions to compare the pervious areas more conservatively against the proposed conditions. Using the net area of the project site would produce a lower pervious area, creating a greater increase in pervious areas when compared to proposed conditions. This would result in a greater reduction of runoff when comparing existing versus proposed, in favor of the proposed Project. There are no known existing storm drain deficiencies or capacity issues within the storm drains that collect runoff from the Project Site. The Stormwater Division has mentioned that if the project is reducing the stormwater runoff, the City of Los Angeles does not anticipate conflicts. There are no known existing storm drain deficiencies or capacity issues within the storm drains that collect runoff from the Project Site. If the Project is reducing the stormwater runoff, the City does not anticipate any conflicts.

3.1.4 FEMA

According to the Federal According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) No. 06037C1605F, dated September 26, 2008, the Project Site is located within Zone X outside of the 0.2% chance of flooding. Zone X depicts areas determined to be outside the 0.2% (500-year) annual chance floodplain. Therefore, the processing of a letter of map revision or conditional letter of map revision (LOMR/CLOMR) through FEMA will not be required for the Project (See **Attachment E – FEMA Floodplain Map**).

3.2 SURFACE WATER QUALITY

3.2.1 REGIONAL

As described above, the Project Site is located within the Ballona Creek watershed. This portion of the watershed drains directly into Reach 1 of the Ballona Creek. Ballona Creek Reach 1 is an impaired portion of the Ballona Creek and primarily includes the Los Angeles neighborhoods of West Hollywood and other portions of other cities of Los Angeles County. Ballona Creek consists of a concrete channel, with the water generally restricted to a central low-flow channel.

3.2.1.1 Beneficial Uses in Ballona Creek Reach 1/Ballona Creek Watershed

Beneficial uses exist for Ballona Creek Reach 1. The existing and potential beneficial uses for the waters within the Ballona Creek Reach 1, where the majority of surface water flows from the Project ultimately discharge are described below.

Table 2 – Beneficial Uses

Beneficial Uses, Ballona Creek Reach 1	
MUN** - Municipal and Domestic Supply	**WILD*** - Wildlife Habitat
REC1** - Water Contact Recreation	**REC2*** - Non-Contact Water Recreation
WARM** - Warm Freshwater Habitat	
Notes: * Existing beneficial use ** Potential beneficial use Source: Los Angeles Regional Water Quality Control Board Beneficial Use Table, found here: http://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/Beneficial_Uses/ch2/Revised%20Beneficial%20Use%20Tables.pdf	

See the source note in Table 2 for a table containing beneficial uses for all reaches of the Ballona Creek Reach 1 that the Project ultimately discharges into downstream.

3.2.1.2 Impairments and TMDL's in Ballona Creek Reach 1/Ballona Creek Watershed

CWA 303(d) List of Water Quality Limited Segments

Under Section 303(d) of the CWA, states are required to identify water bodies that do not meet their water quality standards. Biennially, the LARWQCB prepares a list of impaired waterbodies in the region, referred to as the 303(d) list. The 303(d) list outlines the impaired waterbody and the specific pollutant(s) for which it is impaired. All waterbodies on the 303(d) list are subject to the development of total maximum daily loads (TMDL).

Table 3 – 303(d) Impairments

Water Body	303(d) Impairment
Ballona Creek	Copper, Cyanide, Indicator Bacteria, Lead, Toxicity, Trash, Viruses (enteric), Zinc
Ballona Creek Estuary	PCBs (Polychlorinated biphenyls), Zinc, Chlordane, Indicator Bacteria, DDT (Dichlorodiphenyltrichloroethane), Cadmium, PAHs (Polycyclic Aromatic Hydrocarbons), Silver, Toxicity, Copper, Lead
Santa Monica Bay Offshore/Nearshore	Arsenic, DDT, Mercury, PCBs, Trash
Notes: Source: 2020 - 2022 California Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report), found here: https://www.waterboards.ca.gov/water_issues/programs/tmdl/2020_2022state_ir_reports_revised_final/apx-c-catreports/category5_report.shtml	

The proposed capture and use BMPs for the project shall adequately treat any additional source of pollutants associated with the project. With the implemented BMPs, the additional pollutants will be treated and will not have a significant effect on the downstream receiving waters.

Total Maximum Daily Loads (TMDLs)

Once a water body has been listed as impaired on the 303(d) list, a TMDL for the constituent of concern (pollutant) must be developed for that water body. A TMDL is an estimate of the daily load of pollutants that a water body may receive from point sources, non-point sources, and natural background conditions (including an appropriate margin of safety), without exceeding its water quality standard. Those facilities and activities that are discharging into the water body, collectively, must not exceed the TMDL. In general terms, municipal, small MS4, and other dischargers within each watershed are collectively responsible for meeting the required reductions and other TMDL requirements by the assigned deadline. TMDLs for water bodies tributary to the Project Site are listed in Table 4.

Table 4 – Total Maximum Daily Loads

Water Body	303(d) Impairment
Ballona Creek	Copper, Cyanide, Indicator Bacteria, Lead, Toxicity, Trash, Viruses (enteric), Zinc
Ballona Creek Estuary	PCBs, Zinc, Chlordane, Indicator Bacteria, DDT, Cadmium, PAHs, Silver, Toxicity, Copper, Lead
Santa Monica Bay Offshore/Nearshore	DDT, PCBs, Trash
Notes: Source: 2020 - 2022 California Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report), found here: https://www.waterboards.ca.gov/rwqcb5/water_issues/tmdl/impaired_waters_list/	

3.2.2 LOCAL

Within the urban environment of the Project, stormwater runoff occurs during and shortly after rain events. The volume of runoff depends on the intensity and duration of the storm event and the imperviousness of the drainage area. Typical urban pollutants associated with stormwater runoff following rain events includes sediment, trash, bacteria, metals, nutrients, and potentially organics and pesticides. The source of contaminants is wide ranging and includes all areas where rainfall occurs along with atmospheric deposition. Therefore, sources of contaminants within urban areas include roadways, building tops, parking lots, landscape areas and maintenance areas.

To reduce contaminant loads from entering the storm drain system, the City conducts routine street cleaning operations as well as periodic cleaning and maintenance of the catch basins to reduce stormwater pollution within the storm drain system. The City also installs catch basin screens to reduce trash from entering the catch basins.

3.2.3 ON SITE

Under existing conditions, the Project Site is commercial, with associated parking areas. Based on visual inspection, water quality treatment control BMP's are not currently present at the Project Site. Stormwater leaves the Project Site via an existing catch basin, existing drains, roof drains which penetrate the finished surface, or exits onto adjacent streets and remains untreated. Ultimately flows discharge into curbside inlets on southernly edge Lexington Avenue or the westerly edge of Vine Street where it gets picked up by the public storm drain system. Anticipated pollutants consistent with parking lots, building areas and landscaping include total suspended solids (TSS), oil/grease, heavy metals, nutrients, pesticides and trash.

3.3 GROUNDWATER

3.3.1 REGIONAL

The City of Los Angeles overlies the Los Angeles Coastal Plain Groundwater Basin (Basin) which consists of four major subbasins: Hollywood, Santa Monica, Central and West Coast. Replenishment of the Basin occurs primarily through percolation of rainfall throughout the watershed via permeable surfaces, spreading grounds, and groundwater migration from adjacent basins. Injection wells are also used to pump freshwater along specific seawater barriers to prevent the intrusion of salt water. Groundwater within the Basin generally flows in a south and southwesterly direction.

3.3.2 LOCAL

The Project Site is located within the Hollywood subbasin, which underlies along the northeastern part of the Los Angeles Coastal Plain Groundwater Basin. This subbasin reside in the Los Angeles GSA, which does not currently have a GSP for the basin. The subbasin is bounded on the north by Santa Monica Mountains and the Hollywood fault, on the east by the Elysian Hills, on the west by the Inglewood fault zone, and on the south by the La Brea High, formed by an anticline that brings impermeable rocks close to the surface. Groundwater in the Hollywood Subbasin is mainly produced from Pleistocene age alluvial sands and gravels.[5]

According to the California Department of Water Resources, the annual precipitation throughout the Hollywood subbasin ranges from 12 to 14 inches with an average of around 13 inches. The Hollywood subbasin has a surface area of 10,500 acres and a groundwater storage capacity of approximately 200,000 acre/feet.[6] Historically, groundwater flow is generally westward through the subbasin toward the Inglewood fault. Recharge of the Hollywood Subbasin occurs primarily by percolation of precipitation and stream flow from the higher areas to the north. Subsurface inflow may take place to a limited extent from underflow through fractured rock of the Santa Monica Mountains and potentially from underflow around the La Brea High.

3.3.3 ON SITE

As noted by Geotechnologies, Incs' geotechnical report for the Project dated December 9, 2021, the California Geological Survey Seismic Hazard Evaluation Report 026 Plate 1.2 entitled "Historically Highest Ground Water Contours" indicates that the historically high groundwater level in the area is approximately 37 feet below the ground surface. Groundwater was encountered at depths between 20 and 21.5 feet below the ambient site grade in exploratory excavations.

The closest neighboring active monitoring wells to the project site is Well Number 2671A with a groundwater depth of 22 ft and a water surface elevation of 261.60 ft (recorded 01.24.2022), located approximately 0.6 miles southeast of the project site.

There is not a high potential for contaminated soils to be encountered, but if the contaminated soils are found within the excavation limits, contaminated soils would be collected within the excavated material, removed from the Project Site, and disposed of in accordance with all applicable regulatory requirements.

[5] California's Groundwater, Bulletin 118. Department of Water Resources. February 2004.
[6] California's Groundwater, Bulletin 118. Department of Water Resources. February 2004.

4. PROJECT METHODOLOGY AND IMPLEMENTATIONS

4.1 CONSTRUCTION

4.1.1 SURFACE WATER HYDROLOGY AND QUALITY

Implementation of the Project would result in construction activities that includes demolition of the existing buildings and parking areas on-site and over-excavation of existing soils. It is anticipated that the Project would result in the import of 0 cubic yards and the excavation of approximately 10,000 cubic yards of soil. The excavated materials will be hauled via the nearby 101 Freeway with the ultimate destination at the Azusa Land Reclamation CO. Landfill in the City of Azusa.

Construction activities have the potential to temporarily alter the existing drainage patterns of the Project Site and also increase the permeability of the site based on increased pervious surface coverage during construction. Exposed pervious surfaces also have the potential for erosion, scour, and increased sediment and associated pollutants discharging from the Project Site during construction activities. The main pollutant of concern during construction is typically sediment and soil particles that discharge off-site due to wind, rain, and construction patterns. In the event exceedances of receiving water quality objectives are observed, measures must be taken and documented within the SWPPP to improve discharge water quality and runoff effluent. This may include but not be limited to increasing the size of existing BMPs, adding more BMPs to the drainage area, additional filtering, and/or a reduction in active grading area.

Construction Best Management Practices (BMPs)

Prior to commencement of construction activities, the General Permit requires the following Permit Registration documents:

- Notice of Intent (NOI);
- Risk Assessment (Standard or Site-Specific);
- Particle Size Analysis (if site-specific risk assessment is performed);
- Site Map;
- SWPPP;
- Annual Fee & Certification.

Prior to commencement of construction activities, the General Permit requires the Project SWPPP to be prepared in accordance with the site-specific information including grading limits, BMP's for each phase, schedule and sediment risk analyses. In accordance with the General Permit, the construction SWPPP must be made available for review upon request, shall describe construction BMPs that address pollutant source reduction, and provide measures/controls necessary to mitigate potential pollutant sources. These measures/controls include, but are not limited to: erosion controls, sediment controls, tracking controls, non-storm water management, materials & waste management, and good housekeeping practices including the following:

- Erosion control BMPs, such as hydraulic mulch, soil binders, and geotextiles and mats, protect the soil surface by covering and/or binding the soil particles. Temporary earth dikes or drainage swales may also be employed to divert runoff away from exposed areas and into more suitable locations. If implemented correctly, erosion controls can effectively reduce the sediment loads entrained in storm water runoff from construction sites.

- Sediment controls are designed to intercept and filter out soil particles that have been detached and transported by the force of water. Storm drain inlets on the Project Site or within the project vicinity (i.e., along streets immediately adjacent to the project boundary) should be adequately protected with an impoundment (i.e., gravel bags) around the inlet and equipped with a sediment filter (i.e., fiber roll). Bags should also be placed around areas of soil disturbing activities, such as grading or clearing.
- Stabilize construction entrance/exit points to reduce the tracking of sediments onto adjacent streets. Wind erosion controls should be employed in conjunction with tracking controls.
- Non-storm water management BMPs prohibit the discharge of materials other than storm water, as well as reduce the potential for pollutants from discharging at their source. Examples include avoiding paving and grinding operations during the rainy season (i.e., October 1 through April 30 each year) where feasible, and performing any vehicle equipment cleaning, fueling and maintenance in designated areas that are adequately protected and contained.
- Waste management consists of implementing procedural and structural BMPs for collecting, handling, storing and disposing of wastes generated by a construction project to prevent the release of waste materials into storm water discharges.

The applicant is not required by the City to provide a Notice of Intent, WDID issued from the SWRCB, or SWPPP to ensure the potential for soil erosion and construction are minimized, due to the Project disturbing less than one (1) acre of land (lot area is 0.936 acres)..

The phases of construction will define the maximum amount of soil disturbed, the appropriately sized sediment basins, and other control measures to accommodate all active soil disturbance areas and the appropriate monitoring and sampling plans.

Potential Surface Water Hydrology and Quality Impacts

Through compliance with the General Permit including implementation of BMPs appropriate for each major phase of construction, and compliance with applicable City grading regulations, construction of the Project would not cause flooding, substantially increase or decrease the amount of surface water in a water body, or result in a permanent, adverse change to flow direction. The construction of the Project would also not result in discharges that would cause: (1) pollution that would impact the quality of waters of the state to a degree which negatively impacts beneficial uses of the waters; (2) contamination of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of diseases; or (3) nuisance that would be injurious to health, affect an entire community or neighborhood or any considerable number of persons, and occurs during or as a result of the treatment or disposal of wastes. Lastly, construction of the Project would not result in discharges that would cause regulatory impacts within Ballona Creek. Therefore, it is anticipated that surface water hydrology and water quality during construction will be properly accounted for. Additionally, effects to surface water hydrology and water quality during construction would therefore be less than significant.

4.1.2 GROUNDWATER HYDROLOGY

Construction of the Project is not anticipated to impact any water supply wells, as no water supply wells are located at or within half a mile downstream of the Project and the Project will not include the construction of any water supply wells. Construction of the Project is not anticipated to impact any water supply wells, as no active water supply wells are located at or within half a mile downstream of the Project and the Project will not include the construction of any water supply wells. Construction of the Project will include excavation depths of approximately 5 to 7 feet bgs in some of the elevated areas. Based on Geotechnologies' Geotechnical Report (December 9, 2021), the historical high groundwater level in the area is 37 feet bgs. Groundwater was encountered during exploration with boring samples explored between 20 ft and 21.5 ft below grade. Since most of the structure will be above a surface elevation of 311 to 316 feet (based on ALTA surface elevations, dated 10/21/2021), it is not expected that groundwater would be encountered during construction that would require temporary or permanent dewatering operations. In the event perched groundwater is encountered, the Project would be required to obtain a temporary dewatering permit from the City of Los Angeles. If dewatering were to occur on the site, the water quality must first be assessed, and the California State Warning Center (CSWC) should be contacted for assistance. Depending on the quality of water and with the CSWC's assistance, the dewatered water may be managed within this project site, discharged to a sanitary sewer, transported for off-site treatment, used at a separate facility, used on adjacent land, or additional BMPs may be required and the treated water would be discharged into a storm drain or nearing water body. Accordingly, construction of the Project will not adversely impact the rate or direction of flow of groundwater, and the Project potential impacts on groundwater hydrology during construction have been taken into consideration.

4.1.3 GROUNDWATER QUALITY

The significance of the Project Site as it relates to the condition of the underlying groundwater table included a review of the following existing considerations:

- Identification of the Hollywood Subbasin as the underlying groundwater basin, and description of the level, quality, direction of flow, and existing uses for the groundwater
- Description of the location, existing uses, production capacity, quality and other pertinent data for spreading grounds and potable water wells in the vicinity (typically within a one-mile radius);

The analysis of the Project's impacts on groundwater conditions included a review of the following proposed considerations:

- Description of the rate, duration, location and quantity of extraction, dewatering, spreading, injection or other activities;
- The projected reduction in groundwater resources and any existing wells in the vicinity (typically within one-mile radius); and
- The projected change in local or regional groundwater flow patterns.

In addition, short-term groundwater quality impacts regarding soils and shallow groundwater exposure to construction materials, wastes, and spilled materials will be accounted for and the site will deploy proper housekeeping measures.

As previously noted above, construction of the Project will include excavation of approximately 5 to 7 feet bgs. The Project will also result in a net export of existing soil material. There is not a high potential for contaminated soils or groundwater to be encountered, but if contaminated soils are found within the excavation limits, contaminated soils would be collected within the excavated material, removed from the Project Site, and disposed of in accordance with all applicable regulatory requirements.

During on-site grading and building activities, minimal amounts of hazardous materials such as fuels, paints, solvents, and concrete additives could be used, and the presence of such materials provides an opportunity for hazardous materials to be released into groundwater. To protect groundwater resources, the Project will comply with applicable federal, state and local requirements related to the handling, storage, application and disposal of hazardous waste which will reduce the potential for construction activities of the Project to release contaminants into groundwater that could affect existing contamination, mobilize or increase the level of groundwater contamination, or cause a violation of regulatory water quality standards at an existing production well. Therefore, groundwater contamination through hazardous materials releases, and impacts on groundwater quality have been taken into consideration, and should have no issues.

4.2 OPERATION

4.2.1 SURFACE WATER HYDROLOGY

In December 3, 1999, the City of Los Angeles issued Special Order No. 007-1299 which adopted the Los Angeles County Department of Public Works' Hydrology Manual to be used for hydrology studies within the City of Los Angeles. According to the County's Hydrology Manual, the Project is required to have drainage facilities that meet the Urban Flood level of protection, which is equivalent to runoff from a 25-year frequency design storm falling on a saturated watershed. A 25-year frequency design storm has a probability of 1/25 of being equaled or exceeded in any year.

In addition to the 25-year storm event, 10- and 50- year storm frequency analyses have been conducted for flood hazard and changes in the amount or movement of surface water.

This study was prepared using HydroCalc 1.0.2 software in conformance with the County's Hydrology Manual (2006). The HydroCalc program uses the Modified Rational Method to calculate the required time of concentration and designed flowrates for 10-, 25- and 50-year storm events. The peak runoff for a drainage area is calculated using the formula Q= CIA, where:

- Q= flowrate (cfs)
- C= runoff coefficient (unit less)
- I=rainfall intensity (in/hr)
- A= basin area (acres)

The HydroCalc calculator is supported by the County's online GIS system. This database is used to locate the Project Site's 85th percentile and 50-year isohyetal rainfall frequency as well as relevant soil type. The data collected is then used in the HydroCalc program to calculate peak stormwater runoff values.

Development of the Project would result in an increase in the landscaped areas throughout the Project Site and would increase the impervious surfaces from 99.1 percent to 85.3 percent. This increase in pervious surfaces would result in maintaining in stormwater runoff. The proposed drainage pattern and proposed hydrology of the Project Site have been mapped out (See **Attachment G – Proposed On-Site Hydrology Map**).

See Table 5 for the proposed conditions hydrology analysis results. Output hydrology calculations are provided (See **Attachment H – HydroCalc Hydrology Results for Proposed Site**). Table 5 below provides an analysis of a 10-year, 25-year and 50-year frequency design storm events following construction of the Project. For an analysis comparing existing peak flows to proposed peak flows refer to Table 6.

Table 5 – Proposed Drainage Conditions

Drainage Area	Area (acres)	% Imperviousness	Q10 (cfs)	Q25 (cfs)	Q50 (cfs)
A-1 (Vine Street)	0.93	85.3	2.05	2.53	2.90

Table 5 provides a comparison of the existing and proposed peak flows for the 10-year, 25-year and 50-year storm events. These values provide the basis for the LID design. The above analysis includes the assumption that less landscaped area shall be added within the property, thereby decreasing the pervious area of the Project Site. As shown in Table 5, the decrease in the permeable surfaces on the Project site would result in similar flows under a 10-year storm, under a 25-year storm, as well as under a 50-year storm event.

Table 6 – Existing vs. Proposed Drainage Conditions

Drainage Area Condition	Area (acres)	Q10 (cfs)	Q25 (cfs)	Q50 (cfs)
Existing	1.01	2.20	2.78	3.17
Proposed	0.93	2.05	2.53	2.90
Difference	-0.08	-0.15	-0.23	-0.27
% Change from Existing to Proposed Conditions	-7.9%	-6.8%	-8.9%	-8.5%

The above analysis includes the assumption that more landscaped area shall be added within the property, thereby increasing the pervious area of the Project site. As shown in Table 6, the increase in permeable surfaces on the Project Site would result in a reduction of flows under the 25-year storm and 50-year storm events for the Project.

Based on the above, operation of the Project would not result in flooding, impact of the capacity of the existing storm drain system, or worsen an existing flood condition. In addition, the Project would not substantially reduce or increase the amount of surface water in the local water body or result in a permanent adverse change in the drainage system. As flow are predicted to decrease, it is not anticipated that any deficiencies will be created or exacerbated by the Project on the existing open catch basins and the main 84-inch storm drain line on Vine Street. The capacity of the storm drain facilities, which the Project contributes to, will not be adversely impacted by the proposed change in flows. Therefore, operation of the Project should result in a less than significant effect on surface water hydrology.

4.2.2 SURFACE WATER QUALITY

Stormwater runoff from the Project has the potential to discharge pollutants into the City and County storm drain system. Anticipated pollutants and typical source of the pollutants are listed in Table 7.

Table 7 – Potential Pollutants

Potential Pollutants	Source of Pollutants
Sediment	Parking lots, driveways, building rooftops, landscape areas, road
Nutrients	Landscape areas, lawns
Pesticides	Landscape areas, lawns
Pathogens	Landscape areas, lawns, building rooftops
Trash/Debris	Parking lots, driveways, roadways, parks
Oil/Grease	Parking lots, driveways, roadways
Metals	Parking lots, driveways, roadways

To meet the local MS4 Permit and LID requirements consistent with the City's LID Ordinance and LID Manual (May 9, 2016), stormwater management strategies will be implemented throughout the Project Site. Capture and use design features will be implemented to meet the local LID requirements.

Based on Geotechnologies' Geotechnical Report (December 9, 2021), infiltration is not recommended. It is deemed infeasible due to the proposed structure, poor infiltration capabilities of the soils found within the project site, and groundwater table conditions, mentioned previously. A capture and use feasibility screening was performed following the criteria in the City of Los Angeles Low Impact Development (LID) Manual. After analyzing the landscaping type and coverage (approximately 10% pervious) and the Estimated Total Water Use (ETWU) at the Project Site, it was determined that capture and use BMPs may be feasible and may be designed and maintained to ensure adequate capacity to capture and disperse the stormwater design volume within the allotted time for capture.

The Project will comply with the City's LID Manual,[7] which requires that post-construction stormwater runoff from new developments be infiltrated, evapotranspirated, captured and reused, and/or treated through a high efficiency BMP onsite for the 85th percentile storm event or 0.75"—whichever is greater. For the Project, the 85th percentile storm event is 0.98". The LID Manual states that BMPs shall be designed to manage and capture stormwater runoff. Infiltration systems are the first priority type of BMP improvements as they provide for percolation and infiltration of the stormwater into the ground, which not only reduces the volume of stormwater runoff entering the MS4 but also contributes to groundwater recharge in some areas. The second priority BMP is capturing and reusing stormwater onsite for either landscape irrigation or toilet flushing. Projects that cannot infiltrate or harvest/reuse the water quality volume may implement biofiltration BMPs. Biofiltration BMPs shall be sized to adequately capture 1.5 times the volume not managed through infiltration and/or capture and reuse. The project will develop a LID plan to be submitted to the City as part of the final engineering of the project to satisfy water quality requirements of the Project Site. Infiltration will be implemented if feasible, otherwise capture and use will be assessed. If capture/use is infeasible, biotreatment BMPs will be implemented.

The existing Project Site has no known structural or LID BMPs to treat stormwater. Therefore, implementation of the LID features proposed as part of the Project would result in a significant

[7] Planning and Land Development Handbook for Low Impact Development, Part B Planning Activities, 5th Edition; adopted by the City of Los Angeles, Board of Public Works on May 9, 2016.

improvement in surface water quality runoff as compared to existing conditions. Implementation of the proposed BMP system will result in the treatment of the entire required volume for the Project Site and the elimination of pollutant runoff up to the 85th percentile storm event.

Based on the proposed LID plan, operation of the Project would not result in discharges that would cause: an incremental increase in pollution which would alter the quality of the waters of the state (Ballona Creek) to a degree which unreasonably affects beneficial uses of the waters; (2) an incremental increase of contamination of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of diseases; or (3) an incremental increase in the nuisance that would be injurious to health; affect an entire community or neighborhood, or any considerable numbers of persons; and occurs during or as a result of the treatment or disposal of wastes. Lastly, operation of the Project would not result in discharges that would cause regulatory standards to be violated in the Ballona Creek. Thus, the Project's operational effects on surface water quality would be less than significant.

4.2.3 GROUNDWATER HYDROLOGY

Under the proposed conditions, regional and local potable water levels and adjacent wells or well fields will not be impacted by the Project. The Project does not include any groundwater pumping and relies on the LADWP for water. In addition, the Project is not anticipated to adversely change the rate of direction of flow of groundwater. Implementation of the Project would also result in an increase in pervious areas over the existing conditions. The increase in pervious areas would improve the groundwater recharge capacity of the Project Site over existing conditions. Since the Project is anticipated to implement LID BMPs to treat the required volume of runoff, the Project shall improve the existing groundwater hydrology. The Project's LID BMP design is for capture and reuse, treated runoff is stored within a cistern, and if to be utilized within the 7-month wet season period (October to April). Therefore, operational effects to groundwater hydrology are considered less than significant.

4.2.4 GROUNDWATER QUALITY

The SWRCB's Geotracker website indicates there are no significant sources of soil or groundwater pollution within the project area. The proposed LID BMP systems are designed to safely convey stormwater runoff into the sub-surface soil without the threat of contaminant mobilization, and will assist in improving the groundwater quality. Based on the design of the Project's capture and use system utilizing the stored stormwater for irrigation, operational effects to groundwater quality are considered less than significant.

5. CONCLUSIONS

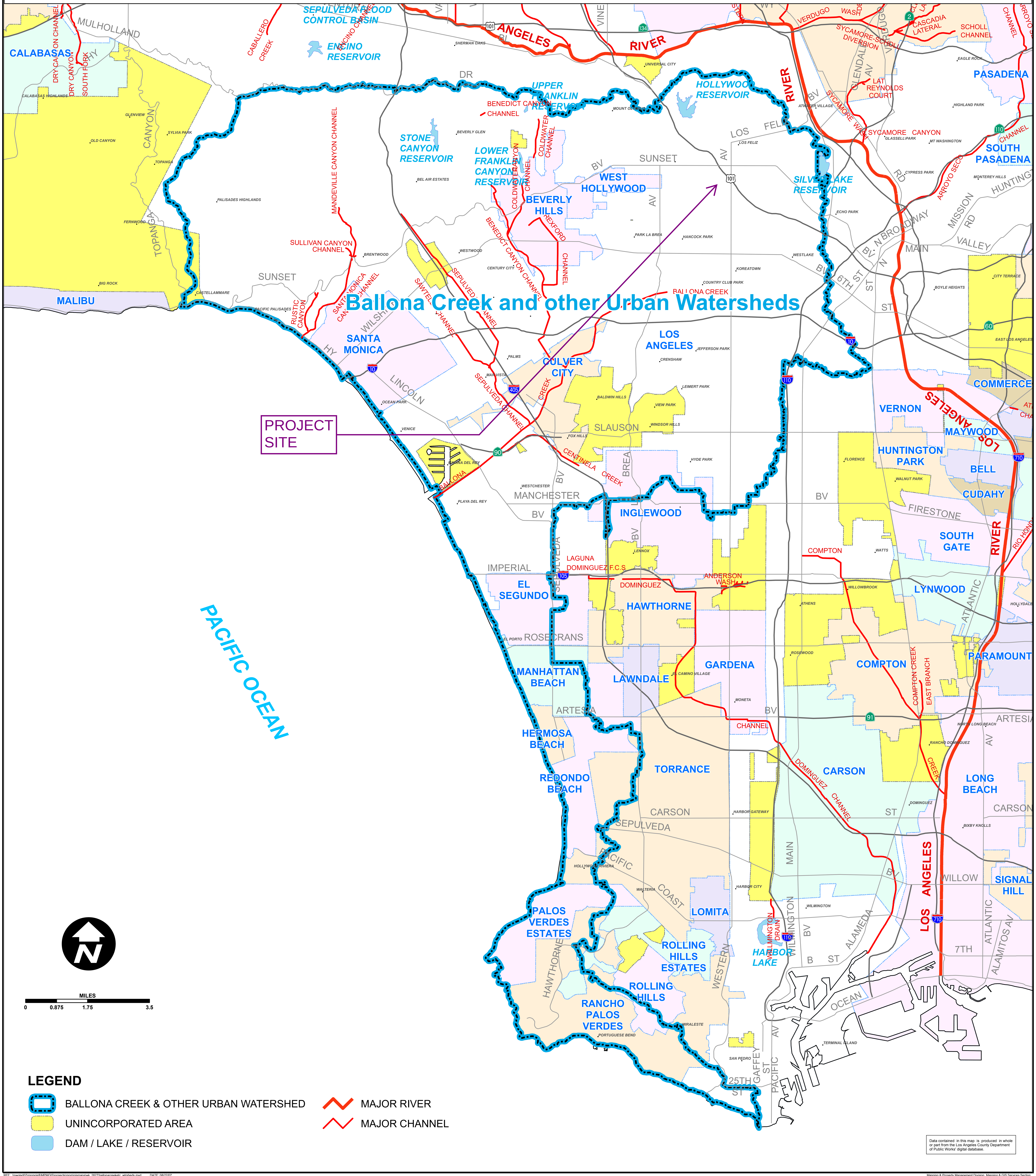
The proposed Project will implement best management practices and will maximize landscaping in order to minimize effects to hydrology and surface water and groundwater quality. Under buildout conditions, flows are anticipated to remain similar or decrease and to be efficiently treated through LID treatment technologies. Based on the analysis contained in this report, less than significant effects have been identified for surface water hydrology, surface water quality, or groundwater for this project.

ATTACHMENT A

BALLONA CREEK WATERSHED MAP

COUNTY OF LOS ANGELES

BALLONA CREEK & OTHER URBAN WATERSHEDS



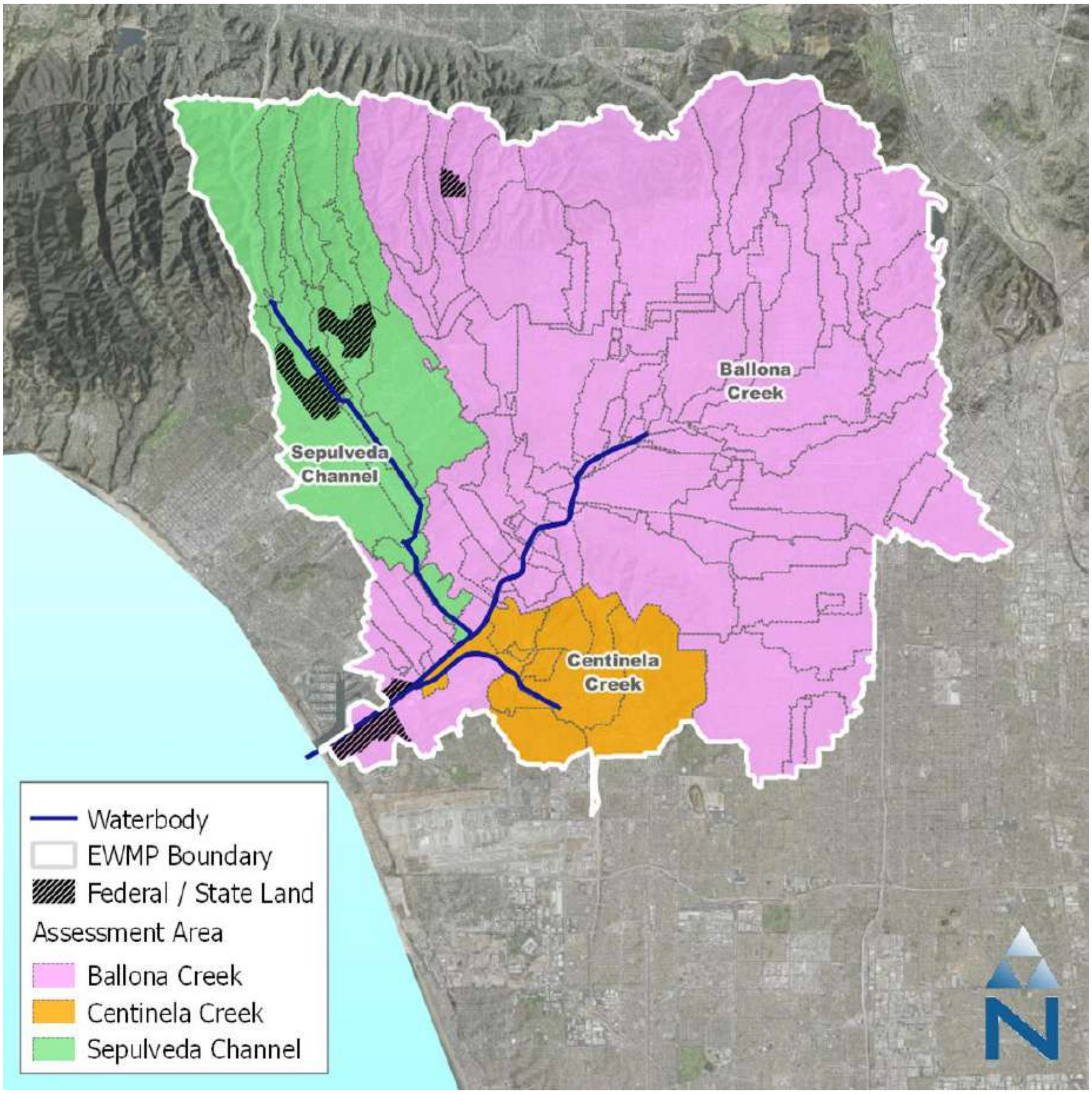


Figure 6-1 BCWMA and 180 Subwatersheds Represented by WMMS

6.1.2 SUSTAIN

SUSTAIN was developed by the USEPA to support practitioners in developing cost-effective management plans for municipal stormwater programs and evaluating and selecting BMPs to achieve water quality goals (USEPA, 2009; http://www2.epa.gov/water-research/system-urban-stormwater-treatment-and-analysis-integration-sustain). SUSTAIN was specifically developed as a decision-support system for selection and placement of BMPs at strategic locations in urban watersheds (see Figure 6-2). It includes a process-based continuous simulation BMP module for representing flow and pollutant transport routing through various types of structural BMPs. This simulation provides the *primary application* of SUSTAIN – simulating the performance of selected stormwater control measures.

ATTACHMENT B

LOCAL STORM DRAIN SYSTEM EXHIBIT

18175

2

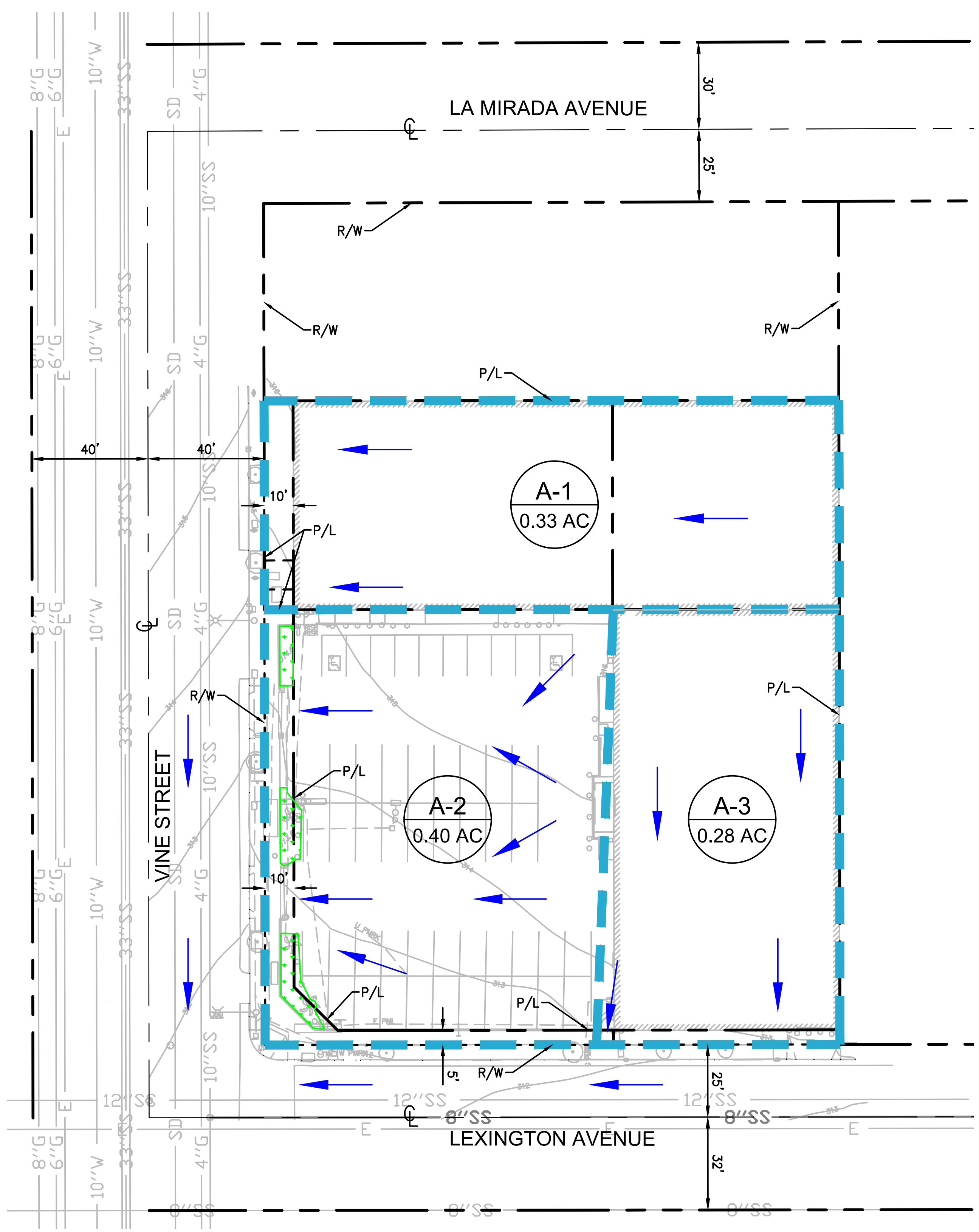
18175

Ground Line
7'-0" x 7'-0" MONOLITHIC CONCRETE
Details Hereon
S=.01099
7'-0" x 5'-9" MONOLITHIC CONCRETE
Details Hereon
S=.01897
ELEANOR AVENUE
SANTA MONICA BOULEVARD
BANNER AVENUE
LEXINGTON AVENUE
LA MIRADA AVENUE
Sanitary Sewer
Between These Stations Section Shall Vary Uniformly
Note: For method of construction; Pour base slab between limits of construction joint. Cast top arch and side walls monolithic.
CROSS SECTION OF
MONOLITHIC CONCRETE SEWER
7'-0" WIDE BY 7'-0" HIGH INSIDE
FOR USE BETWEEN STATIONS
46+14.17 AND 33+72.45 --- 35+36.38 AND 32+73.96
CROSS SECTION OF
MONOLITHIC CONCRETE SEWER
7'-0" WIDE BY 5'-9" HIGH INSIDE
FOR USE BETWEEN STATIONS
52+64.06 AND 46+14.17
Slope 1" per foot
Construction Joint
VINE
STREET
VINE STREET
Remove existing Culvert in Santa Monica Boulevard at East Side of Vine St.
Note: Existing Culvert Shown in Dotted Lines
72/12/48 Zandt Carpet Co. 1122 Vine St. Prop. 12" V.C. Pipe connection from roof drains and parking lot. Mr. Kirkin, Stiles-Clements
Referred him to Hollywood District office for permit when contractor is ready for work. GMZ
Standard Junction Chamber No. 1 - Plan No. 26890
Elev. Inlets - 298.50
Elev. Outlet - 298.00
Fit with Catch Basin No. 23
Manhole Cover - Standard Plan No. 26944
PROJECT SITE
Hollywood Per. No. 4326
1218 N. Vine St. Car Wash Drain 4" V.C.P.
5' Deep @ ℄
Completed 11-15-56
18475
18475

3

ATTACHMENT C

EXISTING ON-SITE HYDROLOGY



EXISTING HYDROLOGY MAP

1200 VINE STREET
LOS ANGELES, CA 90038

LEGEND & ABBREVIATIONS:

	DRAINAGE AREA LIMIT
AC	ACRE
CFS	CUBIC FEET PER SECOND
SF	SQUARE FEET
P/L	PROPERTY LINE
R/W	RIGHT OF WAY
	FLOW DIRECTION
X	SUB-AREA ID
X.XX	ACREAGE
	PERVIOUS AREA

EXISTING HYDROLOGY CALCULATIONS							
SUBAREA ID	TOTAL AREA (SF/AC)	IMPERVIOUS AREA (SF/AC)	PERVIOUS AREA (SF/AC)	IMPERVIOUS %	Q10 (CFS)	Q25 (CFS)	Q50 (CFS)
A-1	14,256/0.33	14,256/0.33	0	100	0.68	0.91	1.04
A-2	17,575/0.40	17,098/0.39	477/0.01	97.3	0.89	1.10	1.25
A-3	12,125/0.28	12,125/0.28	0	100	0.63	0.77	0.88
TOTAL	43,956/1.01	43,479/1.00	477/0.01	99.1	2.20	2.78	3.17

NOTE:

SOIL TYPE – 6
50TH YR RAINFALL DEPTH – 5.85 IN
85TH PERCENTILE, RAINFALL DEPTH – 0.98 IN

CACLUATIONS BASED ON GROSS AREA

N

50' 0' 25' 50'
SCALE: 1" = 50'

FUSCOE
ENGINEERING
600 Wilshire Blvd., Suite 1470, Los Angeles, California 90017
tel 213.988.8802 ∘ fax 213.988.8803 ∘ www.fuscoe.com

ATTACHMENT D

HYDROCALC HYDROLOGY RESULTS FOR EXISTING SITE

Peak Flow Hydrologic Analysis

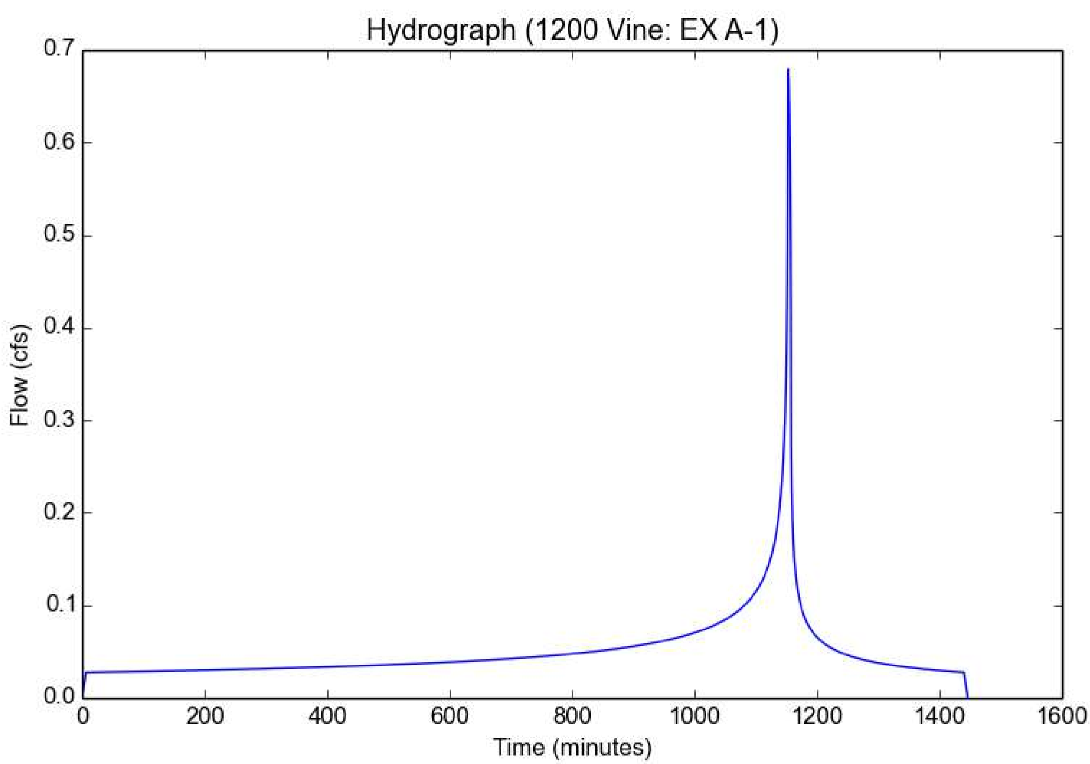
File location: F:/Projects/4103/001/_Support Files/Reports/Hydrology/Existing HydroCalc/1200 Vine - EX A-1 - 10yr.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1200 Vine
Subarea ID	EX A-1
Area (ac)	0.33
Flow Path Length (ft)	210.62
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	5.85
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.1769
Peak Intensity (in/hr)	2.2874
Undeveloped Runoff Coefficient (Cu)	0.7638
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	0.6794
Burned Peak Flow Rate (cfs)	0.6794
24-Hr Clear Runoff Volume (ac-ft)	0.1025
24-Hr Clear Runoff Volume (cu-ft)	4465.9435



Peak Flow Hydrologic Analysis

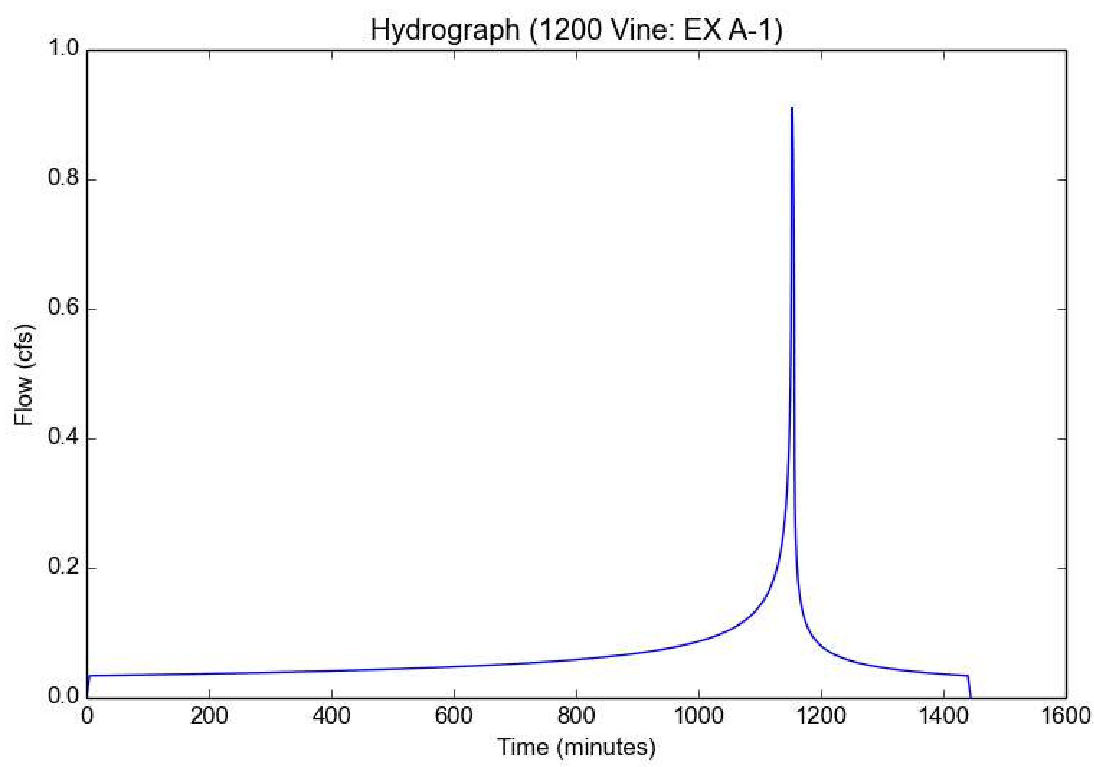
File location: F:/Projects/4103/001/_Support Files/Reports/Hydrology/Existing HydroCalc/1200 Vine - EX A-1 - 25yr.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1200 Vine
Subarea ID	EX A-1
Area (ac)	0.33
Flow Path Length (ft)	210.62
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	5.85
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1363
Peak Intensity (in/hr)	3.0645
Undeveloped Runoff Coefficient (Cu)	0.8268
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.9101
Burned Peak Flow Rate (cfs)	0.9101
24-Hr Clear Runoff Volume (ac-ft)	0.1261
24-Hr Clear Runoff Volume (cu-ft)	5491.7337



Peak Flow Hydrologic Analysis

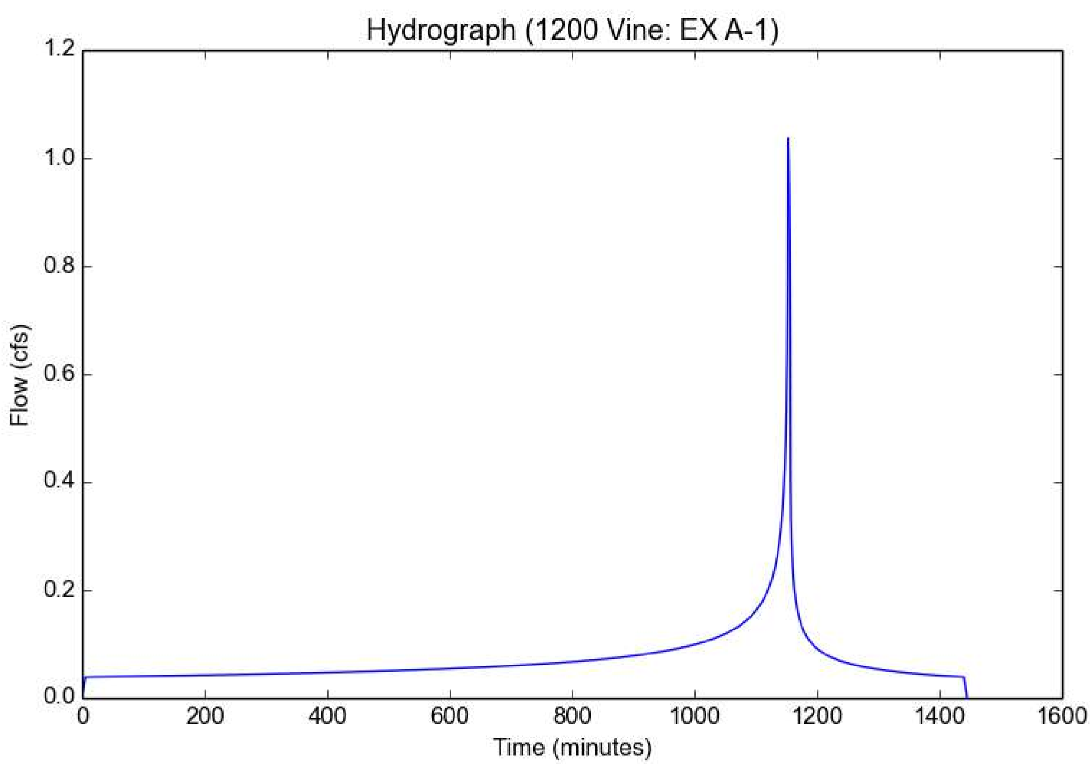
File location: F:/Projects/4103/001/_Support Files/Reports/Hydrology/Existing HydroCalc/1200 Vine - EX A-1 - 50yr.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1200 Vine
Subarea ID	EX A-1
Area (ac)	0.33
Flow Path Length (ft)	210.62
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	5.85
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.85
Peak Intensity (in/hr)	3.4903
Undeveloped Runoff Coefficient (Cu)	0.8567
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.0366
Burned Peak Flow Rate (cfs)	1.0366
24-Hr Clear Runoff Volume (ac-ft)	0.1436
24-Hr Clear Runoff Volume (cu-ft)	6254.822



Peak Flow Hydrologic Analysis

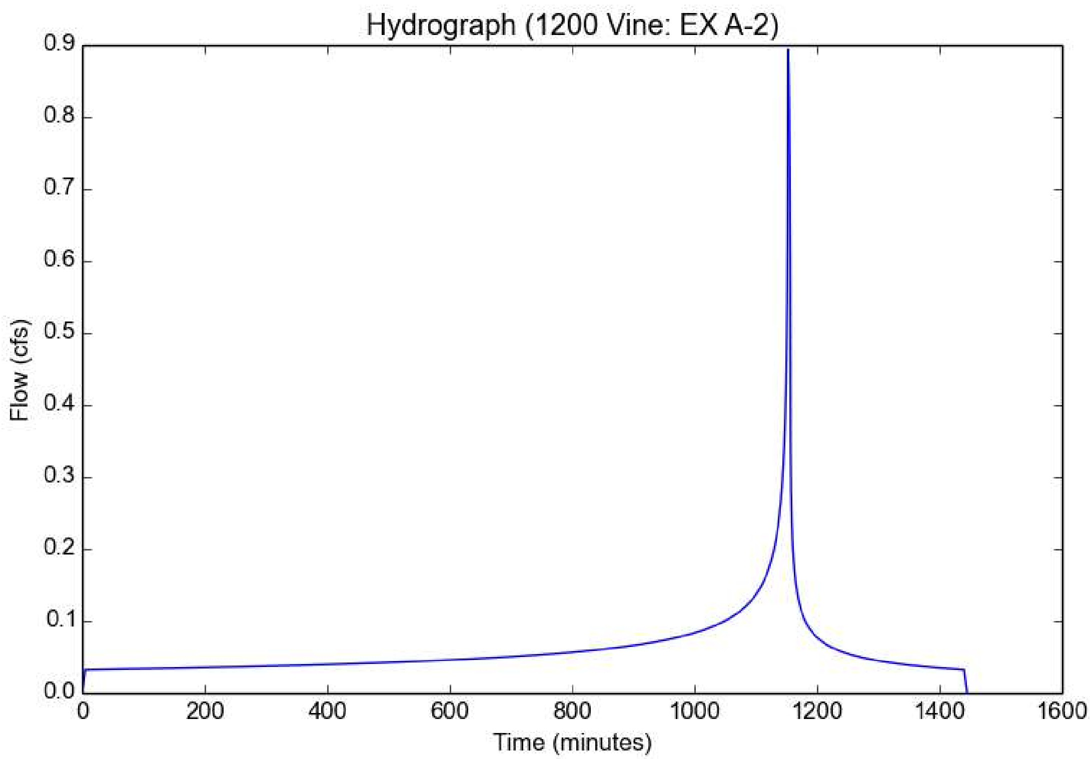
File location: F:/Projects/4103/001/_Support Files/Reports/Hydrology/Existing HydroCalc/1200 Vine - EX A-2 - 10yr.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1200 Vine
Subarea ID	EX A-2
Area (ac)	0.4
Flow Path Length (ft)	126.27
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.85
Percent Impervious	0.973
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.1769
Peak Intensity (in/hr)	2.4921
Undeveloped Runoff Coefficient (Cu)	0.7863
Developed Runoff Coefficient (Cd)	0.8969
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.8941
Burned Peak Flow Rate (cfs)	0.8941
24-Hr Clear Runoff Volume (ac-ft)	0.1216
24-Hr Clear Runoff Volume (cu-ft)	5295.7735



Peak Flow Hydrologic Analysis

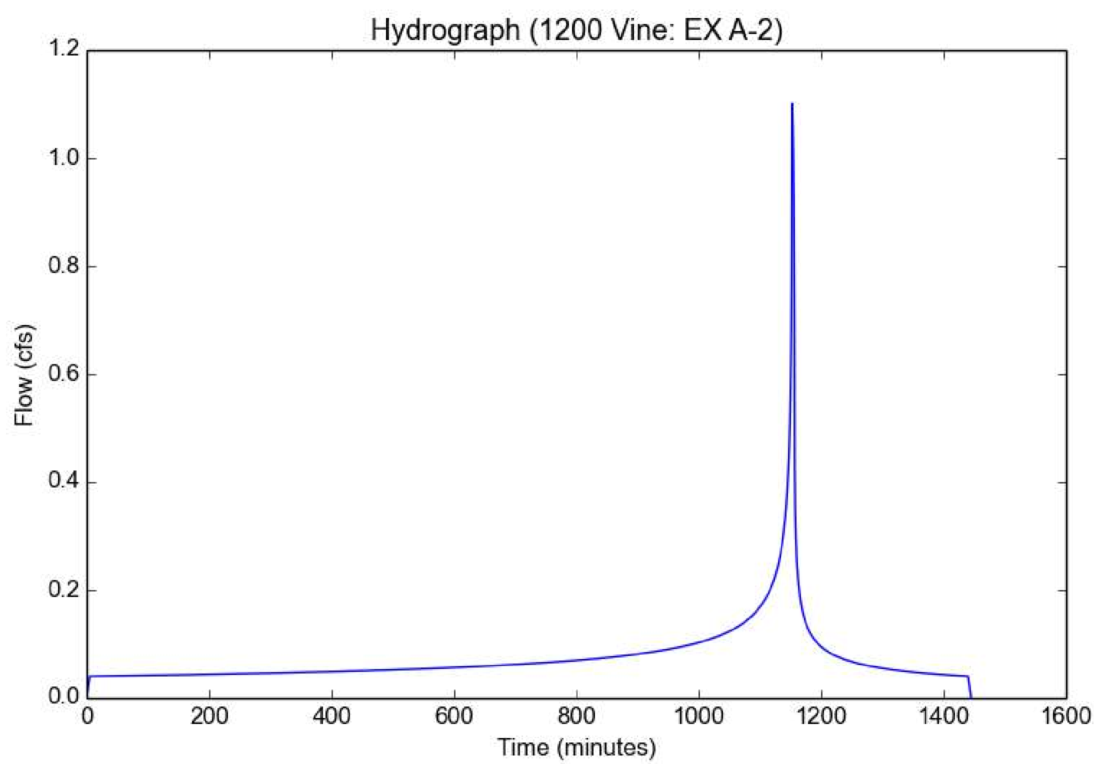
File location: F:/Projects/4103/001/_Support Files/Reports/Hydrology/Existing HydroCalc/1200 Vine - EX A-2 - 25yr.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1200 Vine
Subarea ID	EX A-2
Area (ac)	0.4
Flow Path Length (ft)	126.27
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.85
Percent Impervious	0.973
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1363
Peak Intensity (in/hr)	3.0645
Undeveloped Runoff Coefficient (Cu)	0.8268
Developed Runoff Coefficient (Cd)	0.898
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.1008
Burned Peak Flow Rate (cfs)	1.1008
24-Hr Clear Runoff Volume (ac-ft)	0.1496
24-Hr Clear Runoff Volume (cu-ft)	6516.3303



Peak Flow Hydrologic Analysis

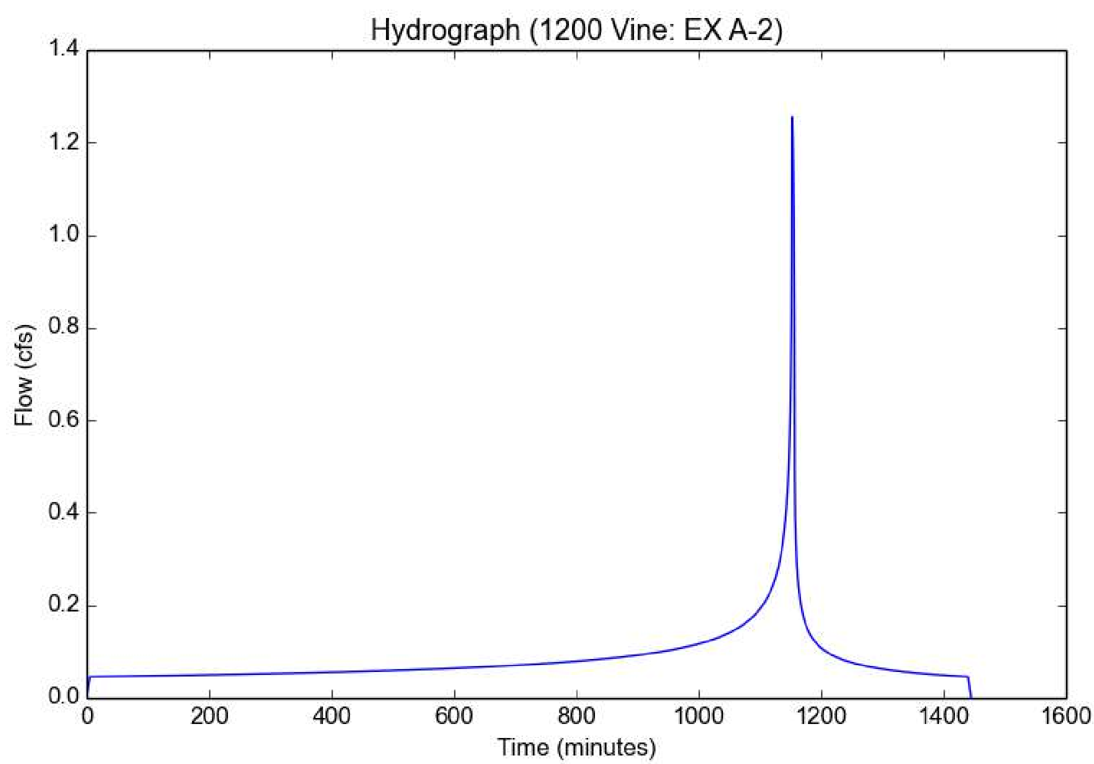
File location: F:/Projects/4103/001/_Support Files/Reports/Hydrology/Existing HydroCalc/1200 Vine - EX A-2 - 50yr.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1200 Vine
Subarea ID	EX A-2
Area (ac)	0.4
Flow Path Length (ft)	126.27
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.85
Percent Impervious	0.973
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.85
Peak Intensity (in/hr)	3.4903
Undeveloped Runoff Coefficient (Cu)	0.8567
Developed Runoff Coefficient (Cd)	0.8988
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.2549
Burned Peak Flow Rate (cfs)	1.2549
24-Hr Clear Runoff Volume (ac-ft)	0.1705
24-Hr Clear Runoff Volume (cu-ft)	7425.4079



Peak Flow Hydrologic Analysis

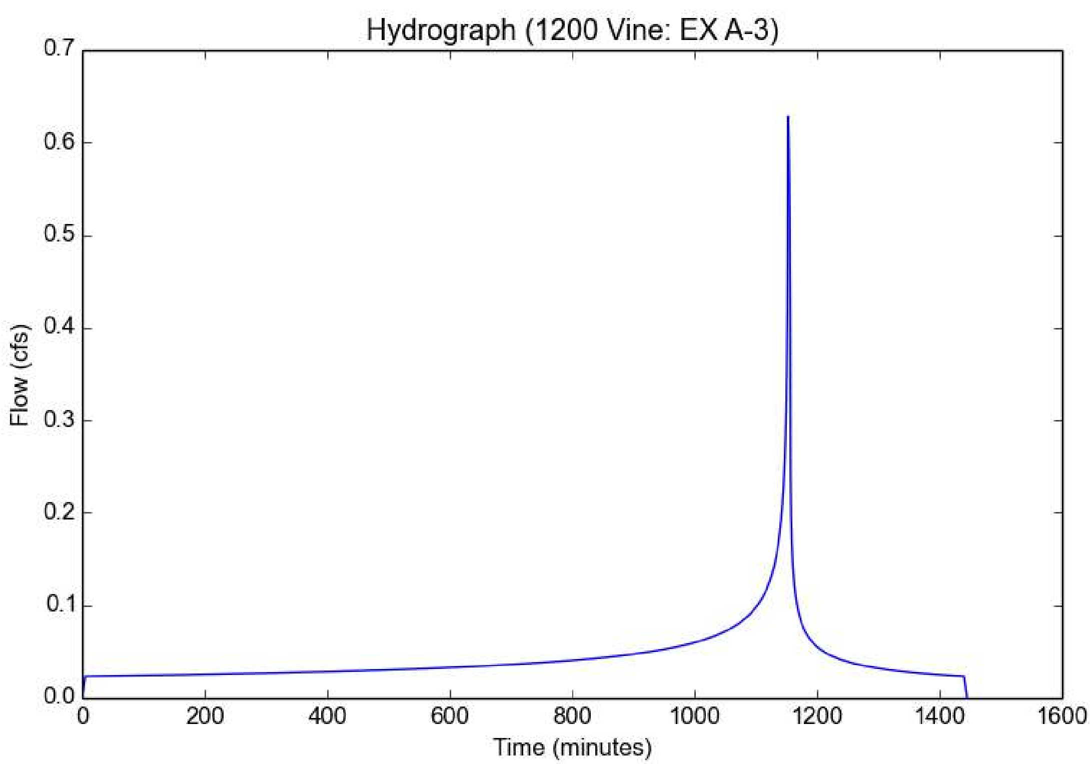
File location: F:/Projects/4103/001/_Support Files/Reports/Hydrology/Existing HydroCalc/1200 Vine - EX A-3 - 10yr.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1200 Vine
Subarea ID	EX A-3
Area (ac)	0.28
Flow Path Length (ft)	163.41
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	5.85
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.1769
Peak Intensity (in/hr)	2.4921
Undeveloped Runoff Coefficient (Cu)	0.7863
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.628
Burned Peak Flow Rate (cfs)	0.628
24-Hr Clear Runoff Volume (ac-ft)	0.087
24-Hr Clear Runoff Volume (cu-ft)	3789.2849



Peak Flow Hydrologic Analysis

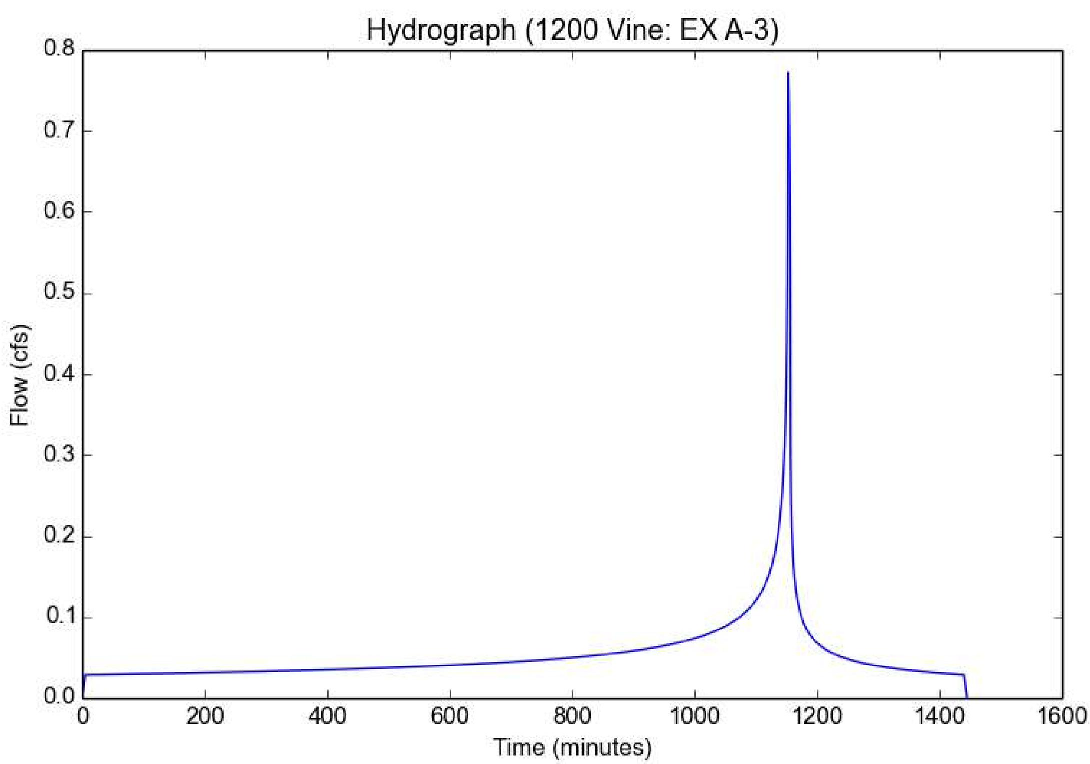
File location: F:/Projects/4103/001/_Support Files/Reports/Hydrology/Existing HydroCalc/1200 Vine - EX A-3 - 25yr.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1200 Vine
Subarea ID	EX A-3
Area (ac)	0.28
Flow Path Length (ft)	163.41
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	5.85
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1363
Peak Intensity (in/hr)	3.0645
Undeveloped Runoff Coefficient (Cu)	0.8268
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.7722
Burned Peak Flow Rate (cfs)	0.7722
24-Hr Clear Runoff Volume (ac-ft)	0.107
24-Hr Clear Runoff Volume (cu-ft)	4659.6528



Peak Flow Hydrologic Analysis

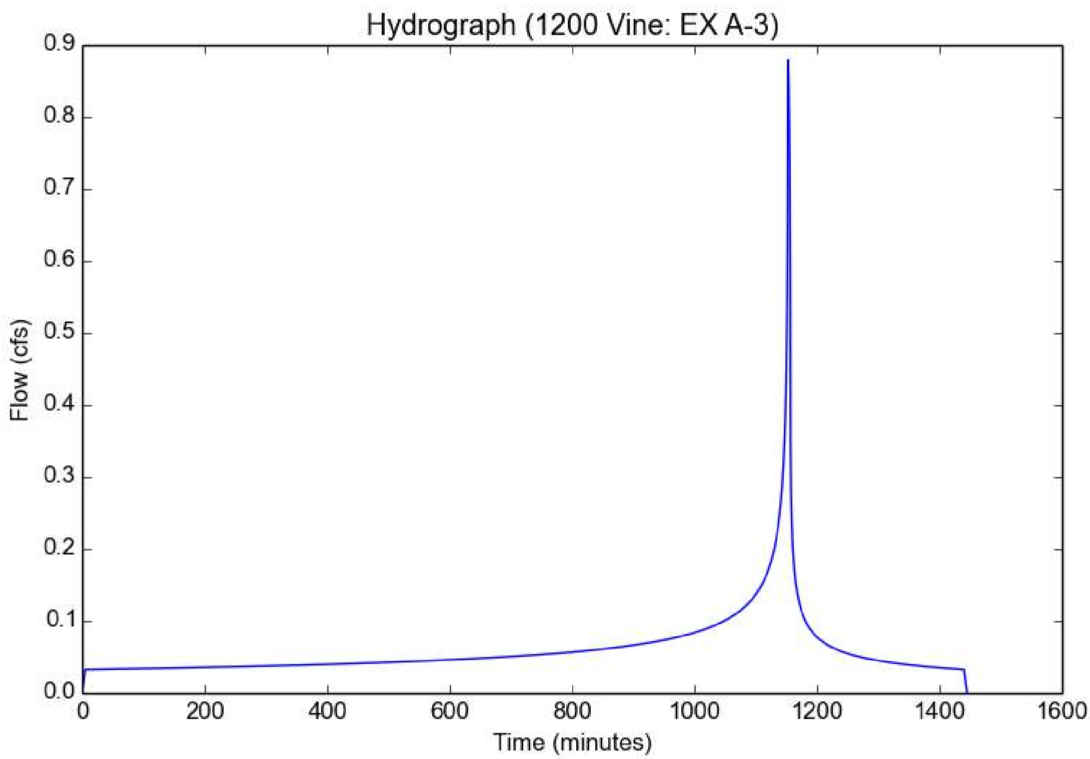
File location: F:/Projects/4103/001/_Support Files/Reports/Hydrology/Existing HydroCalc/1200 Vine - EX A-3 - 50yr.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1200 Vine
Subarea ID	EX A-3
Area (ac)	0.28
Flow Path Length (ft)	163.41
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	5.85
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.85
Peak Intensity (in/hr)	3.4903
Undeveloped Runoff Coefficient (Cu)	0.8567
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.8795
Burned Peak Flow Rate (cfs)	0.8795
24-Hr Clear Runoff Volume (ac-ft)	0.1218
24-Hr Clear Runoff Volume (cu-ft)	5307.1217



ATTACHMENT E

FEMA FLOODPLAIN MAP

National Flood Hazard Layer FIRMette

FEMA

118°19'53"W 34°5'49"N

118°19'15"W 34°5'19"N

Feet
0 250 500 1,000 1,500 2,000

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2022 at 3:04 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

ATTACHMENT F

2020 CALIFORNIA 303(D) LIST

Category 5 criteria: 1) A water segment where standards are not met and a TMDL is required, but not yet completed, for at least one of the pollutants being listed for this segment.
* USGS HUC = US Geological Survey Hydrologic Unit Code. Calwater = State Water Resources Control Board hydrological subunit area or even smaller planning watershed.
** TMDL requirement status definitions for listed pollutants are: A= TMDL still required, B= being addressed by USEPA approved TMDL, C= being addressed by action other than a TMDL, ALT= being addressed by USEPA approved TMDL alternative
*** Dates relate to the TMDL requirement status, so a date for A= TMDL scheduled completion date, B= Date USEPA approved TMDL, and C= Completion date for action other than a TMDL

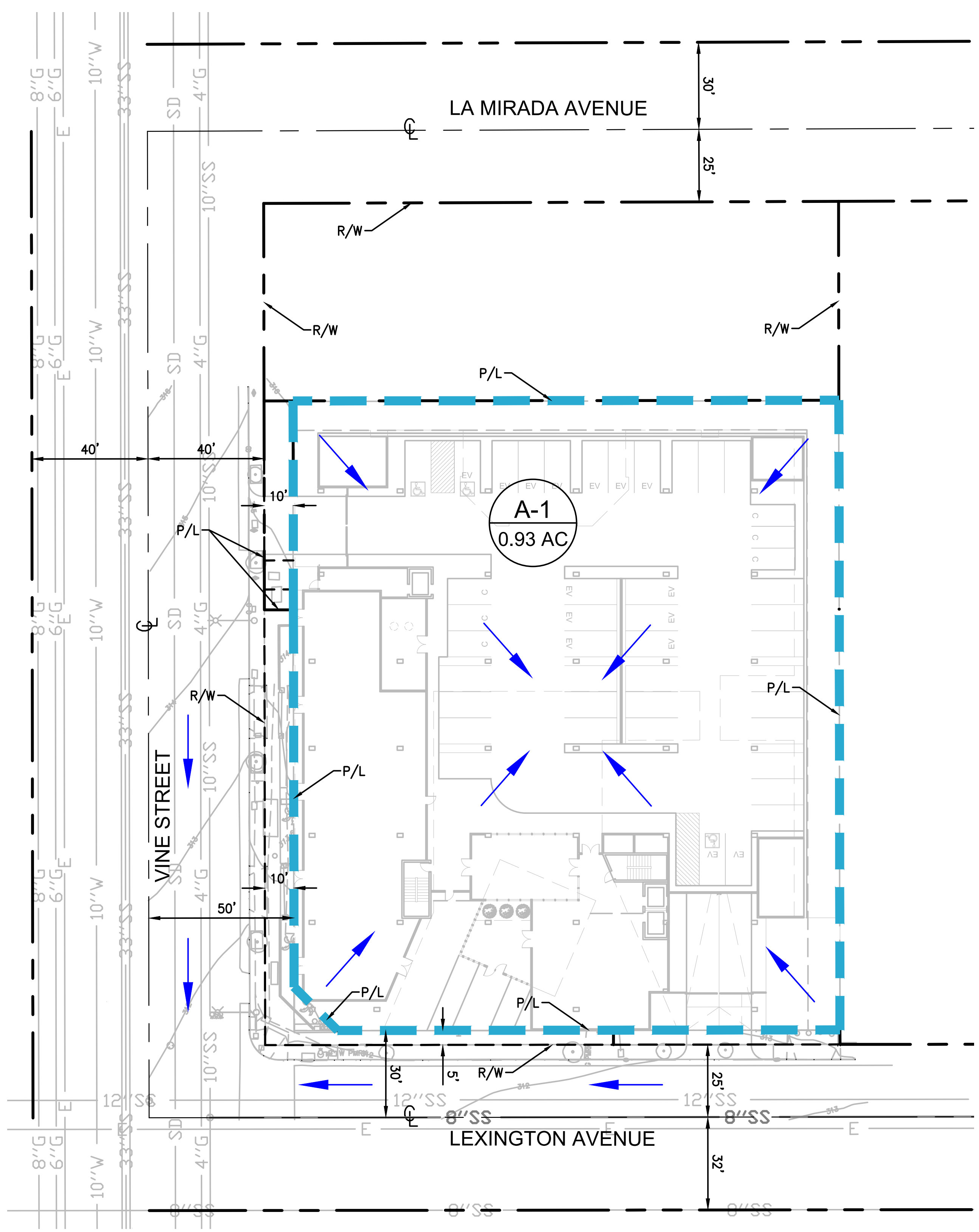
REGION	WATER BODY NAME	WATER TYPE	WATERSHED* CALWATER / USGS HUC	POLLUTANT / POTENTIAL SOURCES / *Relevant Notes*	ESTIMATED AREA ASSESSED	FIRST YEAR LISTED	TMDL REQUIREMENT STATUS**	DATE***
Region 1	Big River Beach at Mendocino Bay	Coastal & Bay Shoreline	1113.300405 / 18010108	Indicator Bacteria A Source Unknown	3.9 Miles	2010	5A	2022
Region 1	Bodega HU, Bodega Harbor HA	Bay & Harbor	11522000 / 18010111	Invasive Species A Source Unknown	810 Acres	2006	5A	2025
Region 1	Bodega HU, Estero Americano HA, Americano Creek	River & Stream	1115.300001,1115.300002,1115.300003 / 18010111	Nutrients A Source Unknown	38 Miles	1996	5A	2025
Region 1	Bodega HU, Estero Americano HA, estuary	Estuary	1115.300001,1115.300002 / 18010111	Nutrients A Source Unknown	37 Acres	1996	5A	2025
				Sedimentation/Siltation A Source Unknown	37 Acres	1992	5A	2025
Region 1	Bodega HU, Estero de San Antonio HA, Stemple Creek/Estero de San Antonio	River & Stream	1115.400001,1115.400002,1115.400003 / 18010111	Nutrients A Source Unknown	87 Miles	2026	5A	2025
				Sediment A Source Unknown	87 Miles	2006	5A	2025
Region 1	Campbell Cove	Coastal & Bay Shoreline	1115.210000,1115.220000 / 18010111	Indicator Bacteria A Source Unknown	0.24 Miles	2006	5A	2022
Region 1	Caspar Headlands State Beach	Coastal & Bay Shoreline	1113.300404,1113.300405 / 18010108	Indicator Bacteria A Source Unknown	0.19 Miles	2010	5A	2022
Region 1	Clam Beach (near Mad River mouth)	Coastal & Bay Shoreline	1109.100101 / 18010102	Indicator Bacteria A Source Unknown	1.5 Miles	2012	5A	2022
Region 1	Clam Beach (near Strawberry Creek)	Coastal & Bay Shoreline	1108.200002,1109.100200,1109.100300 / 18010102	Indicator Bacteria A Source Unknown	1.3 Miles	2006	5A	2022

REGION	WATER BODY NAME	WATER TYPE	WATERSHED* CALWATER / USGS HUC	POLLUTANT / POTENTIAL SOURCES / *Relevant Notes*	ESTIMATED AREA ASSESSED	FIRST YEAR LISTED	TMDL REQUIREMENT STATUS**	DATE***
Region 3	Zayante Creek	River & Stream	3304.120202,3304.120401,3304.120402 / 18060001	Chlorpyrifos A Source Unknown	9.3 Miles	2010	5B	2015
				Sedimentation/Siltation Channel Erosion Habitat Modification Other Urban Runoff Removal of Riparian Vegetation Road Construction	9.3 Miles	2002	5B	2004
				Toxicity No Source Analysis Available	9.3 Miles	2014	5A	2035
Region 4	Alamitos Bay	Bay & Harbor	40512000 / 18070104	Indicator Bacteria A Source Unknown	328 Acres	2006	5A	2019
				Oxygen, Dissolved A Source Unknown	328 Acres	2014	5A	2027
Region 4	Alhambra Wash	River & Stream	40531000 / 18070105	Ammonia Other	6.9 Miles	2014	5A	2027
Region 4	Artesia-Norwalk Drain	River & Stream	40515010 / 18070104	Indicator Bacteria A Source Unknown	2.5 Miles	2010	5B	2016
				Selenium A Source Unknown	2.5 Miles	2010	5A	2021
Region 4	Arundell Barranca (Ventura County)	River & Stream	40311000 / 18070103	Indicator Bacteria A Source Unknown	4.9 Miles	2014	5A	2027
Region 4	Balboa Lake	Lake & Reservoir	4412.210000 / 18070105	Ammonia A Source Unknown	28 Acres	2014	5B	2004
				Oxygen, Dissolved A Source Unknown	28 Acres	2014	5A	2027
				Toxicity A Source Unknown	28 Acres	2014	5A	2027
Region 4	Ballona Creek	River & Stream	40513000 / 18070104	Copper A Source Unknown	6.5 Miles	1800	5B	2005
				Cyanide A Source Unknown	6.5 Miles	1996	5A	2019
				Indicator Bacteria Nonpoint Source Point Source	6.5 Miles	2014	5B	2007
				Lead A Source Unknown	6.5 Miles	2002	5B	2005

REGION	WATER BODY NAME	WATER TYPE	WATERSHED* CALWATER / USGS HUC	POLLUTANT POTENTIAL SOURCES *Relevant Notes*	ESTIMATED AREA ASSESSED	FIRST YEAR LISTED	TMDL REQUIREMENT STATUS**	DATE***
				Toxicity A Source Unknown *The sediment toxicity collected to support this listing decision were collected from Reach 2 of Ballona Creek as identified in the Los Angeles Regional Basin Plan.*	6.5 Miles	1996	5B	2005
				Trash A Source Unknown	6.5 Miles	1996	5B	2001
				Viruses (enteric) Nonpoint Source Point Source	6.5 Miles	1996	5B	2007
				Zinc A Source Unknown	6.5 Miles	1996	5B	2005
Region 4	Boulder Creek (Ventura County)	River & Stream	40331000 / 18070102	Bifenthrin A Source Unknown	6.5 Miles	2014	5A	2027
				Toxicity A Source Unknown	6.5 Miles	2014	5A	2027
Region 4	Bouquet Canyon Creek (below Bouqet Reservoir)	River & Stream	40352000 / 18070102	Temperature, water A Source Unknown	14 Miles	2014	5A	2029
Region 4	Bull Creek (Los Angeles County)	River & Stream	40521000 / 18070105	Ammonia A Source Unknown	6.5 Miles	2014	5B	2004
				Toxicity A Source Unknown	6.5 Miles	2014	5A	2027
Region 4	Burbank Western Channel	River & Stream	40521000 / 18070105	Copper A Source Unknown	13 Miles	2006	5B	2005
				Cyanide A Source Unknown	13 Miles	2006	5A	2019
				Indicator Bacteria A Source Unknown	13 Miles	2010	5B	2012
				Lead A Source Unknown	13 Miles	2006	5B	2005
				Selenium A Source Unknown	13 Miles	2010	5A	2021
				Trash Nonpoint Source Surface Runoff Urban Runoff/Storm Sewers	13 Miles	1996	5B	2008

ATTACHMENT G

PROPOSED ON-SITE HYDROLOGY MAP



LEGEND & ABBREVIATIONS:

(dashed line)	DRAINAGE AREA LIMIT
AC	ACRE
CFS	CUBIC FEET PER SECOND
SF	SQUARE FEET
P/L	PROPERTY LINE
R/W	RIGHT OF WAY
(arrow)	FLOW DIRECTION
X	SUB-AREA ID
X.XX	ACREAGE
(green hatch)	PERVIOUS AREA

PROPOSED HYDROLOGY CALCULATIONS

SUBAREA ID	TOTAL AREA (SF/AC)	IMPERVIOUS AREA (SF/AC)	PERVIOUS AREA (SF/AC)	IMPERVIOUS %	Q10 (CFS)	Q25 (CFS)	Q50 (CFS)
A-1	40,683/0.93	34,722/0.80	5,961/0.13	85.3	2.05	2.53	2.90

NOTE:

SOIL TYPE – 6
50TH YR RAINFALL DEPTH – 5.85 IN
85TH PERCENTILE, RAINFALL DEPTH – 0.98 IN

CACLUATIONS BASED ON NET AREA
PROPOSED PERVIOUS AREAS ARE NOT SHOWN

N

50' 0' 25' 50'
SCALE: 1" = 50'

PROPOSED HYDROLOGY MAP

1200 VINE STREET
LOS ANGELES, CA 90038

FUSCOE
ENGINEERING
600 Wilshire Blvd., Suite 1470, Los Angeles, California 90017
tel 213.988.8802 ∘ fax 213.988.8803 ∘ www.fuscoe.com

ATTACHMENT H

HYDROCALC HYDROLOGY RESULTS FOR PROPOSED SITE

Peak Flow Hydrologic Analysis

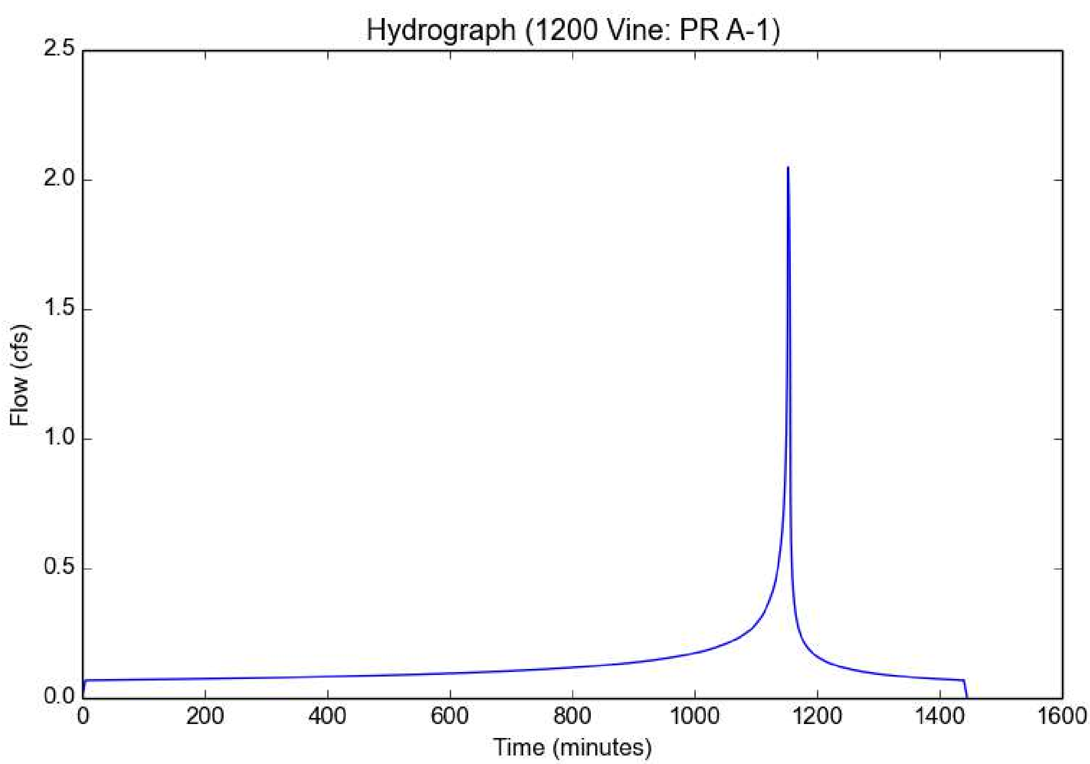
File location: F:/Projects/4103/001/_Support Files/Reports/Hydrology/Proposed HydroCalc/1200 Vine - PR A-1 - 10yr.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1200 Vine
Subarea ID	PR A-1
Area (ac)	0.93
Flow Path Length (ft)	144.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.85
Percent Impervious	0.853
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.1769
Peak Intensity (in/hr)	2.4921
Undeveloped Runoff Coefficient (Cu)	0.7863
Developed Runoff Coefficient (Cd)	0.8833
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.0471
Burned Peak Flow Rate (cfs)	2.0471
24-Hr Clear Runoff Volume (ac-ft)	0.2548
24-Hr Clear Runoff Volume (cu-ft)	11098.6044



Peak Flow Hydrologic Analysis

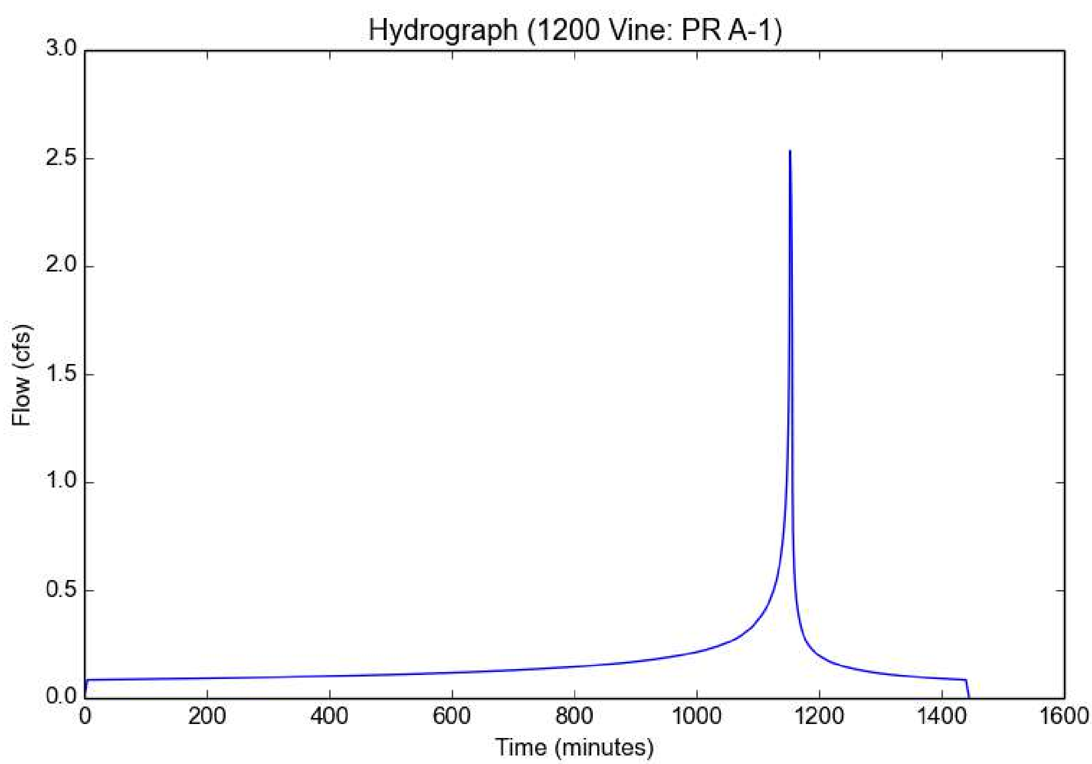
File location: F:/Projects/4103/001/_Support Files/Reports/Hydrology/Proposed HydroCalc/1200 Vine - PR A-1 - 25yr.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1200 Vine
Subarea ID	PR A-1
Area (ac)	0.93
Flow Path Length (ft)	144.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.85
Percent Impervious	0.853
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1363
Peak Intensity (in/hr)	3.0645
Undeveloped Runoff Coefficient (Cu)	0.8268
Developed Runoff Coefficient (Cd)	0.8892
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.5343
Burned Peak Flow Rate (cfs)	2.5343
24-Hr Clear Runoff Volume (ac-ft)	0.3145
24-Hr Clear Runoff Volume (cu-ft)	13700.5299



Peak Flow Hydrologic Analysis

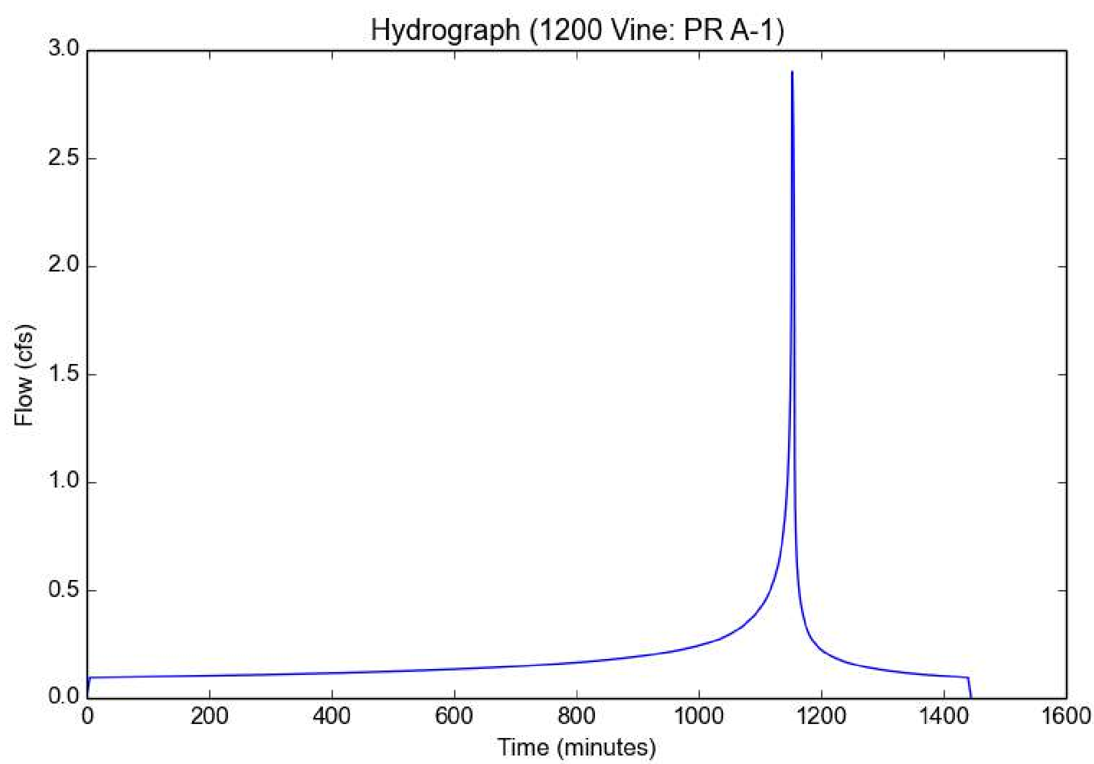
File location: F:/Projects/4103/001/_Support Files/Reports/Hydrology/Proposed HydroCalc/1200 Vine - PR A-1 - 50yr.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1200 Vine
Subarea ID	PR A-1
Area (ac)	0.93
Flow Path Length (ft)	144.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.85
Percent Impervious	0.853
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

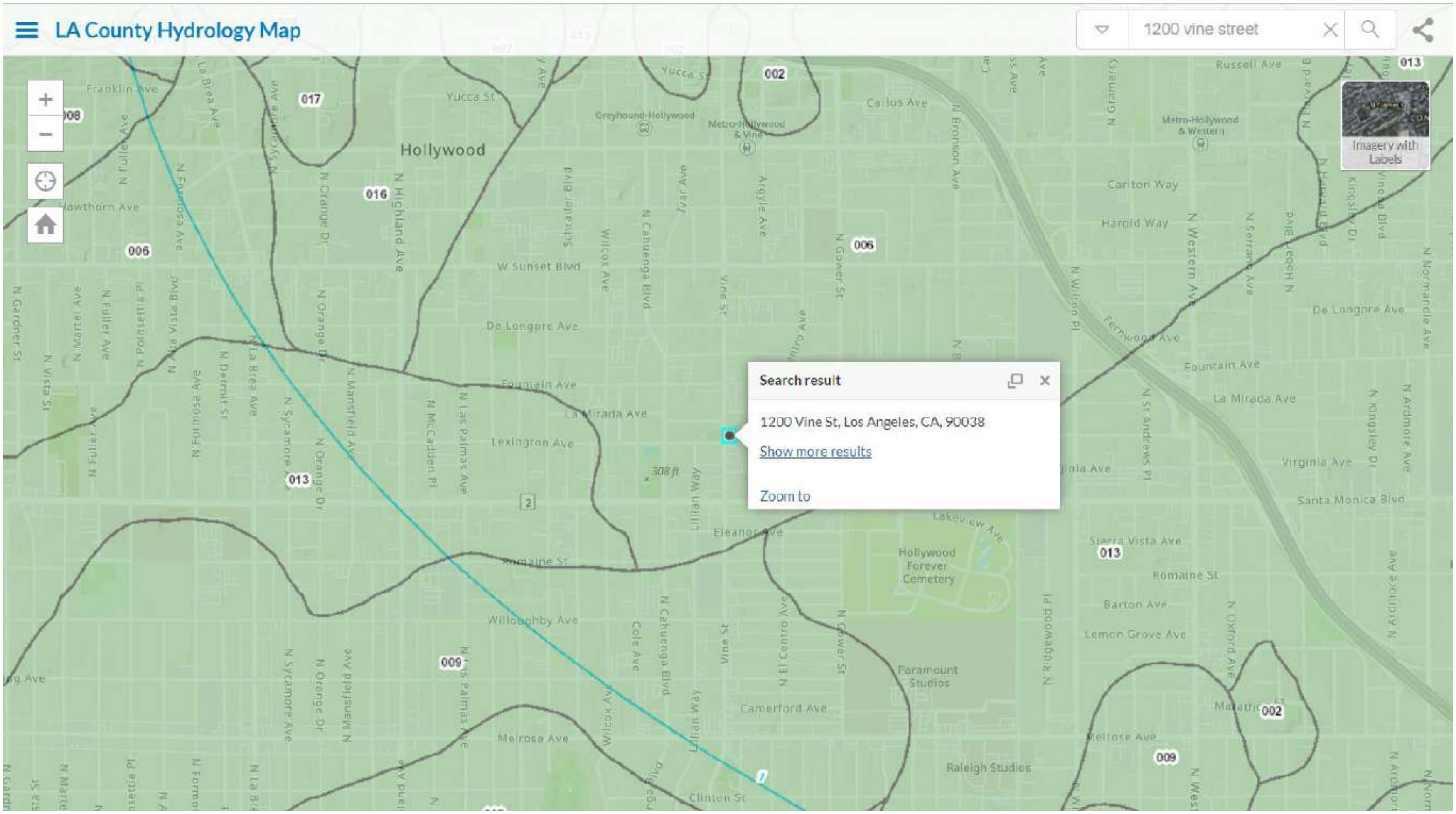
Output Results

Modeled (50-yr) Rainfall Depth (in)	5.85
Peak Intensity (in/hr)	3.4903
Undeveloped Runoff Coefficient (Cu)	0.8567
Developed Runoff Coefficient (Cd)	0.8936
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.9007
Burned Peak Flow Rate (cfs)	2.9007
24-Hr Clear Runoff Volume (ac-ft)	0.3593
24-Hr Clear Runoff Volume (cu-ft)	15650.0641



ATTACHMENT I

LA COUNTY GIS 85TH PERCENTILE MAP


LA County Hydrology Map
1200 vine street
Search result
1200 Vine St, Los Angeles, CA, 90038
Show more results
Zoom to
Imagery with Labels
Hollywood
Hollywood Forever Cemetery
Paramount Studios
Raleigh Studios
W Sunset Blvd
Santa Monica Blvd
Melrose Ave
Fountain Ave
De Longpre Ave
Vine St
N Gower St
N Highland Ave
Franklin Ave
Yucca St
Carlos Ave
Romaine St
Willoughby Ave
Lexington Ave
La Mirada Ave
Eleanor Ave
Lillian Way
N Cahuenga Blvd
Wilcox Ave
Schrader Blvd
Ivar Ave
Argyle Ave
Carlton Way
Harold Way
N Western Ave
Virginia Ave
Sierra Vista Ave
Barton Ave
Lemon Grove Ave
Camerford Ave
Clinton St
308 ft
002
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009
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016
017

DEPARTMENT OF RECREATION AND PARKS

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ACTING ASSISTANT GENERAL MANAGER

(213) 202-2633 FAX (213) 202-2614

September 22, 2022

Sherrie Cruz
CAJA Environmental Services, LLC
9410 Topanga Canyon Blvd., Suite 101
Chatsworth, CA 91311

REQUEST FOR INFORMATION REGARDING RECREATIONAL AND PARK SERVICES FOR THE 1200 VINE PROJECT IN THE CITY OF LOS ANGELES

Dear Ms. Cruz:

The following has been prepared in response to your request for Recreation and Parks information relative to the proposed 1200 Vine Project. This project proposes the development of a residential project with 153 residential dwelling units on a site generally located at 1200, 1204, 1214, 1218 N. Vine Street, 6245, 6247 W. Lexington Avenue, in the Hollywood Community Plan.

1. *Which parks and recreational facilities would serve the proposed project?*

The following Department of Recreation and Parks facilities are classified as neighborhood parks and are located within a two-mile radius of the project site:

- Cahuenga Elementary Community School Park, located at 220 South Hobart Boulevard.
- Carlton Way Park, located at 5927 West Carlton Way.
- De Longpre Park, located at 1350 North Cherokee Avenue.
- Dorothy J & Benjamin B. Smith Park, located at 7020 West Franklin Avenue.
- Harvard Elementary Community School Park, located at 330 North Harvard Boulevard.
- La Mirada Avenue Park, located at 5401 West La Mirada Avenue.
- Lexington Avenue Pocket Park, located at 5523 West Lexington Avenue.
- Robert L. Burns Park, located at 4900 West Beverly Boulevard.
- Seily Rodriguez Park, located at 5707 West Lexington Avenue.
- Selma Park, located at 6567 West Selma Avenue.

The following Department of Recreation and Parks facilities are classified as community parks and are located within a five-mile radius of the project site:

- Barnsdall Park, located at 4800 West Hollywood Boulevard.
- Bellevue Recreation Center, located at 826 North Lucille Avenue.
- Chevy Chase Park, located at 4165 East Chevy Chase Drive.

- Claude and Pepper Senior Citizen Center, located at 1762 South La Cienega Boulevard.
- Denker Recreation Center, located at 1550 West 35th Place.
- Echo Park, located at 751 North Echo Park Boulevard.
- Eleanor Green Roberts Aquatic Center, located at 4526 West Pico Boulevard.
- Elysian Valley Recreation Center, located at 1811 West Ripple Street.
- Fairfax Senior Citizen Center, located at 7929 West Melrose Avenue.
- Hollywood Recreation Center, located at 1122 North Cole Avenue.
- Hoover Recreation Center, located at 1010 West 25th Street.
- Lafayette Park, located at 625 South Lafayette Park Place.
- Lake Street Community Center, located at 227 North Lake Street.
- Las Palmas Senior Citizen Center, located at 1820 North Las Palmas Avenue.
- Lemon Grove Recreation Center, located at 4959 West Lemon Grove Avenue.
- Loren Miller Recreation Center, located at 2717 South Halladale Avenue.
- MacArthur (General Douglas) Park, located at 2230 West 6th Street.
- Normandie Recreation Center, located at 1550 South Normandie Avenue.
- Pan Pacific Park, located at 7600 West Beverly Boulevard.
- Poinsettia Recreation Center, located at 7341 West Willoughby Avenue.
- Queen Anne Recreation Center, located at 1240 South West Boulevard.
- Rancho Cienega Sports Complex, located at 5001 West Obama Boulevard.
- Robertson Recreation Center, located at 1641 South Pruess Road.
- Seoul International Park, located at 3250 West San Marino Street.
- Shatto Recreation Center, located at 3191 West 4th Street.
- Silverlake Recreation Center, located at 1850 North Silver Lake Drive.
- South Seas House Park, located at 2301 West 24th Street.
- Toberman Recreation Center, located at 1725 South Toberman Street.
- Tommy Lasorda Field of Dreams, located at 1901 North Waterloo Street.
- Vineyard Recreation Center, located at 2942 South Vineyard Avenue.
- Vista Hermosa Soccer Field, located at 1301 West 1st Street.
- Weddington Park North, located at 10844 West Acama Street.
- Weddington Park South, located at 10600 West Valleyheart Drive.
- Yucca Community Center, located at 6671 West Yucca Street.

The following Department of Recreation and Parks facilities are classified as regional parks and are located within a ten-mile radius of the project site:

- Ascot Hills Park, located at 4371 East Multnomah Street.
- Beverly Glen Park, located at 2448 North Angelo Drive.
- Campo de Cahuenga, located at 3919 North Lankershim Boulevard.
- Charles F. Lummis Home, located at 200 East Avenue 43.
- Coldwater Canyon Park, located at 12601 North Mulholland Drive.
- Deervale-Stone Canyon Park, located at 14890 West Valley Vista Boulevard.
- Eagle Rock Hillside Park, located at 2747 South Valle Vista Drive.
- Elysian Park, located at 929 West Academy Road.
- Ernest E Debs Regional Park, located at 4235 North Monterey Road.

- Exposition Park Rose Garden, located at 701 West State Drive.
- Griffith Park, located at 4730 North Crystal Springs Drive.
- Heritage Park, located at 3800 North Homer Street.
- Holmby Park, located at 601 South Club View Drive.
- La Tuna Canyon Park, located at 6801 North La Tuna Canyon Road.
- Laurel Canyon Mulholland Park, located at 8100 West Mulholland Drive.
- Rose Hill Park, located at 3606 North Boundary Avenue.
- Runyon Canyon Park, located at 2000 North Fuller Avenue.
- Sepulveda Basin Recreation Area, located at 17017 West Burbank Boulevard.
- Verdugo Mountain Park, located at 9999 South Edmore Place.
- Villa Cabrini Park, located at 9401 West Cabrini Drive.
- Wattles Garden Park, located at 1824 North Curson Avenue.

For additional information regarding facilities and features available in these parks visit our website: www.laparks.org.

2. *Does the City have any plans to develop new parks or recreational facilities or expand existing parks or recreational facilities within a two-mile radius of the project site?*

The City plans to demolish the existing gymnasium building and construct a new modern gymnasium at Hollywood Recreation Center. The project is in the design phase.

3. *What is the area's existing parkland acres-to-population ratio and what is the desired acres-to-population ratio?*

The Hollywood Community Plan Area, within which the project is located, has a parkland acres-to-population ratio of neighborhood and community parks of 0.41 acres per 1,000 residents. The Public Recreation Plan, a portion of the Service Element of the City's General Plan, sets a goal of a parkland acres-to-population ratio of neighborhood and community parks of 4.0 acres per 1,000 residents.

Thank you for the opportunity to provide information relative to the proposed project's impact on recreation and park services. Most subdivision projects that contain more than fifty residential dwelling units are required to meet with the Department of Recreation and Parks prior to filing in order to discuss any potential dedication requirements. If you have any questions or comments regarding this information, please contact the RAP Park Staff at (213) 202-2682 or rap.parkfees@lacity.org

Sincerely,

CATHIE M. SANTO DOMINGO
Assistant General Manager

DARRYL FORD
Superintendent

Planning, Maintenance, and Construction Branch

CSD/DF:am

cc: Reading File

FUSCOE
ENGINEERING

WATER AND WASTEWATER TECHNICAL REPORT

1200 Vine Street

1200 – 1218 N Vine Street
6245 – 6247 W Lexington Avenue
Los Angeles, California 90038

Prepared For

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Charlotte, NC 28209

Prepared By

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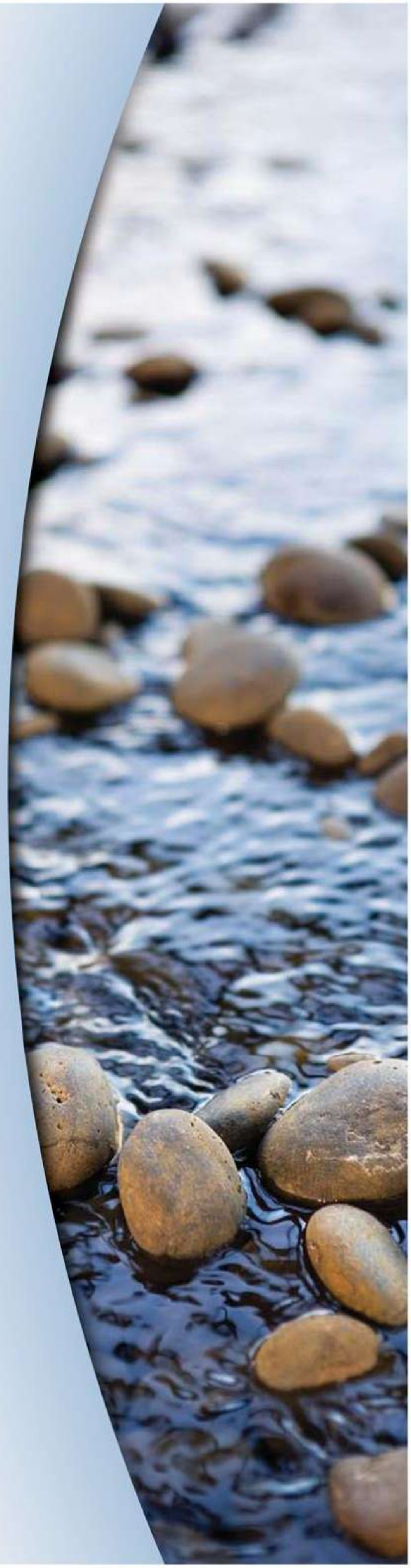
C-83863

Date Prepared: November 29, 2022

Job Number: 4103.001



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Attachment B – Fire Service Pressure Flow Report (SAR)

Attachment C – Water Service Will Serve Letter

Attachment D – City of Los Angeles, LABOS – Will Serve Letter

Attachment E – Sewer Capacity Availability Report (SCAR)

1. INTRODUCTION

1.1 PROJECT DESCRIPTION

Vine Street Los Angeles Apartments, LLC (Applicant) is proposing to develop a new mixed-use residential development (Project) on an approximate 0.94-acre site, located at 1200 – 1218 N Vine Street and 6245 – 6247 W Lexington Avenue in the City of Los Angeles. The Project proposes an 8 – story structure with two levels of above ground parking. The Project will include 153 residential units (21 – Studio, 89 – 1 Bedroom, 43 – 2 Bedroom) on six levels of residential housing, 7,000 square feet of high-turnover sit-down restaurant areas, 13,919 square feet of amenity areas (indoor and outdoor open spaces and gym/fitness facility), and parking areas (78 – Residential Spaces, 15 – Commercial Spaces).

The existing Project Site consists of two, 1 – story concrete buildings with the remainder of the site being a paved surface parking lot. There are also existing concrete masonry unit perimeter walls and fencing that run along the entire western, and southern perimeters of the paved parking. Based upon the proposed building program, the existing building structure, foundations, parking lot surface, fencing, walls, gates, and all existing flatwork will need to be demolished. This includes the existing signs, guard post, handrails, ramps, and light fixtures within the parking lot area of the Project Site. The Project will consist of a redevelopment of the existing parking lot and commercial building into a multi-family mixed-use apartment and commercial building.

The project is bounded by a Commercial Development that continues to La Mirada Avenue to the North, Commercial and Residential Developments that continue to El Centro Avenue to the East, Lexington Avenue to the South, and Vine Street to the West.

Project Site: Thomas Grid - Page 593 – Grid F5

1.2 SCOPE OF WORK

As part of the California Environmental Quality Act (CEQA) analysis for the Project, the purpose of this report is to analyze the potential impacts of the Project upon the existing water and wastewater infrastructure systems. The current location of existing water and wastewater infrastructure, analysis of any potential Project impacts this infrastructure, and any applicable mitigation measures will be discussed in this technical report.

2. REGULATORY FRAMEWORK

2.1 WATER

The Project Site receives water supply from the Los Angeles Department of Water and Power (LADWP), the primary water purveyor for the City. As the primary supplier of water to the City, LADWP must comply with all applicable regulations at the State and Federal level. Applicable regulations affecting LADWP as a supplier of water include efficiency requirements, such as California Code of Regulations (CCR) Title 20, Chapter 4, Article 4, Section 1605, which requires all new plumbing fixtures to adhere to efficiency requirements, and CCR Title 24, Part 11, which requires a water use reduction of 20% above baseline for all homes, commercial, and state buildings.

The regulations also include reporting requirements, such as the California Urban Water Management Planning Act (1984) and Senate Bill (SB) 610. The California Urban Water Management Planning Act requires that municipalities and other water suppliers must create an updated Urban Water Management Plan (UWMP) every five years, outlining anticipated trends in supply and demand for the planning period. LADWP's most recent UWMP update was in 2020 and identified adequate supplies to match modeled demands through 2045[1]. SB 610 requires water suppliers to submit a Water Supply Assessment (WSA) for all projects that propose over 500 dwelling units, 500,000 square feet of commercial floor space, or employ over 1,000 individuals or the equivalent water usage. The Project falls below the requirements of a WSA, and therefore a WSA will not be required for the Project.

2.2 SEWER

The Project Site is located in the City of Los Angeles, and therefore falls under the jurisdiction of the Los Angeles Bureau of Sanitation (BOS) of the City of Los Angeles Department of Public Works. The BOS serves over four million customers, and its sewer system is split into three subsystems – the Hyperion Sanitary Sewer System, the Terminal Island Water Reclamation Plant Sanitary Sewer System, and Regional Sanitary Sewer System. The Project Site lies within the Hyperion Sanitary Sewer System service area ("Hyperion"). Projects that discharge into the Hyperion system must follow the regulations under Ordinance No. 166,060 adopted by the City in 1990. This ordinance established an additional annual allotment of 5 million gallons per day (mgd), of which it allocates 1.7 mgd for priority projects, 0.4 mgd for public benefit projects, and 2.9 mgd for non-priority projects.

Under the City of Los Angeles Municipal Code ("Municipal Code"), all new projects connecting to the sewer collection system or proposing additional discharge must have a Sewer Capacity Availability Request (SCAR) performed by the City (Section 64.15, Municipal Code). The SCAR analyzes existing sewer system to determine whether the proposed increases in wastewater flows will generate any capacity issues. New connections to the sewer system must also pay associated fees (Sewerage Facilities Charge) based upon flow strength and volume (Section 64.11.2, Municipal Code). Pursuant to the City's design criteria, any new sewer laterals less than 18" must be designed for a 100-year planning period, and depth of peak dry weather flows shall not exceed one half the diameter of the pipe (d/D=0.5).

[1] https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-water/a-w-sourcesofsupply/a-w-sos-uwmpln?_adf.ctrl-state=ujj2662lo_79&_afrLoop=485979579825357

3. ENVIRONMENTAL SETTING

3.1 WATER

3.1.1 REGIONAL

As mentioned, the City of Los Angeles Department of Water and Power (LADWP) maintains water infrastructure serving the Project area and provides domestic water service to the Project Site. LADWP receives water from the Los Angeles Aqueduct (LAA), local groundwater supply, the State Water Project (SWP) and the Colorado River Aqueduct (CRA); the latter two supplied by the Metropolitan Water District of Southern California (MWD). Over the past 20 years, water supplies from the LAA have decreased due to environmental concerns resulting in more dependency on other sources of water. Approximately 57% of supplies have come from imported SWP and CRA supplies from MWD. Approximately 12% of LADWP water supplies come from local groundwater.

3.1.2 LOCAL

Available record drawings provided by the City show there are current water meters connecting to the 10-inch water main along Vine Street, to the west of the Project Site, and the 4-inch water line on Lexington Avenue. The record drawings indicate the following existing water infrastructure: a 10-inch line on Vine Street, 4-inch line on Lexington Avenue.

3.1.3 ON-SITE

As described above, the Project Site is currently occupied by two, 1 – story concrete retail buildings, surface parking and perimeter walls. Table 1 shows the estimated existing water demand for the Project Site, prepared based on 100 percent of the City of Los Angeles BOS wastewater generation factors for non-residential categories. This estimate is appropriate given the fact that there is no existing landscaping on-site that would deviate from the LABOS sewage generation factors.

Table 1 – Estimated Existing Water Demand

Land Use	Building Square Footage	Est. Avg. Daily Consumption Flow Rate Factor (gal/1000 SF gross area)[1] (gpd/unit)	Total Average Daily Consumption (gpd)
Retail (2 Bldgs.)	27,011[2]	25	675
		Total Existing Water Demand	675

Notes:

[1] Based on 100% of the BOS sewer generation factors for Retail Areas less than 100,000 SF
[2] Number based off City of LA ZIMAS portal

There are currently five (5) existing fire hydrants located within 300 feet of the Project Site; two (2) hydrants are along Vine Street, two (2) hydrants are along La Mirada Avenue, and one (1) is along Lexington Avenue. The hydrants are served by the main lines on Vine Street, Lexington Avenue and La Mirada Avenue. The Project Site is located in a Commercial and High Density Residential Zone, which requires 4,000 gallons per minute (gpm) from four (4) hydrants flowing simultaneously as stated in the City of Los Angeles Municipal Code (LAMC), therefore, only four (4) fire hydrants out of the five (5) within 300 feet of the Project Site will need to be tested. The existing fire hydrants will be tested to find if adequate for High Density Residential flows, running four (4) simultaneous hydrants with at least 4,000 total gpm.

An application for Information of Fire Flow Availability Request (IFFAR) was received 09.14.2022 (See **Attachment A – Information of Fire Flow Availability (IFFA)**). The existing hydrants were tested at 1,500 gpm each, resulting in residual pressures of 90 to 92 pounds per square inches (psi).

The Fire Service Pressure Flow report (SAR) application was received 09.16.2022. The SAR applications confirm that the existing water main in Vine Street was found to be adequate for the proposed required flows of 1,400 gpm, having a pressure of 88 psi, however, the existing water main in Lexington Avenue would require upsizing to achieve a required flow of 1400 gpm at this Project Site location (See **Attachment B – Fire Service Pressure Flow Report (SAR)**).

3.2 WASTEWATER

3.2.1 REGIONAL

The Bureau of Sanitation (BOS) of the City of Los Angeles Department of Public Works provides sanitary sewer service to the Project Site through a sewer system in the surrounding streets. Wastewater from the Project Site ultimately flows to the Hyperion Treatment Plant (HTP) system. The One Water LA – Wastewater Facilities Plan notes that the existing design capacity of the Hyperion Water Reclamation Plant is 450 mgd. The projected average wastewater daily flow for the system for 2030 (buildout year for proposed Project) is approximately 275 mgd[2].

3.2.2 LOCAL

There are currently four (4) existing sewer mains in the surrounding streets. Two (2) of these mains, a 12-inch and 8-inch, reside in Lexington Avenue and the other two (2), a 10-inch and 33-inch, reside in Vine Street. Beyond the limits of the Project Site, the sewer mains on Vine Street continue to flow southerly while the sewer mains on Lexington Avenue flow westerly. Each of these sewer mains that are adjacent to the Project Site connect to a network of sewer lines that ultimately convey wastewater to the City's Hyperion Treatment Plant.

3.2.3 ON-SITE

Based on available record data from the City, there is currently one existing sewer lateral connecting from the City's public sewer system to the Project Site. The sewer lateral, marked as active, connects to the 8-inch main on Lexington Avenue.

Table 2 shows the estimated existing wastewater generation for the Project Site, based on BOS wastewater generation factors.

[2]One Water LA 2040 Plan (Volume 2 Wastewater Facilities Plan), Found here: https://www.lacitysan.org/cs/groups/sg_owla/documents/document/y250/mdi2/~edisp/cnt026205.pdf

Table 2 – Estimated Existing Wastewater Generation

Land Use	Building Square Footage	Est. Avg. Daily Sewage Flow Rate Factor (gal/1000 SF gross area)[1] (gpd/unit)	Total Average Daily Consumption (gpd)
Retail (2 Bldgs.)	27,011[2]	25	675
Total Existing Wastewater Demand			675

Notes:

[1] Based on 100% of the BOS sewer generation factors
[2] Number based off City of LA ZIMAS portal

The BOS requires a SCAR (See **Attachment E – Sewer Capacity Availability Report (SCAR)**) be conducted prior to determining the adequacy of the current facilities to accommodate for the additional sewage. In summary, the SCAR found that the existing sewer lines were able to accommodate for the additional sewage from the proposed Project.

4. METHODOLOGY

4.1 WATER

The methodology for determining the significance of a project as it relates to a project's impact on water supply and distribution infrastructure is based on the *City of Los Angeles CEQA Thresholds Guide*. This methodology involves a review of the project's environmental setting, project impacts, cumulative impacts, and mitigation measures as required. The following has been considered as part of the determination for this Project:

Environmental Setting

- Description of major water infrastructure serving the Project Site, including the type of facilities, location and sizes, and any planned improvements
- Description of the water conditions for the Project area and known improvement plans

Project Impacts

- Evaluate the Project's water demand, considering design or operational features that would reduce/offset water demand.
- Determine what improvements would be needed, if any, to adequately serve the Project.
- Describe the degree to which presently scheduled off-site improvements offset impacts.

This report analyzes the potential impacts of the Project on the existing public water infrastructure by comparing the estimated Project demand with the calculated available capacity of the existing facilities.

To justify that the water demand shall be adequately serviced to the property, based on available site and occupancy information, 100% of the BOS sewer generation factors were employed to estimate the existing water consumption. In addition, LADWP performed a flow test to determine if available water conveyance exists for future development. LADWP's approach consists of data ranging from available static pressure (how much pressure is available at the source before applying the Project's demand), to the available pressure at the maximum demand needed for the Project.

An Information of Fire Flow Availability report (IFFA) is also conducted by LADWP to determine that there is sufficient hydrant flow from existing or proposed hydrants fronting the project based on the existing infrastructure. Additionally, a LADWP Water Pressure application for Fire Service Pressure Flow Report (SAR) is done for the Project to achieve a preliminary analysis of the existing water mains in Vine Street and Lexington Avenue. The results of the SARs determine if the existing mains can convey water supply for both the proposed Project demand of domestic and fire water services.

4.2 WASTEWATER

The methodology for determining the significance of a project as it relates to a project's impact on wastewater collection and treatment infrastructure is based on the *City of Los Angeles CEQA Thresholds Guide*. This methodology involves a review of the project's environmental setting, project impacts, cumulative impacts, and mitigation measures as required. The following has been considered as part of the determination for this Project:

Environmental Setting

- Location of the Project and appropriate points of connection to the wastewater collection system on the pertinent Sewer Wye Map;
- Description of the existing wastewater system which would serve the Project, including its capacity and current flows.

Project Impacts

- Evaluate the Project wastewater needs (anticipated daily average wastewater flow), taking into account design or operational features that would reduce or offset service impacts;
- Compare the Project's wastewater needs to the appropriate sewer's capacity and/or the wastewater flows anticipated in the Wastewater Facilities Plan or General Plan.

This report analyzes the potential impacts of the Project on the existing public sewer infrastructure by comparing the estimated Project demand with the calculated available capacity of the existing facilities.

To justify that the wastewater collection shall be adequately serviced, the BOS Wastewater Engineering Division made a preliminary analysis of the local and regional sewer conditions to determine if available wastewater conveyance and treatment capacity exists for future development. The BOS approach consisted of the study of a worst-case scenario envisioning peak demands from the relevant facilities occurring simultaneously on the wastewater system. A combination of flow gauging data and computed results from the City's hydrodynamic model were used to project current and future impacts due to additional sewer discharge. The data used in this report are based on the findings of the BOS's preliminary analysis. The analysis is based of the Sewer Capacity Availability Report (SCAR) application processed 11.08.2022 (See **Attachment E – Sewer Capacity Availability Report (SCAR)**).

5. PROJECT SERVICES

5.1 CONSTRUCTION

A Construction Management Plan, which would ensure safe pedestrian access as well as emergency vehicle access and safe vehicle travel in general, will be implemented to reduce any temporary pedestrian and traffic impacts occurring as a result of construction activities.

5.1.1 WATER

During construction, water will be required intermittently for dust control, equipment cleaning, soil grading and preparation during the early phases of the project. The latter phases of construction normally require less water usage. Since water usage during construction is typically less demanding than the water usage for the proposed Project, it is anticipated that existing water infrastructure would meet the limited, temporary water demand associated with construction of the Project, and that the water purveyor is able to provide water during construction. Therefore, impacts to water infrastructure due to construction activity is considered less than significant.

The Project will require decommission/abandonment of existing water lines to the site, and construction of new on-site water distribution lines to serve new buildings, as well as the potential relocation of existing lines. Prior to buildout of the water system, during construction, with approval from LADWP and the City, temporary water supply needs during construction may be obtained from metered connections from existing metered water connections or fire hydrants. Construction impacts associated with the installation of water distribution lines would primarily involve trenching in order to place the lines below surface. Installation of new water infrastructure will be limited to on-site water distribution and minor off-site work associated with connections to the public main. No upgrades to public water mains are anticipated. Prior to ground disturbance, Project contractors would coordinate with LADWP to identify the locations and depth of all lines. Further, LADWP would be notified in advance of proposed ground disturbance activities to avoid existing water lines and disruption of water service. Therefore, Project impacts on water infrastructure associated with construction activities would be less than significant.

5.1.2 WASTEWATER

Construction activities for the Project could result in a temporary increase in wastewater generation on-site. However, such use would be temporary and nominal when compared with the wastewater generated by the Project. In addition, construction workers would not contribute to direct wastewater flows to the City's wastewater system. Thus, wastewater generation from Project construction activities is not anticipated to cause any measurable increase in wastewater flows. Therefore, the Project's construction impacts to the wastewater system would be less than significant.

The Project will require abandonment of existing sewer lines to the site and construction of new on-site wastewater infrastructure to serve the proposed new building, and potential upgrade and/or relocation of existing wastewater infrastructure. Construction impacts associated with wastewater infrastructure would primarily be confined to trenching for miscellaneous utility lines and connections to public infrastructure. Installation of wastewater infrastructure will be limited to on-site wastewater distribution and minor off-site work associated with connections to the public main. No upgrades to the public main are anticipated. Any work that may affect services to the existing sewer lines will be coordinated with the City of Los Angeles.

Moreover, when considering impacts resulting from the installation of any required wastewater infrastructure, all impacts are of a relatively short-term duration (i.e., months) and would cease to occur once the installation is complete. Therefore, Project impacts on wastewater associated with construction activities would be less than significant.

5.2 OPERATION

This section covers the long-term operation of the proposed project and tis impact to water and sewer, Construction impacts, prior to operation, for both water and wastewater are temporary and less than long term operational demands. Therefore, it is anticipated that no service issues shall occur during construction.

5.2.1 WATER

5.2.1.1 WATER CONSUMPTION

Based on the Project's land uses, the Project's estimated water consumption is approximately 53,670 gallons per day (gpd), resulting in a net increased water demand of 52,545 gpd. These demand numbers were calculated using 100 percent of the BOS corresponding wastewater generation factors. A breakdown of these water demand calculations is provided in Table 3.

Table 3 – Estimated Proposed Water Demand

Land Use	Unit	Est. Avg. Daily Consumption Flow Rate Factor (gal/1000 SF gross area)[1] (gpd/unit)	Total Average Daily Consumption (gpd)
Residential: Apt – 1 Bedroom	89 Units	110 /Unit	9,790
Residential: Apt – 2 Bedroom	43 Units	150 /Unit	6,450
Residential: Studio (Bachelor)	21 Units	75 /Unit	1,575
Restaurant: [2]	7,000 SF (approx. 235 seats) [3]	25 /Seat	5,875
Pool:	1 Unit	29,330 /Unit	29,330
Gym:	1,000 SF	650 /1000 SF	650
		Total Proposed Water Demand	**53,220**
		Total Existing Water Demand (Per Table 1)	**675**
		Project Net Water Demand (Proposed – Existing)	**52,545**

Notes:

[1] Based on 100% of the BOS Sewer Generation Factors
[2] High-turnover Sit-down Restaurant
[3] Assumes 50% of Restaurant Space Will be Usable Seating Area and 15 Square Feet per Seat

5.2.1.2 WATER INFRASTRUCTURE ASSESSMENT

To determine the ability to provide on-site water service to the Project, a Fire Service Pressure Flow Report (SAR) was submitted to LADWP to analyze if there is adequate water capacity within both the fire suppression system (i.e. building sprinkler system), and domestic water service. Two locations were analyzed for the capacity to provide water service simultaneously for the onsite domestic water service and fire suppression system. One location was the 10-inch water main on Vine Street and the other was the 4-inch water main on Lexington Avenue. The SAR analysis received confirmed that there is sufficient water service capacity for the Project demand. Proposed water service can be connected from the existing 10-inch water main in Vine Street that has the capacity for water pipe infrastructure. The expected water demand of the project will require a 6-inch domestic water service and a 6-inch fire water service connection. The location on Lexington Avenue was not able to achieve 1400 gpm, the maximum flow achieved was 800 gpm at a pressure of 58 psi. However, per LADWP, the upsizing of the 4-inch pipe to a 6-inch pipe at this location would result in the capacity to achieve flows of 1400 gpm. The upsizing would allow for there to be adequate water capacity to provide on-site water service to the Project. Therefore, the proposed project will plan to connect into the water main in Vine Street. The service laterals will be adequately sized to accommodate the on-site fire suppression system demand and domestic demand flowing simultaneously. The new water services will also include backflows and be metered separately per City requirements. Therefore, impacts on water infrastructure would be less than significant (See **Attachment B – Fire Service Pressure Flow Report (SAR)**).

A Will Serve Letter was also requested to LADWP in order to confirm if the Project demand can be sufficiently supplied. The Will Serve Letter dated 08.29.2022 confirmed that the proposed Project Site can be supplied with water from the municipal system (See **Attachment C – Water Service Will Serve Letter**). Therefore, from the affirming Will Serve Letter and received SARs, the existing infrastructure can be determined to be adequate to serve the Project.

5.2.1.3 FIRE FLOW REQUIREMENTS

Article 7 Fire Protection and Prevention, Section 57.507.3 of the LAMC sets the fire flow requirements for the Project. These guidelines, in addition to the requirements set by the City Fire Chief, will prescribe the fire flow requirements (pressure and duration) and hydrant spacing requirements for the Project.

The Project shall not require additional fire hydrants to be installed in or around the property. The surrounding hydrants on Lexington Avenue, La Mirada Avenue, and Vine Street would be adequate. The Project falls within the High Density Residential and Neighborhood Commercial category, which has a required fire flow of 4,000 gallons per minute (gpm) from four adjacent fire hydrants flowing simultaneously, per City of Los Angeles Fire Code Table 507.3.1. Ultimate Fire flow requirements will be governed by the Fire Department.

Adjacent to the site there are currently five (5) existing fire hydrants located within 300 feet of the Project Site boundary. Four hydrants were analyzed with flows of 1,500 gpm each, resulting in residual pressures of 90 – 92 psi. The existing water mains and hydrants surrounding the Project will adequately service the minimum 4,000 gpm from four (4) hydrants running simultaneously (See **Attachment A – Information of Fire Flow Availability (IFFA)**).

5.2.2 WASTEWATER

5.2.2.1 SEWER GENERATION

In accordance with the *City of Los Angeles CEQA Thresholds Guide*, the Project's estimated sewer flows were based on the BOS's sewage generation factors for residential categories. Based on the proposed uses and generation factors, the Project's projected wastewater generation is approximately 53,220 gpd, representing a net increase in wastewater generation at the Project Site of approximately 52,545 gpd. A summary of the wastewater generation calculations is provided in Table 4.

Table 4 – Estimated Proposed Wastewater Generation

Land Use	Unit	Est. Avg. Daily Sewage Flow Rate Factor (gal/1000 SF gross area)[1] (gpd/unit	Total Average Daily Consumption (gpd)
Residential: Apt – 1 Bedroom	89 Units	110 /Unit	9,790
Residential: Apt – 2 Bedroom	43 Units	150 /Unit	6,450
Residential: Studio (Bachelor)	21 Units	75 /Unit	1,575
Restaurant: [2]	7,000 SF (approx. 235 seats) [3]	25 /Seat	5,875
Pool:	1 Unit	29,330 /Unit	29,330
Gym:	1,000 SF	200 /1000 SF	200
Total Proposed Wastewater Demand			**53,220**
Total Existing Wastewater Demand (Per Table 1)			**675**
Project Net Wastewater Demand (Proposed – Existing)			**52,545**

Notes:

[1] Based on 100% of the BOS Sewer Generation Factors
[2] High-turnover Sit-down Restaurant
[3] Assumes 50% of Restaurant Space Will be Usable Seating Area and 15 Square Feet per Seat

The total proposed wastewater demand for the Project is 53,220 gpd. The Sewage Facility Charge (SFC) is based on the net wastewater demand, therefore 675 gpd from the existing retail buildings were subtracted in order to get 52,545 gpd.

A Sewer Capacity Availability Request (SCAR) was submitted to the BOS to determine whether the existing wastewater infrastructure can accommodate the Project location (See **Attachment E – Sewer Capacity Availability Report (SCAR)**). BOS has analyzed the Project demands of a prior, more demanding Project scheme in conjunction with existing conditions and forecasted growth. The Project was approved to discharge up to 48,666 gpd into the city's system by connecting to the existing sewer lines in Vine Street and Lexington Avenue. A new SCAR was filed with a proposed total flow of 53,220 gpd. The original SCAR submitted was approved for a total of 48,666 gpd but will need to be amended to account for an additional 4,554 gpd. The results from the approved new SCAR, determined there are no wastewater service issues and the Project's wastewater infrastructure is serviceable.

5.2.2.2 INFRASTRUCTURE CAPACITY

The sewer mains in Vine Street and Lexington Avenue will serve the Project, and sewage from the Project Site is conveyed to the City's Hyperion Treatment Plant. The BOS's most current Integrated Resources Plan (IRP) notes that the existing design capacity of the Hyperion Service Area is approximately 550 mgd (consisting of 450 mgd at the Hyperion Treatment Plant, 80 mgd at the Donald C. Tillman Water Reclamation Plant, and 20 mgd at the Los Angeles-Glendale Water Reclamation), and that the existing average daily flow for the system as of 2021 is approximately 275 mgd. The Project's estimated wastewater generation increase of 52,545 gpd, or 0.052 mgd, comprises of less than 0.02 percent of the available capacity in the system and is within the system's remaining capacity of 275 mgd.

Based on these forecasts, the Project's increase in wastewater generation would be adequately accommodated by the Hyperion Service Area. In addition, the BOS's analysis confirms that the Hyperion Water Reclamation Plant has sufficient capacity and regulatory allotment for the proposed Project. Thus, operation of the Project would have a less than significant impact on wastewater treatment facilities. Related projects must go through the same analysis to determine if any facilities will need to be upgraded to accommodate for the increase in capacity. Therefore, based on the approved SCAR for the Project and the available wastewater treatment capacity, the Project's wastewater infrastructure would be serviceable.

6. PROJECT SERVICABILITY

Based on the results of the SAR, IFFAR and SCAR and the analysis contained in this report, no further service issues have been identified. The existing wastewater and water infrastructure shall be adequate to serve the proposed project. Additionally, less than significant water and wastewater impacts have been identified for this Project.

ATTACHMENT A

INFORMATION OF FIRE FLOW AVAILABILITY (IFFA)

City of Los Angeles
Los Angeles Department of Water and Power - Water System

INFORMATION OF FIRE FLOW AVAILABILITY

Western

Water Service Map No.: 146-189

LAFD Fire Flow Requirement: 4,000 GPM (from 4 Hydrants)

LAFD Signature:

Date Signed:

Applicant: Alejandra Santos

Company Name: Fuscoe Engineering

Address: 600 Wilshire Blvd, Suite 1470, Los Angeles, CA 90017

Telephone: 213-542-5625

Email Address: asantos-olivarez@fuscoe.com

KATHRINE CRUZ

AUG 31 2022

	F- 44633	F- 35764	F- 35765
Location:	SE Lexington Av / Vine St	NW Vine St / Lexington Av	SW Vine St / La Mirada Av
Distance from Neareast Pipe Location (feet):	16'	22'	22'
Hydrant Size:	2 1/2" x 4" DFH	4" D	4" D
Water Main Size (in):	8"	10"	10"
Static Pressure (psi):	118 max	118 max	120 max
Residual Pressure (psi):	90 psi	90 psi	92 psi
Flow at 20 psi (gpm):	1500 gpm	1500 gpm	1500 gpm

NOTE: Data obtained from hydraulic analysis using peak hour.

Remarks: Page 1 of 2

ECMR No. W20220901031

Please Include all Water Main Upsizing Requirements

4 Public Fire Hydrants (1- S/W corner of La Mirada Ave, 1- N/E corner of Vine St/La Mirada Ave, 1- S/E corner of Vin St/Lexington Ave, 1- N/W corner of Vine St/Lexington Ave)

High Density Residential and Neighborhood Commercial (Run Four Public Hydrants Simultaneously)

Water Purveyor: Los Angeles Department of Water & Power

Date: 9/14/2022

Signtature: Mark Patterson

Title: Civil Engineering Associate II

Requests must be made by submitting this completed application, along with a $271 ***check payable to:***

"Los Angeles Department of Water and Power", and mailed to:

Los Angeles Department of Water and Power

Distribution Engineering Section - Water

Attn: Business Arrangements

P.O. Box 51111 - Room 1425

Los Angeles, CA 90051-5700

*** If you have any questions, please contact us at (213) 367-2130 or visit our web site at http://www.ladwp.com.**

Cynthia

City of Los Angeles
Los Angeles Department of Water and Power - Water System

INFORMATION OF FIRE FLOW AVAILABILITY

Western

Water Service Map No.: 146-189

LAFD Fire Flow Requirement: 4,000 GPM (from 4 Hydrants)

LAFD Signature:

Date Signed:

Applicant: Alejandra Santos

Company Name: Fuscoe Engineering

Address: 600 Wilshire Blvd, Suite 1470, Los Angeles, CA 90017

Telephone: 213-542-5625

Email Address: asantos-olivarez@fuscoe.com

	F-42799	F-	F-
Location:	NE La Mirada Av / Vine St		
Distance from Neareast Pipe Location (feet):	27'		
Hydrant Size:	2 1/2" x 4" DFH		
Water Main Size (in):	6"		
Static Pressure (psi):	120 max		
Residual Pressure (psi):	92 psi		
Flow at 20 psi (gpm):	1500 gpm		

NOTE: Data obtained from hydraulic analysis using peak hour.

Remarks: Page 2 of 2

ECMR No. W20220901031

Please Include all Water Main Upsizing Requirements

4 Public Fire Hydrants (1- S/W corner of La Mirada Ave, 1- N/E corner of Vine St/La Mirada Ave, 1- S/E corner of Vine St/Lexington Ave, 1- N/W corner of Vine St/Lexington Ave)

High Density Residential and Neighborhood Commercial (Run Four Public Hydrants Simultaneously)

Water Purveyor: **Los Angeles Department of Water & Power** *Date:* 9/14/2022

Signtature: Mark Patterson *Title:* Civil Engineering Associate II

Requests must be made by submitting this completed application, along with a $271 ***check payable to:***

"Los Angeles Department of Water and Power", and mailed to:

Los Angeles Department of Water and Power

Distribution Engineering Section - Water

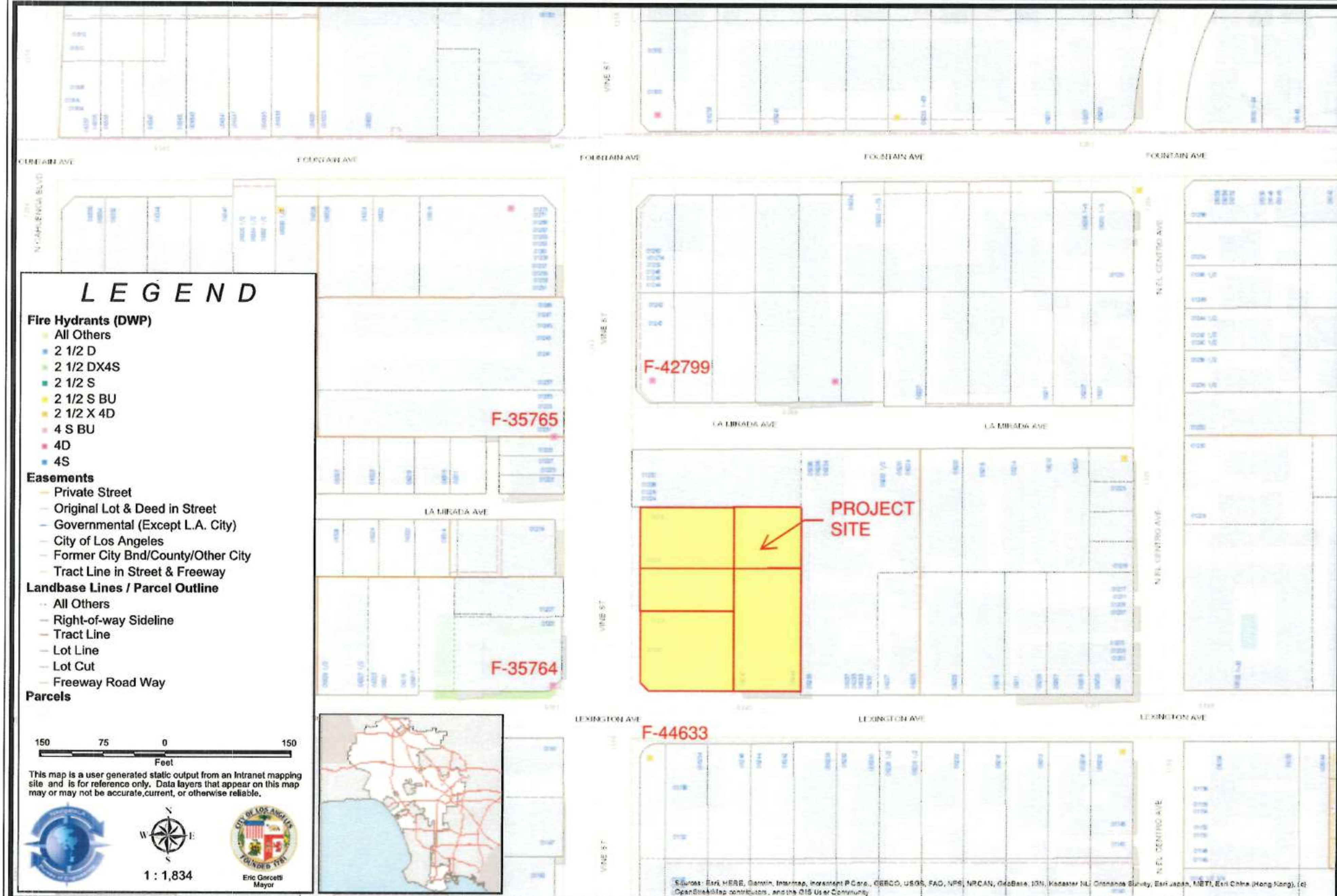
Attn: Business Arrangements

P.O. Box 51111 - Room 1425

Los Angeles, CA 90051-5700

*** If you have any questions, please contact us at (213) 367-2130 or visit our web site at http://www.ladwp.com.**

1200-1218 N. Vine St & 6245-6247 W. Lexington Ave



ATTACHMENT B

FIRE SERVICE PRESSURE FLOW REPORT (SAR)

City of Los Angeles

Los Angeles Department of Water and Power - Water System

SAR NUMBER **99815**

Fire Service Pressure Flow Report

SERVICE NUMBER **640246**

For: **1200 VINE ST** Approved Date: **9-16-2022**

Proposed Service **6 INCH** off of the

10 inch main in **VINE ST** on the **EAST** side approximately

90 feet **NORTH** of **NORTH** of **LEXINGTON AVE** The System maximum pressure is

120 psi based on street curb elevation of **313** feet above sea level at this location.

The distance from the DWP street main to the property line is **68** feet

System maximum pressure should be used only for determining class of piping and fittings.

Residual Flow/Pressure Table for water system street main at this location

Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)
0	90				
965	89				
1400	88				

Meter Assembly Capacities

Domestic Meters	
1 inch =	56 gpm
1-1/2 inch =	96 gpm
2 inch =	160 gpm
3 inch =	220 gpm
4 inch =	400 gpm
6 inch =	700 gpm
8 inch =	1500 gpm
10 inch =	2500 gpm

Fire Service	
2 inch =	250 gpm
4 inch =	600 gpm
6 inch =	1400 gpm
8 inch =	2500 gpm
10 inch =	5000 gpm

FM Services	
8 inch =	2500 gpm
10 inch =	5000 gpm

These values are subject to change due to changes in system facilities or demands.

Notes: With 700 gpm simultaneous domestic flow.

This information will be sent to the Department of Building and Safety for plan checking.

This SAR is valid for one year from 09-16-22. Once the SAR expires, the applicant needs to re-apply and pay applicable processing fee.

For additional information contact the Water Distribution Services Section **WESTERN (213) 367-1225**

MARK PATTERSON	MARK PATTERSON	146-189
Prepared by	**Approved by**	**Water Service Map**

City of Los Angeles

Los Angeles Department of Water and Power - Water System

LOS ANGELES DEPARTMENT OF WATER & POWER

SAR NUMBER **99816**

Fire Service Pressure Flow Report

SERVICE NUMBER **640247**

For: **1200 VINE ST** Approved Date: **9-16-2022**

Proposed Service **6 INCH** off of the

4 inch main in **LEXINGTON AVE** on the **NORTH** side approximately

120 feet **EAST** of **EAST** of **VINE ST** The System maximum pressure is

121 psi based on street curb elevation of **312** feet above sea level at this location.

The distance from the DWP street main to the property line is **43** feet

System maximum pressure should be used only for determining class of piping and fittings.

Residual Flow/Pressure Table for water system street main at this location					
Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)
0	92	565	74		
120	91	585	73		
175	90	600	72		
215	89	615	71		
250	88	630	70		
285	87	650	69		
315	86	665	68		
340	85	680	67		
365	84	690	66		
390	83	705	65		
415	82	720	64		
435	81	735	63		
455	80	750	62		
475	79	760	61		
495	78	775	60		
515	77	785	59		
530	76	800	58		
550	75				

Meter Assembly Capacities

Domestic Meters	
1 inch =	56 gpm
1-1/2 inch =	96 gpm
2 inch =	160 gpm
3 inch =	220 gpm
4 inch =	400 gpm
6 inch =	700 gpm
8 inch =	1500 gpm
10 inch =	2500 gpm

Fire Service	
2 inch =	250 gpm
4 inch =	600 gpm
6 inch =	1400 gpm
8 inch =	2500 gpm
10 inch =	5000 gpm

FM Services	
8 inch =	2500 gpm
10 inch =	5000 gpm

These values are subject to change due to changes in system facilities or demands.

Notes: 800 gpm maximum flow from existing conditions. Requires upsize 160 feet of 4 inch pipe to 6 inch pipe to achieve 1400 gpm at this location.

This information will be sent to the Department of Building and Safety for plan checking.

This SAR is valid for one year from 09-16-22. Once the SAR expires, the applicant needs to re-apply and pay applicable processing fee.

For additional information contact the Water Distribution Services Section **WESTERN (213) 367-1225**

MARK PATTERSON	**MARK PATTERSON**	**146-189**
Prepared by	**Approved by**	**Water Service Map**

ATTACHMENT C

WATER SERVICE WILL SERVE LETTER

LA DWP Los Angeles Department of Water & Power

BUILDING A STRONGER L.A.

August 29, 2022

Map No. 146-189

Ms. Alejandra Santos
Fuscoe Engineering
600 Wilshire Boulevard, Suite 1470
Los Angeles, CA 90017

Dear Ms. Santos:

Subject: Water Availability - Will Serve
1200-1218 North Vine Street & 6245-6247 West Lexington Avenue
APN 5534-002-023, 5534-002-018 Colegrove Tract, Lot FR (Arb 3,4.5.6 and 8)

This is in reply to your request regarding water availability for the above-mentioned location. This property can be supplied with water from the municipal system subject to the Water System rules of the Los Angeles Department of Water and Power (LADWP). It is also subject to all conditions set by LADWP.

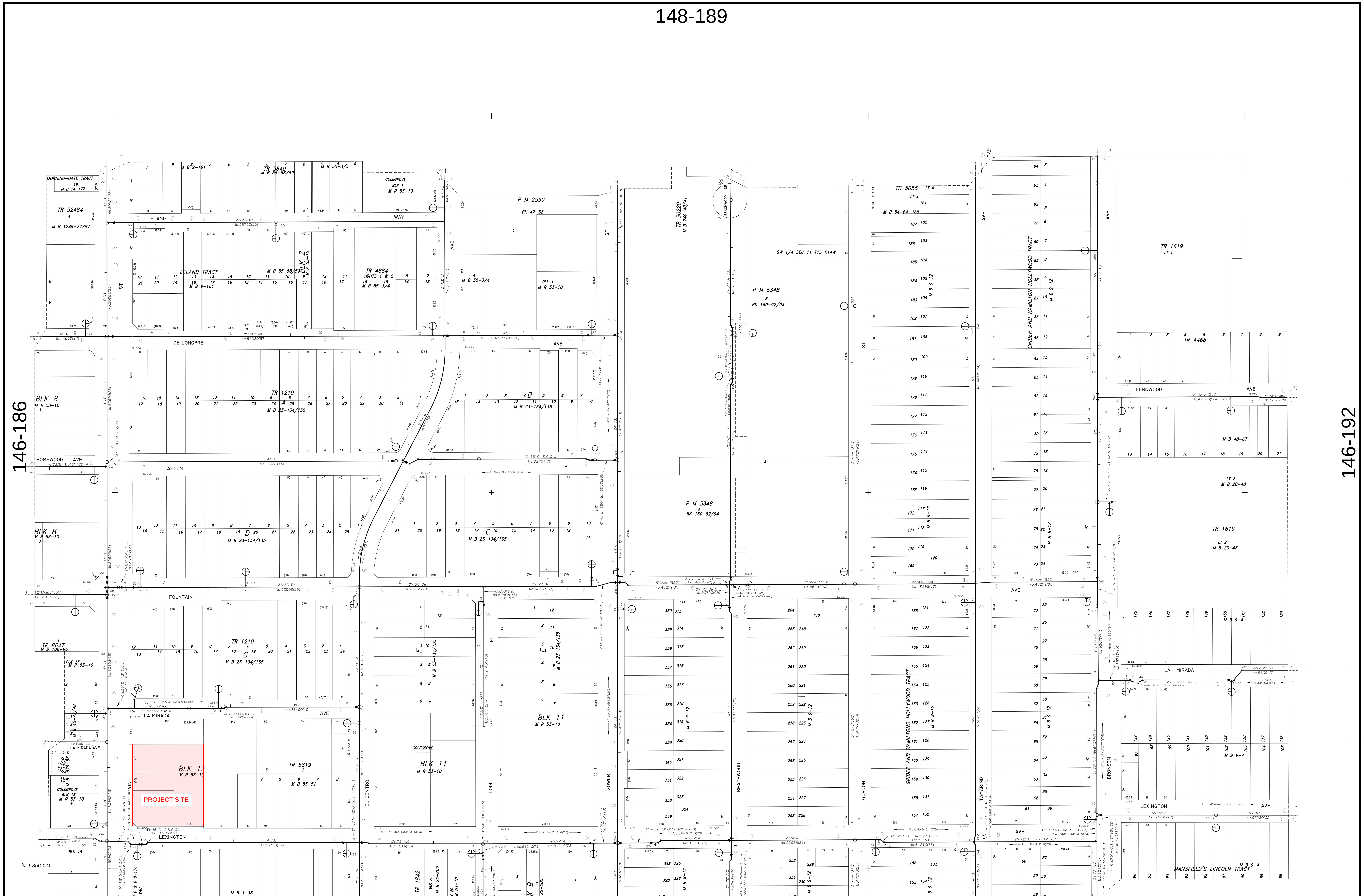
Should you require additional information, please contact Ms. Stella Kim at (213) 367-0247. Correspondence may be addressed to:

LADWP
111 North Hope Street, Room 1425
Los Angeles, California 90012

Sincerely,

fgonzalez
Liz Gonzalez
Manager-Business Arrangements
Water Distribution Engineering

SK:kc
c: Ms. Stella Kim



The Los Angeles Department of Water and Power (LADWP) assumes no responsibility for the accuracy of the substructure information herein provided. The user assumes responsibility for verifying substructure locations before excavation and assumes all liabilities for damage to LADWP facilities as a result of such excavation. Call Underground Service alert on 1-800-227-2600 two (2) days before excavating.

LEGEND MAP SCALE 1" = 1500'	SYMBOLS AND NOTATIONS	SCALE: 1" = 100'	PLOTTED	DATE	CHK'D.	DATE
	AS SHOWN	MAP	NAME	xx-xx-xxxx	NAME	xx-xx-xxxx
		CONVERTED MAINS	F.HUEZO	05-19-200.	Spot Chk'd	04-16-2009
		CONVERTED SERVICES	D.LEE	10-04-2006	NAME	xx-xx-xxxx
		MISC	NAME	xx-xx-xxxx	NAME	xx-xx-xxxx
		APPROVED				

FIRE HYDRANTS

- 2 1/2" SINGLE
- 2 1/2" S. BUILT UP
- 2 1/2" DOUBLE
- 4" SINGLE
- 4" S. BUILT UP
- 4" DOUBLE
- 2 1/2" x 4" DOUBLE

REFERENCES

MAPS REPLACED	GATE BK.:
147 NS , 148 NS , 149 NS	149-188C , 149-188D
186 NS , 187 NS , 188 NS	
	LANDBASE: 147A189 , 147A191 144B189
DATUM: N.A. 1983, ZONE 5; LEVELS: U.S.G.S	

WATER GEOGRAPHIC INFORMATION SYSTEMS & GRAPHICS GROUP
DEPARTMENT OF WATER AND POWER
CITY OF LOS ANGELES

WATER SERVICE MAP

SERVICE ZONE ELEVATION 579

DISTRICT: CENTRAL

146-189

Questions or Comments, contact: WaterGIS Group, Rm. 1439, JFB

6/17/2019 11:01:10 AM, dlee2

ATTACHMENT D

CITY OF LOS ANGELES, LABOS – WILL SERVE LETTER

CITY OF LOS ANGELES

CALIFORNIA

ERIC GARCETTI
MAYOR

DEPARTMENT OF
PUBLIC WORKS

BUREAU OF
ENGINEERING

TED ALLEN, PE
CITY ENGINEER

1149 S BROADWAY, SUITE 700
LOS ANGELES, CA 90015-2213

http://eng.lacity.org

11/08/2022

ALEJANDRA SANTOS
600 W WILSHIRE BLVD, SUITE 1470
LOS ANGELES, CA, 90017

Dear ALEJANDRA SANTOS,

SEWER AVAILABILITY: 1200-1218 N VINE ST / 6245-6247 W LEXINGTON AVE

The Bureau of Sanitation has reviewed your request of 10/27/2022 for sewer availability at **1200-1218 N VINE ST / 6245-6247 W LEXINGTON AVE**. Based on their analysis, it has been determined on 11/08/2022 that there is capacity available to handle the anticipated discharge from your proposed project(s) as indicated in the attached copy of the Sewer Capacity Availability Request (SCAR) .

This determination is valid for 180 days from the date shown on the Sewer Capacity Availability request (SCAR) approved by the Bureau of Sanitation.

While there is hydraulic capacity available in the local sewer system at this time, availability of sewer treatment capacity will be determined at the Bureau of Engineering Public Counter upon presentation of this letter. A Sewer Connection Permit may also be obtained at the same counter provided treatment capacity is available at the time of application.

A Sewerage Facilities Charge is due on all new buildings constructed within the City. The amount of this charge will be determined when application is made for your building permit and the Bureau of Engineering has the opportunity to review the building plans. To facilitate this determination a preliminary set of plans should be submitted to Bureau of Engineering District Office, Public Counter.

Provision for a clean out structure and/or a sewer trap satisfactory to the Department of Building and Safety may be required as part of the sewer connection permit.

Lateral connection of development shall adhere to Bureau of Engineering Sewer Design Manual Section F 480. **If not listed in the Proposed Facility Description section of the SCAR, sewer ejector use is prohibited.**

Sincerely,

Steve Melgar
CE ASSOCIATE
Central District, Bureau of Engineering

Scar Request Number: 4935

City of Los Angeles
Bureau of Engineering

SEWER CAPACITY AVAILABILITY REVIEW FEE (SCARF) - Frequently Asked Questions

SCAR stands for Sewer Capacity Availability Review that is performed by the Department of Public Works, Bureau of Sanitation. This review evaluates the existing sewer system to determine if there is adequate capacity to safely convey sewage from proposed development projects, proposed construction projects, proposed groundwater dewatering projects and proposed increases of sewage from existing facilities. The SCAR Fee (SCARF) recovers the cost, incurred by the City, in performing the review for any SCAR request that is expected to generate 10,000 gallons per day (gpd) of sewage.

The SCARF is based on the effort required to perform data collection and engineering analysis in completing a SCAR. A brief summary of that effort includes, but is not limited to, the following:

1. Research and trace sewer flow levels upstream and downstream of the point of connection.
2. Conduct field surveys to observe and record flow levels. Coordinate with maintenance staff to inspect sewer maintenance holes and conduct smoke and dye testing if necessary.
3. Review recent gauging data and in some cases closed circuit TV inspection (CCTV) videos.
4. Perform gauging and CCTV inspection if recent data is not available.
5. Research the project location area for other recently approved SCARs to evaluate the cumulated impact of all known SCARs on the sewer system.
6. Calculate the impact of the proposed additional sewage discharge on the existing sewer system as it will be impacted from the approved SCARs from Item 6 above. This includes tracing the cumulative impacts of all known SCARs, along with the subject SCAR, downstream to insure sufficient capacity exist throughout the system.
7. Correspond with the applicant for additional information and project and clarification as necessary.
8. Work with the applicant to find alternative sewer connection points and solutions if sufficient capacity does not exist at the desired point of connection.

Questions and Answers:

1. **When is the SCARF applied, or charged?**
   It applies to all applicants seeking a Sewer Capacity Availability Review (SCAR). SCARs are generally required for Sewer Facility Certificate applications exceeding 10,000 gpd, or request from a property owner seeking to increase their discharge thru their existing connection by 10,000 gpd or more, or any groundwater related project that discharges 10,000 gpd or more, or any proposed or future development for a project that could result in a discharge of 10,000 gpd.
2. **Why is the SCARF being charged now when it has not been in the past?**
   The City has seen a dramatic increase in the number of SCARs over 10,000 gpd in the last few years and has needed to increase its resources, i.e., staff and gauging efforts, to respond to them. The funds collected thru SCARF will help the City pay for these additional resources and will be paid by developers and property owners that receive the benefit from the SCAR effort.
3. **Where does the SCARF get paid?**
   The Department of Public Works, Bureau of Engineering (BOE) collects the fee at its public counters. Once the fee is paid then BOE prepares a SCAR request and forwards it to the BOS where it is reviewed and then returned to BOE. BOE then informs the applicant of the result. In some cases, BOS works directly with the applicant during the review of the SCAR to seek additional information and work out alternative solutions

ATTACHMENT E

SEWER CAPACITY AVAILABILITY REPORT (SCAR)

City of Los Angeles
Bureau of Engineering

Sewer Capacity Availability Request (SCAR)

To: Bureau of Sanitation
The following request is submitted to you on behalf of the applicant requesting to connect to the public sewer system. Please verify that the capacity exists at the requested location for the proposed developments shown below. The results are good for 180 days from the date the sewer capacity approval from the Bureau of Sanitation. Lateral connection of development shall adhere to Bureau of Engineering Sewer Design Manual Section F 480. **If not listed in the Proposed Facility Description section of the SCAR, sewer ejector use is prohibited.**

Job Address:	**1200-1218 N VINE ST / 6245-6247 W LEXINGTON AVE**	Sanitation Scar ID:	**70-6342-1122**
Date Submitted	10/27/2022	Request Will Serve Letter?	Yes
BOE District:	Central District		
Applicant:	ALEJANDRA SANTOS		
Address:	600 W WILSHIRE BLVD, SUITE 1470	City :	LOS ANGELES
State:	CA	Zip:	90017
Phone:	213-542-5621	Fax:	
Email:	ASANTOS-OLIVAREZ@FUSCOE.COM	BPA No.	
S-Map:	493	Wye Map:	4669-2

SIMM Map - Maintenance Hole Locations

No.	Street Name	U/S MH	D/S MH	Diam. (in)	Approved Flow %	Notes
1	LEXINGTON AVE	49302155	49302039	12	50.00	26,610 GPD
2	VINE ST	49302023	49302040	10	50.00	26,610 GPD

Proposed Facility Description

No.	Proposed Use Description	Sewage Generation (GPD)	Unit	Qty	GPD
1	RESIDENTIAL: APT - BACHELOR	75	DU	21	1,575
2	RESIDENTIAL: APT - 1 BDRM. *6	110	DU	89	9,790
3	RESIDENTIAL: APT - 2 BDRMS *6	150	DU	43	6,450
4	SWIMMING POOL (RESIDENTIAL WITH REPLACEABLE FILTER CARTRIDGES)		GPD	29,330	29,330
5	GYMNASIUM - BASKETBALL, VOLLEYBALL *10	200	KGSF	1,000	200
6	RESTAURANT: FAST FOOD INDOOR SEAT	25	SEAT	235	5,875
				Proposed Total Flow (gpd):	**53,220**

Remarks 1): Approved for the maximum allowable capacity of 53,220 GPD (36.96 gpm). 2): This SCAR will supersede previous SCAR IDs # 69-6230-0822. 3): Discharge as indicated in flow %s. 4): IWMD Permit required.

Note: Results are good for 180 days from the date of approval by the Bureau of Sanitation
Date Processed: 11/08/2022 Expires On: 05/07/2023

Scar Request Number: 4935

Processed by:	Albert Lew Bureau of Sanitation Phone: 323-342-6207 Sanitation Status: Approved Reviewed by: Sunbula Azieh on 11/07/2022	Submitted by:	Steve Melgar Bureau of Engineering Central District Phone:

Fees Collected	Yes	SCAR FEE (W:37 / QC:705)	$1,996.50
Date Collected	11/03/2022	SCAR Status:	**Completed**

City of Los Angeles
Bureau of Engineering

SEWER CAPACITY AVAILABILITY REVIEW FEE (SCARF) - Frequently Asked Questions

SCAR stands for Sewer Capacity Availability Review that is performed by the Department of Public Works, Bureau of Sanitation. This review evaluates the existing sewer system to determine if there is adequate capacity to safely convey sewage from proposed development projects, proposed construction projects, proposed groundwater dewatering projects and proposed increases of sewage from existing facilities. The SCAR Fee (SCARF) recovers the cost, incurred by the City, in performing the review for any SCAR request that is expected to generate 10,000 gallons per day (gpd) of sewage.

The SCARF is based on the effort required to perform data collection and engineering analysis in completing a SCAR. A brief summary of that effort includes, but is not limited to, the following:

1. Research and trace sewer flow levels upstream and downstream of the point of connection.
2. Conduct field surveys to observe and record flow levels. Coordinate with maintenance staff to inspect sewer maintenance holes and conduct smoke and dye testing if necessary.
3. Review recent gauging data and in some cases closed circuit TV inspection (CCTV) videos.
4. Perform gauging and CCTV inspection if recent data is not available.
5. Research the project location area for other recently approved SCARs to evaluate the cumulated impact of all known SCARs on the sewer system.
6. Calculate the impact of the proposed additional sewage discharge on the existing sewer system as it will be impacted from the approved SCARs from Item 6 above. This includes tracing the cumulative impacts of all known SCARs, along with the subject SCAR, downstream to insure sufficient capacity exist throughout the system.
7. Correspond with the applicant for additional information and project and clarification as necessary.
8. Work with the applicant to find alternative sewer connection points and solutions if sufficient capacity does not exist at the desired point of connection.

Questions and Answers:

1. **When is the SCARF applied, or charged?**
   It applies to all applicants seeking a Sewer Capacity Availability Review (SCAR). SCARs are generally required for Sewer Facility Certificate applications exceeding 10,000 gpd, or request from a property owner seeking to increase their discharge thru their existing connection by 10,000 gpd or more, or any groundwater related project that discharges 10,000 gpd or more, or any proposed or future development for a project that could result in a discharge of 10,000 gpd.
2. **Why is the SCARF being charged now when it has not been in the past?**
   The City has seen a dramatic increase in the number of SCARs over 10,000 gpd in the last few years and has needed to increase its resources, i.e., staff and gauging efforts, to respond to them. The funds collected thru SCARF will help the City pay for these additional resources and will be paid by developers and property owners that receive the benefit from the SCAR effort.
3. **Where does the SCARF get paid?**
   The Department of Public Works, Bureau of Engineering (BOE) collects the fee at its public counters. Once the fee is paid then BOE prepares a SCAR request and forwards it to the BOS where it is reviewed and then returned to BOE. BOE then informs the applicant of the result. In some cases, BOS works directly with the applicant during the review of the SCAR to seek additional information and work out alternative solutions

Scar Request Number: 4935

Geotechnologies, Inc.
Consulting Geotechnical Engineers

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Glendale, California 91201-2837
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Celebrating 50 YEARS OF SERVICE
1971-2021

December 9, 2021
File Number 22207

Grubb Properties
4601 Park Road, Suite 450
Charlotte, North Carolina 28209

Attention: Charlie Rulick

Subject: Geotechnical Engineering Investigation
Proposed Mixed-Use Development
1200 through 1218 North Vine Street, 6245 and 6247 West Lexington Avenue
Los Angeles, California

Dear Mr. Rulick:

This letter transmits the Geotechnical Engineering Investigation for the subject site prepared by Geotechnologies, Inc. This report provides geotechnical recommendations for the development of the site, including earthwork, seismic design, retaining walls, excavations, shoring and foundation design. Engineering for the proposed project should not begin until approval of the geotechnical investigation is granted by the local building official. Significant changes in the geotechnical recommendations may result due to the building department review process.

The validity of the recommendations presented herein is dependent upon review of the geotechnical aspects of the project during construction by this firm. The subsurface conditions described herein have been projected from limited subsurface exploration and laboratory testing. The exploration and testing presented in this report should in no way be construed to reflect any variations which may occur between the exploration locations or which may result from changes in subsurface conditions.

Should you have any questions please contact this office.

Respectfully submitted,
GEOTECHNOLOGIES, INC.

REGISTERED PROFESSIONAL ENGINEER
GREGORIO VARELA
No. 81201
Exp. 9/30/23
CIVIL
STATE OF CALIFORNIA

GREGORIO VARELA
R.C.E. 81201

GV:ln

Distribution: (3) Saiko Investment Corp.; Attn: Fred Schaffer

Email to: [fshaffer@gtocompanies.com]

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GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED MIXED-USE DEVELOPMENT
1200 THROUGH 1218 NORTH VINE STREET,
6245 AND 6247 WEST LEXINGTON AVENUE
LOS ANGELES, CALIFORNIA

INTRODUCTION

This report presents the results of the geotechnical engineering investigation performed on the subject site. The purpose of this investigation was to identify the distribution and engineering properties of the geologic materials underlying the site, and to provide geotechnical recommendations for the design of the proposed development.

This investigation included two exploratory excavations, collection of representative samples, laboratory testing, engineering analysis, review of published geologic data, review of available geotechnical engineering information and the preparation of this report. The exploratory excavation locations are shown on the enclosed Plot Plan. The results of the exploration and the laboratory testing are presented in the Appendix of this report.

PROPOSED DEVELOPMENT

Information concerning the proposed development was obtained by review of the Conceptual Plans prepared by KTGY, dated October 11, 2021. The proposed development consists of construction of an eight story mixed-use structure, to be built at- or near the existing site grade. The first two levels will consist of parking and retail space, while the remaining levels will consist of residential space. The location and alignment of the proposed structure is shown on the enclosed Plot Plan.

Structural information is not available at this time. Wall loads are estimated to range between 4 and 12 kips per lineal foot. Column loads are estimated to range between 300 and 700 kips. Grading is expected to consist of excavations on the order of 5 to 7 feet for the removal and recompaction of existing unsuitable soils.

Any changes in the design of the project or location of any structure, as outlined in this report, should be reviewed by this office. The recommendations contained in this report should not be considered valid until reviewed and modified or reaffirmed, in writing, subsequent to such review.

SITE CONDITIONS

The site is located at 1200 through 1218 North Vine Street, and 6245 and 6247 West Lexington Avenue, in the Hollywood area of the City of Los Angeles, California. The site is rectangular in shape, and just under one acre in area. The site is bounded by a two-story office building to the north, two apartment buildings to the east, Lexington Avenue to the south, and North Vine Street to the west. The site is shown relative to nearby topographic features in the enclosed Vicinity Map.

The apartment buildings located to the east of the subject site are two and three stories in height. One of the buildings was built at-grade, while the other was built over a partially-subterranean parking garage. As shown in the enclosed Plot Plan, the building with the partially-subterranean garage is setback from the property line, therefore it is not anticipated that the new structure will surcharge the adjacent subterranean retaining walls.

Based on review of the Land Title Survey prepared by LG Land Surveying, Inc., dated October 13, 2020, the site grade descends gently to the southwest. The elevation relief observed across the site is in the order of 3 feet. The site is currently developed with two single-story commercial structures, and a paved parking lot. Vegetation at the site is limited, and consists of a few mature palm trees, as well as shrubbery contained in small planter areas. Drainage across the site appears to be by sheetflow to the city streets to the southwest.

GEOTECHNICAL EXPLORATION

FIELD EXPLORATION

The site was explored on October 25, 2021 by drilling two borings. The borings were drilled to a depth of 30 and 50 feet below the existing grade, with the aid of a truck-mounted drilling machine using 8-inch diameter hollowstem augers. The exploration locations are shown on the Plot Plan and the geologic materials encountered are logged on Plates A-1 and A-2.

The location of exploratory excavations was determined from hardscaped features shown in the enclosed Plot Plan. Elevations of the exploratory excavations were approximated from elevation provided in the Land Title Survey prepared by LG Land Surveying, Inc., dated October 13, 2020. The location and elevation of the exploratory excavations should be considered accurate only to the degree implied by the method used.

Geologic Materials

Fill materials were encountered in both exploratory borings, to an approximate depth of 3 feet below the existing grade. The fill consist of sandy to clayey silt, and is dark brown in color, moist and stiff.

The fill is in turn underlain by native older alluvial soils, consisting of interlayered mixtures of sand, silt and clay. The alluvial soils are yellowish brown to dark brown in color, moist to wet, medium dense to very dense, or stiff, and fine to medium grained. More detailed descriptions of the earth materials encountered may be obtained from individual logs of the subsurface excavations.

Groundwater

Groundwater was encountered in both exploratory borings, at depths of 20 and 21½ feet below the existing grade. The historically highest groundwater level was established by review of the California Geological Survey Seismic Hazard Evaluation Report 026 Plate 1.2 entitled "Historically Highest Ground Water Contours". Review of this plate indicates that the historically highest groundwater level is on the order of 37 feet below grade. A copy of this plate is included in the Appendix as Historically Highest Groundwater Levels Map.

Fluctuations in the level of groundwater may occur due to variations in rainfall, temperature, and other factors not evident at the time of the measurements reported herein. Fluctuations also may occur across the site. High groundwater levels can result in changed conditions.

Caving

Caving could not be directly observed during exploration due to the type of excavation equipment utilized. However, based on the experience of this firm, large diameter excavations, excavations that encounter granular, cohesionless soils and excavations below the groundwater could potentially experience caving.

SEISMIC EVALUATION

REGIONAL GEOLOGIC SETTING

The subject site is located in the Los Angeles Basin of the northern portion of the Peninsular Ranges Geomorphic Province. The Peninsular Ranges are characterized by northwest-trending blocks of mountain ridges and sediment-floored valleys. The dominant geologic structural features are northwest trending fault zones that either die out to the northwest or terminate at east-trending reverse faults that form the southern margin of the Transverse Ranges.

The Los Angeles Basin is located at the northern end of the Peninsular Ranges Geomorphic Province. The basin is bounded by the east and southeast by the Santa Ana Mountains and San Joaquin Hills, to the northwest by the Santa Monica Mountains. Over 22 million years ago the Los Angeles basin was a deep marine basin formed by tectonic forces between the North American and Pacific plates. Since that time, over 5 miles of marine and non-marine sedimentary rock as well as intrusive and extrusive igneous rocks have filled the basin. During the last 2 million years, defined by the Pleistocene and Holocene epochs, the Los Angeles basin and surrounding mountain ranges have been uplifted to form the present day landscape. Erosion of the surrounding mountains has resulted in deposition of unconsolidated sediments in low-lying areas by rivers such as the Los Angeles River. Areas that have experienced subtle uplift have been eroded with gullies.

REGIONAL FAULTING

Based on criteria established by the California Division of Mines and Geology (CDMG) now called California Geologic Survey (CGS), Faults may be categorized as Holocene-active, Pre-Holocene faults, and Age-undetermined faults. Holocene-active faults are those which show evidence of surface displacement within the last 11,700 years. Pre-Holocene faults are those that have not moved in the past 11,700 years. Age-undetermined faults are faults where the recency of fault movement has not been determined.

Buried thrust faults are faults without a surface expression but are a significant source of seismic activity. They are typically broadly defined based on the analysis of seismic wave recordings of hundreds of small and large earthquakes in the southern California area. Due to the buried nature of these thrust faults, their existence is usually not known until they produce an earthquake. The risk for surface rupture potential of these buried thrust faults is inferred to be low (Leighton, 1990). However, the seismic risk of these buried structures in terms of recurrence and maximum potential magnitude is not well established. Therefore, the potential for surface rupture on these surface-verging splays at magnitudes higher than 6.0 cannot be precluded.

SEISMIC HAZARDS AND DESIGN CONSIDERATIONS

The primary geologic hazard at the site is moderate to strong ground motion (acceleration) caused by an earthquake on any of the local or regional faults. The potential for other earthquake-induced hazards was also evaluated including surface rupture, liquefaction, dynamic settlement, inundation and landsliding.

Surface Rupture

In 1972, the Alquist-Priolo Special Studies Zones Act (now known as the Alquist-Priolo Earthquake Fault Zoning Act) was passed into law. As revised in 2018, The Act defines "Holocene-active" Faults utilizing the same aging criteria as that used by California Geological Survey (CGS). However, established state policy has been to zone only those faults which have direct evidence of movement within the last 11,700 years. It is this recency of fault movement that the CGS considers as a characteristic for faults that have a relatively high potential for ground rupture in the future.

CGS policy is to delineate a boundary from 200 to 500 feet wide on each side of the Holocene-Active fault trace based on the location precision, the complexity, or the regional significance of the fault. If a site lies within an Earthquake Fault Zone, a geologic fault rupture investigation must be performed that demonstrates that the proposed building site is not threatened by surface displacement from the fault before development permits may be issued.

Review of the Earthquake Zones of Required Investigation Map of the Hollywood Quadrangle (CGS, 2014) indicates that the subject site is not located within an Alquist-Priolo Earthquake Fault Zone. The closest zone is the Hollywood Fault Zone, which is located just over half-mile to the north of the subject site. A copy of this map is enclosed herein.

Ground rupture is defined as surface displacement which occurs along the surface trace of the causative fault during an earthquake. Based on research of available literature and results of site reconnaissance, no known active or potentially active faults underlie the subject site. In addition, the subject site is not located within an Alquist-Priolo Earthquake Fault Zone. Based on these considerations, the potential for surface ground rupture at the subject site is considered low.

Liquefaction

Liquefaction is a phenomenon in which saturated silty to cohesionless soils below the groundwater table are subject to a temporary loss of strength due to the buildup of excess pore pressure during cyclic loading conditions such as those induced by an earthquake. Liquefaction-related effects include loss of bearing strength, amplified ground oscillations, lateral spreading, and flow failures.

As shown in the enclosed Earthquake Zones of Required Investigation Map, the State of California does not classify the site as part of a Liquefiable area. This determination is based on groundwater depth records, soil type and distance to a fault capable of producing a substantial earthquake.

As a conservative measure, a site-specific liquefaction analysis was performed following the Recommended Procedures for Implementation of the California Geologic Survey Special Publication 117A, Guidelines for Analyzing and Mitigating Seismic Hazards in California (CGS, 2008), and the EERI Monograph (MNO-12) by Idriss and Boulanger (2008). This semi-empirical method is based on a correlation between measured values of Standard Penetration Test (SPT) resistance and field performance data.

Groundwater was encountered during exploration, at a depth of 20 and 21½ feet below the existing grade. Based on review of the seismic hazard zone report of the Hollywood 7½-minute quadrangle (CDMG, 2006), the historically highest groundwater level for the site was 37 feet below the ground surface. The enclosed liquefaction analysis is based on a groundwater level of 20 feet.

Section 11.8.3 of ASCE 7-16 indicates that the potential for liquefaction shall be evaluated utilizing an acceleration consistent with the MCE_G PGA. Utilizing the OSHPD seismic utility program, this corresponds to a PGA_M of 0.99g. The USGS Probabilistic Seismic Hazard Deaggregation program (USGS, 2014) indicates a PGA of 0.91g (2 percent in 50 years ground motion) and a mean magnitude of 6.8 for the site. The liquefaction potential evaluation was performed by utilizing a magnitude 6.8 earthquake, and a peak horizontal acceleration of 0.99g.

The enclosed "Empirical Estimation of Liquefaction Potential" is based on Boring 1. Standard Penetration Test (SPT) data were collected at 5-foot intervals. Samples of the collected materials were conveyed to the laboratory for testing and analysis. The percent passing a Number 200 sieve, Atterberg Limits, and the plasticity index (PI) of representative samples of the soils encountered in the exploratory borings are presented on the enclosed E-Plate and F-Plate.

Based on CGS Special Publication 117A (CDMG, 2008) and (Bray and Sancio, 2006), the vast majority of liquefaction hazards are associated with sandy soils and silty soils of low plasticity. Furthermore, soils having a PI greater than 18 exhibit clay-like behavior, and the liquefaction potential of these soils are considered to be low. The results of Atterberg Limits testing (shown on Plate F) indicate that some of soil layers below the subject site have PI greater than 18. Therefore, these soils are not considered prone to liquefaction, and the analysis of these soil layers was turned off in the liquefaction susceptibility columns.

The site-specific liquefaction analysis included in the Appendix, indicates that the site soils would not be prone to liquefaction during the ground motion expected during the design-based seismic event.

Dynamic Dry Settlement

Seismically-induced settlement or compaction of dry or moist, cohesionless soils can be an effect related to earthquake ground motion. Such settlements are typically most damaging when the settlements are differential in nature across the length of structures.

Some seismically-induced settlement of the proposed structures should be expected as a result of strong ground-shaking, however, due to the uniform nature of the underlying geologic materials, excessive differential settlements are not expected to occur.

Tsunamis, Seiches and Flooding

Tsunamis are large ocean waves generated by sudden water displacement caused by a submarine earthquake, landslide, or volcanic eruption. Review of the County of Los Angeles Flood and Inundation Hazards Map (Leighton, 1990) indicates the site does not lie within mapped tsunami inundation boundaries.

Review of the County of Los Angeles Flood and Inundation Hazards Map, (Leighton, 1990), indicates the site lies within the mapped inundation boundaries of the Mulholland Dam. A determination of whether a higher site elevation would remove the site from the potential inundation zones is beyond the scope of this assessment.

Landsliding

The probability of seismically-induced landslides occurring on the site is considered to be low due to the general lack of elevation difference across or adjacent to the site.

CONCLUSIONS AND RECOMMENDATIONS

Based upon the exploration, laboratory testing, and research, it is the finding of Geotechnologies, Inc. that construction of the proposed mixed-use structure is considered feasible from a geotechnical engineering standpoint provided the advice and recommendations presented herein are followed and implemented during construction.

During exploration, fill materials were observed to extend to a depth of 3 feet below the existing grade. The existing fill materials are considered to be unsuitable for support of foundations, floor slabs, or additional fill. However, the existing fill materials may be reused in the preparation of a compacted fill pad.

The reported fill depth was recorded at two discrete locations. Deeper fill materials may be encountered within other areas, including the portion of the site currently occupied by the existing structures. It is recommended that supplemental potholing be conducted around the perimeter of the site prior to construction. This would provide a better understanding of the fill distribution across the site, and help select a suitable temporary stabilization measure for temporary excavations which will be conducted adjacent to the property line.

The proposed structure may be supported on conventional foundations bearing in a newly placed uniform compacted fill pad. For the construction of a uniform compacted fill pad, all existing fill materials and upper alluvial soils shall be removed and recompacted to a minimum depth of 5 feet below the proposed grade, or of 3 feet below the bottom of the proposed foundations, whichever is deeper. In addition, the compacted fill should extend horizontally a minimum of 3 feet beyond the edge of foundations, or for a distance equal to the depth of fill below the foundation, whichever is greater.

Construction of a proper compacted fill pad may not be possible along portions of the perimeter, where the proposed structure will be built adjacent to the property lines, and the recommended compacted fill pad horizontal over-excavation may not be achievable. In areas where the horizontal over-excavation will not be possible, the proposed foundations should be deepened to bear in undisturbed alluvial soils.

The validity of the conclusions and design recommendations presented herein is dependent upon review of the geotechnical aspects of the proposed construction by this firm. The subsurface conditions described herein have been projected from excavations on the site as indicated and should in no way be construed to reflect any variations which may occur between these excavations or which may result from changes in subsurface conditions. Any changes in the design, as outlined in this report, should be reviewed by this office. The recommendations contained herein should not be considered valid until reviewed and modified or reaffirmed subsequent to such review.

SEISMIC DESIGN CONSIDERATIONS

California Building Code Seismic Parameters

Based on information derived from the subsurface investigation, the subject site is classified as Site Class D, which corresponds to a “Stiff Soil” Profile, according to Table 20.3-1 of ASCE 7-16. This information and the site coordinates were input into the OSHPD seismic utility program in order to calculate ground motion parameters for the site.

CALIFORNIA BUILDING CODE SEISMIC PARAMETERS	
California Building Code	2019
ASCE Design Standard	7-16
Site Class	D
Mapped Spectral Acceleration at Short Periods (S_S)	2.096g
Site Coefficient (F_a)	1.0
Maximum Considered Earthquake Spectral Response for Short Periods (S_{MS})	2.096g
Five-Percent Damped Design Spectral Response Acceleration at Short Periods (S_{DS})	1.397g
Mapped Spectral Acceleration at One-Second Period (S_1)	0.750g
Site Coefficient (F_v)	1.7*
Maximum Considered Earthquake Spectral Response for One-Second Period (S_{M1})	1.275g*
Five-Percent Damped Design Spectral Response Acceleration for One-Second Period (S_{D1})	0.850g*

* *According to ASCE 7-16, a Long Period Site Coefficient (F_v) of 1.7 may be utilized provided that the value of the Seismic Response Coefficient (C_s) is determined by Equation 12.8-2 for values of $T \leq 1.5T_s$ and taken as equal to 1.5 times the value computed in accordance with either Equation 12.8-3 for $T_L \geq T > 1.5T_s$ or equation 12.8-4 for $T > T_L$. Alternatively, a site-specific ground motion hazard analysis may be performed in accordance with ASCE 7-16 Section 21.1 and/or a ground motion hazard analysis in accordance with ASCE 7-16 Section 21.2 to determine ground motions for any structure.*

EXPANSIVE SOILS

The onsite geologic materials are in the high expansion range. The Expansion Index was found to be 94 and 106 for a representative bulk samples. Recommended reinforcing is provided in the "Foundation Design" and "Slab-On-Grade" sections of this report.

SOIL CORROSION POTENTIAL

The results of the soil corrosivity testing performed on two samples representative of the onsite soils by Project X Corrosion Engineering indicate that the electrical resistivities of the soils are moderately corrosive to general metals when saturated. The soil pH value of the samples was between 8.0 and 8.1. This pH level is not detrimental to copper and aluminum alloys, but can allow corrosion of steel and iron in moist environments. Chloride levels in the samples are low and may cause insignificant corrosion of metals. Ammonia and Nitrates concentrations were not high enough to cause accelerated corrosion of copper and copper alloys, such as brass.

Sulfate content in the samples are considered negligible for corrosion of metals and cement. Special cement types need not be utilized for concrete structures in contact with the soils, since the sulfate content of the soils is negligible.

Detailed results, discussion of results and recommended mitigating measures are provided within the enclosed Corrosion Evaluation Report prepared by Project X Corrosion Engineering, dated December 7, 2021.

METHANE ZONES

This office has reviewed the City of Los Angeles Methane and Methane Buffer Zones map. Based on this review it appears that the subject property is not located within a Methane Zone or a Methane Buffer Zone, as designated by the City.

GRADING GUIDELINES

Site Preparation

- A thorough search should be made for possible underground utilities and/or structures. Any existing or abandoned utilities or structures located within the footprint of the proposed grading should be removed or relocated as appropriate.
- All vegetation, existing fill, and soft or disturbed geologic materials should be removed from the areas to receive controlled fill. All existing fill materials and any disturbed geologic materials resulting from grading operations shall be completely removed and properly recompacted prior to foundation excavation.
- Any vegetation or associated root system located within the footprint of the proposed structures should be removed during grading.
- Subsequent to the indicated removals, the exposed grade shall be scarified to a depth of six inches, moistened to optimum moisture content, and recompacted in excess of the minimum required comparative density.
- The excavated areas shall be observed by the geotechnical engineer prior to placing compacted fill.

Recommended Overexcavation and Blending

The proposed building areas shall be excavated to a minimum depth of 5 feet below the proposed grade, or 3 feet below the bottom of all foundations, whichever is greater. The excavation shall extend at least 3 feet beyond the edge of foundations or for a distance equal to the depth of fill below the foundations, whichever is greater. It is very important that the positions of the proposed structures are accurately located so that the limits of the graded area are accurate and the grading operation proceeds efficiently.

Once the onsite soils have been removed it is recommended that they should be blended to reduce the overall expansion index of the newly placed controlled fill. Where the site grading will result in a net export, the sandier or more granular materials should be segregated from the stockpiled soils and the more clayey or expansive materials should be exported. Samples of the segregated and/or blended soils should be tested by this office to ascertain the expansion index prior to placement and compaction.

Compaction

All fill should be mechanically compacted in layers not more than 8 inches thick. Based on the high expansion index of the site soils, it is recommended that fill materials are moisture conditioned to approximately 3 percent over optimum moisture content before recompaction.

All fill should be mechanically compacted in layers not more than 8 inches thick. The City of Los Angeles Department of Building and Safety requires a minimum comparative compaction of 95 percent of the laboratory maximum density where the soils to be utilized in the fill have less than 15 percent finer than 0.005 millimeters. Comparative compaction is defined, for purposes of these guidelines, as the ratio of the in-place density to the maximum density as determined by applicable ASTM testing.

Field observation and testing shall be performed by a representative of the geotechnical engineer during grading to assist the contractor in obtaining the required degree of compaction and the proper moisture content. Where compaction is less than required, additional compactive effort shall be made with adjustment of the moisture content, as necessary, until a minimum of 90 percent (or 95 percent for cohesionless soils having less than 15 percent finer than 0.005 millimeters) compaction is obtained.

Acceptable Materials

The excavated onsite materials are considered satisfactory for reuse in the controlled fills as long as any debris and/or organic matter is removed. Any imported materials shall be observed and tested by the representative of the geotechnical engineer prior to use in fill areas. Imported materials should contain sufficient fines so as to be relatively impermeable and result in a stable subgrade when compacted. Any required import materials should consist of geologic materials with an expansion index of less than 60. The water-soluble sulfate content of the import materials should be less than 0.1% percentage by weight.

Imported materials should be free from chemical or organic substances which could affect the proposed development. A competent professional should be retained in order to test imported materials and address environmental issues and organic substances which might affect the proposed development.

Utility Trench Backfill

Utility trenches should be backfilled with controlled fill. The utility should be bedded with clean sands at least one foot over the crown. The remainder of the backfill may be onsite soil compacted to 90 percent (or 95 percent for cohesionless soils having less than 15 percent finer than 0.005 millimeters) of the laboratory maximum density. Utility trench backfill should be tested by representatives of this firm in accordance with the most recent revision of ASTM D-1557.

Wet Soils

At the time of exploration some of the soils which will be exposed during grading and at the bottom of the excavations were locally above optimum moisture content. It is anticipated that the some of the excavated material to be placed as compacted fill, and some of the materials exposed at the bottom of excavated planes may require drying and aeration prior to recompaction.

Pumping (yielding or vertical deflection) of the high-moisture content soils at the bottom of the excavations may occur during operation of heavy equipment. Where pumping is encountered, angular minimum ¾-inch gravel should be placed and worked into the subgrade. The exact thickness of the gravel would be a trial and error procedure, and would be determined in the field. It would likely be on the order of 1 to 2 feet thick.

The gravel will help to densify the subgrade as well as function as a stabilization material upon which heavy equipment may operate. It is not recommended that rubber tire construction equipment attempt to operate directly on the pumping subgrade soils prior to placing the gravel. Direct operation of rubber tire equipment on the soft subgrade soils will likely result in excessive disturbance to the soils, which in turn will result in a delay to the construction schedule since those disturbed soils would then have to be removed and properly recompacted. Extreme care should be utilized to place gravel as the subgrade becomes exposed.

Shrinkage

Shrinkage results when a volume of soil removed at one density is compacted to a higher density. A shrinkage factor between 5 and 15 percent should be anticipated when excavating and recompacting the existing fill and underlying native geologic materials on the site to an average comparative compaction of 92 percent.

Weather Related Grading Considerations

When rain is forecast all fill that has been spread and awaits compaction shall be properly compacted prior to stopping work for the day or prior to stopping due to inclement weather. These fills, once compacted, shall have the surface sloped to drain to an area where water can be removed.

Temporary drainage devices should be installed to collect and transfer excess water to the street in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Drainage should not be allowed to flow uncontrolled over any descending slope.

Work may start again, after a period of rainfall, once the site has been reviewed by a representative of this office. Any soils saturated by the rain shall be removed and aerated so that the moisture content will fall within three percent of the optimum moisture content.

Surface materials previously compacted before the rain shall be scarified, brought to the proper moisture content and recompacted prior to placing additional fill, if considered necessary by a representative of this firm.

Abandoned Seepage Pits

No abandoned seepage pits were encountered during exploration and none are known to exist on the site. However, should such a structure be encountered during grading, options to permanently abandon seepage pits include complete removal and backfill of the excavation with compacted fill, or drilling out the loose materials and backfilling to within a few feet of grade with slurry, followed by a compacted fill cap.

If the subsurface structures are to be removed by grading, the entire structure should be demolished. The resulting void may be refilled with compacted soil. Concrete and brick generated during the seepage pit removal may be reused in the fill as long as all fragments are less than 6 inches in longest dimension and the debris comprises less than 15 percent of the fill by volume. All grading should comply with the recommendations of this report.

Where the seepage pit structure is to be left in place, the seepage pits should cleaned of all soil and debris. This may be accomplished by drilling. The pits should be filled with minimum 1½ sack concrete slurry to within 5 feet of the bottom of the proposed foundations. In order to provide a more uniform foundation condition, the remainder of the void should be filled with controlled fill.

Geotechnical Observations and Testing During Grading

Geotechnical observations and testing during grading are considered to be a continuation of the geotechnical investigation. It is critical that the geotechnical aspects of the project be reviewed by representatives of Geotechnologies, Inc. during the construction process. Compliance with the design concepts, specifications or recommendations during construction requires review by this firm during the course of construction. Any fill which is placed should be observed, tested, and verified if used for engineered purposes. Please advise this office at least twenty-four hours prior to any required site visit.

LEED Considerations

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System encourages adoption of sustainable green building and development practices. Credit for LEED Certification can be assigned for reuse of construction waste and diversion of materials from landfills in new construction.

In an effort to provide the design team with a viable option in this regard, demolition debris could be crushed onsite in order to use it in the ongoing grading operations. The environmental ramifications of this option, if any, should be considered by the team. The demolition debris should be limited to concrete, asphalt and other non-deleterious materials. All deleterious materials should be removed including, but not limited to, paper, garbage, ceramic materials and wood.

For structural fill applications, the materials should be crushed to 2 inches in maximum dimension or smaller. The crushed materials should be thoroughly blended and mixed with onsite soils prior to placement as compacted fill. The amount of crushed material should not exceed 20 percent. The blended and mixed materials should be tested by this office prior to placement to insure it is suitable for compaction purposes. The blended and mixed materials should be tested by Geotechnologies, Inc. during placement to insure that it has been compacted in a suitable manner.

FOUNDATION DESIGN

Conventional

The proposed structure may be supported by conventional foundations bearing in a newly built uniform compacted fill pad. Where perimeter foundations will be built immediately adjacent to the property line, and the recommended compacted fill pad horizontal over-excavation will not be possible, the affected foundations shall be deepened through any fill to bear in undisturbed native alluvial soils.

In addition, conventional foundations proposed within the northern and eastern portion of the site shall be deepened as appropriate, to prevent the surcharge of neighboring foundations. The bottom of these foundations shall extend below a 1:1 (45 degree) surcharge plane, which is projected upward from the bottom of the neighboring foundations.

Where a foundation requires deepening to bear in native soils, the deepened portion of the proposed foundation should be backfilled with hard rock concrete having the same strength as the planned structural footing. The initial pour would not require reinforcing as it is simply passing the load through to the competent native soils. Once the initial pour has hardened, the footing may be reinforced and poured on top of the first pour. Some method of creating a positive bond between the two pours should be employed.

Continuous foundations may be designed for a bearing capacity of 2,500 pounds per square foot, and should be a minimum of 12 inches in width, 24 inches in depth below the lowest adjacent grade and 24 inches into the recommended bearing material.

Column foundations may be designed for a bearing capacity of 3,000 pounds per square foot, and should be a minimum of 24 inches in width, 24 inches in depth below the lowest adjacent grade and 24 inches into the recommended bearing material.

The bearing capacity increase for each additional foot of width is 100 pounds per square foot. The bearing capacity increase for each additional foot of depth is 250 pounds per square foot. The maximum recommended bearing capacity is 5,000 pounds per square foot.

The bearing capacities indicated above are for the total of dead and frequently applied live loads, and may be increased by one third for short duration loading, which includes the effects of wind or seismic forces.

Foundation Reinforcement

All continuous foundations should be reinforced with a minimum of four #4 steel bars. Two should be placed near the top of the foundation, and two should be placed near the bottom.

Lateral Design

Resistance to lateral loading may be provided by friction acting at the base of foundations and by passive earth pressure. An allowable coefficient of friction of 0.30 may be used with the dead load forces.

Passive geologic pressure for the sides of foundations poured against undisturbed or recompacted soil may be computed as an equivalent fluid having a density of 250 pounds per cubic foot with a maximum earth pressure of 1,500 pounds per square foot.

The passive and friction components may be combined for lateral resistance without reduction. A one-third increase in the passive value may be used for short duration loading such as wind or seismic forces.

Foundation Settlement

Settlement of the foundation system is expected to occur on initial application of loading. This firm has prepared two settlement analyses, which calculate the anticipated settlement of the heaviest column foundations, for conditions where they bear in compacted fill and native alluvial soils. Copies of these analyses may be found in the Appendix of this report.

Based on these enclosed analyses, the maximum column foundation settlement anticipated for foundations bearing in compacted fill materials would be 0.99 inches, while the maximum column foundation settlement anticipated for foundations bearing in native soils would be on the order of 1.01 inches. The maximum differential settlement for the proposed foundation system is not expected to exceed ½-inch, and occur over a distance of approximately 30 feet.

Foundation Observations

It is critical that all foundation excavations are observed by a representative of this firm to verify penetration into the recommended bearing materials. The observation should be performed prior to the placement of reinforcement. Foundations should be deepened to extend into satisfactory geologic materials, if necessary.

Foundation excavations should be cleaned of all loose soils prior to placing steel and concrete. Any required foundation backfill should be mechanically compacted, flooding is not permitted.

RETAINING WALL DESIGN

The proposed structure is expected to be built near the existing grade. Therefore, the only retaining walls anticipated would be associated with the construction of elevator pits, planters, or shallow perimeter walls where the interior finished floor elevation will be slightly lower than the outdoor grade.

At this time, it is unknown if the proposed retaining walls will be serviced by a subdrain system. If the installation of a subdrain system will be omitted, the walls shall be designed for an undrained condition with full hydrostatic pressure. Recommendations for drained and undrained conditions are provided herein.

Additional pressure should be added to the retaining wall design, for a surcharge condition due to vehicular traffic or adjacent structures. At this time, it is not anticipated that the retaining walls will be surcharged by existing structures or traffic. For traffic surcharge, the upper 10 feet of any retaining wall adjacent to streets, driveways or parking areas should be designed to resist a uniform lateral pressure of 100 pounds per square foot, acting as a result of an assumed 300 pounds per square foot traffic surcharge. If the traffic is more than 10 feet from the retaining walls, the traffic surcharge may be neglected.

Cantilever Retaining Walls

Retaining walls supporting a level backslope may be designed utilizing a triangular distribution of pressure. Cantilever retaining walls may be designed utilizing the following table:

Height of Retaining Wall	Cantilever Retaining Wall **with** Wall Subdrain System Triangular Distribution of Active Earth Pressure	Cantilever Retaining Wall **without** Wall Subdrain System Triangular Distribution of Active Earth Pressure
Up to 6 feet	45 pcf	98 pcf (includes hydrostatic pressure)

The highly expansive properties of the on-site soils have been considered in the development of the recommended lateral earth pressure. For this equivalent fluid pressure to be valid, walls which are to be restrained at the top should be backfilled prior to the upper connection being made. Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures.

Restrained Retaining Walls

Restrained retaining walls may be designed to resist a triangular pressure distribution of at-rest earth pressure. Restrained retaining walls may be designed utilizing the following table:

Height of Retaining Wall	Restrained Retaining Wall **with** Wall Subdrain System Triangular Distribution of At-Rest Earth Pressure	Restrained Retaining Wall **without** Wall Subdrain System Triangular Distribution of At-Rest Earth Pressure
Up to 6 feet	68 pcf	95 pcf (includes hydrostatic pressure)

Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures.

Dynamic (Seismic) Earth Pressure

Based on the California Building Code, retaining walls exceeding 6 feet in height shall be designed to resist the additional earth pressure caused by seismic ground shaking. Miscellaneous retaining walls anticipated for the proposed project are not expected to exceed 6 feet in height. Therefore, the dynamic earth pressure may be omitted.

Surcharge from Adjacent Structures

The following surcharge equation provided in the LADBS Information Bulletin Document No. P/BC 2020-83, may be utilized to determine the surcharge loads on basement walls and shoring system for existing structures located within the 1:1 (h:v) surcharge influence zone of the excavation and basement.

Resultant lateral force: $R = (0.3*P*h^2)/(x^2+h^2)$

Location of lateral resultant: $d = x*[(x^2/h^2+1)*\tan^{-1}(h/x)-(x/h)]$

where:

R	=	resultant lateral force measured in pounds per foot of wall width.
P	=	resultant surcharge loads of continuous or isolated footings measured in pounds per foot of length parallel to the wall.
x	=	distance of resultant load from back face of wall measured in feet.
h	=	depth below point of application of surcharge loading to bottom of wall footing measured in feet.
d	=	depth of lateral resultant below point of application of surcharge loading measure in feet.
$\tan^{-1}(h/x)$	=	the angle in radians whose tangent is equal to h/x.

The structural engineer may use this equation to determine the surcharge loads based on the loading of the adjacent structures located within the surcharge influence zone.

Retaining Wall Drainage

If the retaining wall will be designed for a drained condition, the retaining walls should be provided with a subdrain covered with a minimum of 12 inches of gravel, and a compacted fill blanket or other seal at the surface. The onsite geologic materials are acceptable for use as retaining wall backfill as long as they are compacted to a minimum of 90 percent (or 95 percent for cohesionless soils having less than 15 percent finer than 0.005 millimeters) of the maximum density as determined by the most recent revision of ASTM D 1557.

As an alternative to the standard perforated subdrain pipe and gravel drainage system, the use of gravel pockets and weepholes is an acceptable drainage method. Weepholes shall be a minimum of 2 inches in diameter, placed at 8 feet on center along the base of the wall. Gravel pockets shall be a minimum of 1 cubic foot in dimension, and may consist of three-quarter inch to one-inch crushed rocks, wrapped in filter fabric. Subdrainage pipes should outlet to an acceptable location. Certain types of subdrain pipe are not acceptable to the various municipal agencies, it is recommended that prior to purchasing subdrainage pipe, the type and brand is cleared with the proper municipal agencies.

If a drainage system is not provided, the walls should be designed to resist an external hydrostatic pressure due to water in addition to the lateral earth pressure. Lateral pressures based on a hydrostatic design are provided in a previous section of this report.

Sump Pump Design

The purpose of the recommended retaining wall backdrainage system is to relieve hydrostatic pressure. Groundwater was encountered at a depth of 20 feet below the existing grade. Therefore, the only water which could affect the proposed retaining walls would be irrigation water and precipitation. Additionally, the proposed site grading is such that all drainage is directed to the street and the structure has been designed with adequate non-erosive drainage devices.

Based on these considerations the retaining wall backdrainage system is not expected to experience an appreciable flow of water, and in particular, no groundwater will affect it. However, for the purposes of design, a flow of 5 gallons per minute may be assumed.

Waterproofing

Moisture effecting retaining walls is one of the most common post construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water inside the building. Efflorescence is a process in which a powdery substance is produced on the surface of the concrete by the evaporation of water. The white powder usually consists of soluble salts such as gypsum, calcite, or common salt. Efflorescence is common to retaining walls and does not affect their strength or integrity.

It is recommended that retaining walls be waterproofed. Waterproofing design and inspection of its installation is not the responsibility of the geotechnical engineer. A qualified waterproofing consultant should be retained in order to recommend a product or method which would provide protection to below grade walls.

Retaining Wall Backfill

Any required backfill should be mechanically compacted in layers not more than 8 inches thick, to at least 90 percent (or 95 percent for cohesionless soils having less than 15 percent finer than 0.005 millimeters) of the maximum density obtainable by the most recent revision of ASTM D 1557 method of compaction. Flooding should not be permitted. Compaction within 5 feet, measured horizontally, behind a retaining structure should be achieved by use of light weight, hand operated compaction equipment.

Proper compaction of the backfill will be necessary to reduce settlement of overlying walks and paving. Some settlement of required backfill should be anticipated, and any utilities supported therein should be designed to accept differential settlement.

TEMPORARY EXCAVATIONS

Based on the depths of fill encountered during exploration, and anticipating that the proposed foundations may extend to depths ranging between 2 and 4 feet, it is expected that temporary excavations in the order of 5 to 7 feet in depth will be required for the recommended grading and foundation construction. Deeper temporary excavations will be required if deeper fill materials are encountered during construction, or if deeper foundations will be required. It is recommended that potholing be conducted prior to construction, in order to anticipate the presence of deeper fill materials.

The on-site fill and native soils are suitable for vertical excavations up to 5 feet where not surcharged by adjacent traffic, structures or property lines. Surcharged and unsurcharged vertical excavations may be performed to a maximum height of 7 feet with the aid of slot-cuts, as recommended in the following section. Temporary shoring will be required for vertical excavations exceeding a height of 7 feet. Trench shoring may be utilized for the deepening of foundations.

Where sufficient space is available, temporary unsurcharged embankments could be cut at a uniform 1:1 slope gradient to a maximum depth of 15 feet. A uniform sloped excavation is sloped from bottom to top and does not have a vertical component.

Where sloped embankments are utilized, the tops of the slopes should be barricaded to prevent vehicles and storage loads near the top of slope within a horizontal distance equal to the depth of the excavation. If the temporary construction embankments are to be maintained during the rainy season, berms are strongly recommended along the tops of the slopes to prevent runoff water from entering the excavation and eroding the slope faces. Water should not be allowed to pond on top of the excavation nor to flow towards it.

Slot Cutting

Where a property line, the public right of way, an adjacent structure, or traffic will surcharge a temporary excavation, the slot cutting method may be utilized to maintain a stable excavation. The slot cutting method may also be utilized for the deepening of foundations. The height of the excavation is limited to 7 feet. The "A-B-C" slot-cutting procedure is recommended.

The slot cutting method employs the earth as a buttress and allows the earth excavation to proceed in phases. The initial excavation consists of excavating the "A" slots. Alternate "A" slots of 8 feet may be worked. The remaining earth buttresses ("B" and "C" slots) should be 8 feet in width for a combined intervening length of 16 feet. The "A" slots should be properly backfilled, before the "B" slots are excavated. The height of the slots shall not exceed 7 feet in height. Calculations indicating that slots 8 feet in width will be stable for the maximum recommended height of 7 feet, including a surcharge load from adjacent walls and vehicular traffic, have been included in the appendix of this report.

Trench Shoring

Where necessary, a temporary trench shoring system may be utilized to stabilize new foundation excavations. Temporary trench shoring may consist of plywood, timber struts and angle braces, or a hydraulic trench shoring system. Temporary shoring and bracing systems up to 10 feet in height should be designed for a triangular pressure distribution with a minimum equivalent fluid pressure of 28 pounds per cubic foot. Additional active pressure should be added for a surcharge condition due to adjacent structures or vehicular traffic. It is recommended that a qualified shoring contractor be retained to determine the acceptable materials and procedures to be utilized for shoring.

The design team and contractor must be aware that the use of temporary shoring may impede the continuous construction of foundations. Foundations may require to be poured in several phases to accommodate for the removal of the trench shoring, while maintaining a stable excavation.

SHORING DESIGN

Conventional shoring may also be utilized to stabilize grading or foundation excavations. The following information on the design and installation of the shoring is as complete as possible at this time. It is suggested that Geotechnologies, Inc. review the final shoring plans and specifications prior to bidding or negotiating with a shoring contractor.

One method of shoring would consist of steel soldier piles, placed in drilled holes and backfilled with concrete. Based on the anticipated excavation depth, it is anticipated that the soldier piles will be designed for a cantilever condition.

Soldier Piles

Drilled cast-in-place soldier piles should be placed no closer than 2½ diameters on center. The minimum diameter of the piles is 18 inches. Structural concrete should be used for the soldier piles below the excavation; lean-mix concrete may be employed above that level. As an alternative, lean-mix concrete may be used throughout the pile where the reinforcing consists of a wideflange section. The slurry must be of sufficient strength to impart the lateral bearing pressure developed by the wideflange section to the earth materials. For soldier pile design purposes, an allowable passive value for the earth materials below the bottom plane of excavation may be assumed to be 500 pounds per square foot per foot of depth, up to a maximum of 5,000 pounds per square foot. To develop the full lateral value, provisions should be implemented to assure firm contact between the soldier piles and the undisturbed earth materials.

Groundwater was encountered during exploration at depths ranging between 20 and 21½ feet below the existing site grade. Piles placed below the water level require the use of a tremie to place the concrete into the bottom of the hole. A tremie shall consist of a water-tight tube having a diameter of not less than 10 inches with a hopper at the top. The tube shall be equipped with a device that will close the discharge end and prevent water from entering the tube while it is being charged with concrete. The tremie shall be supported so as to permit free movement of the discharge end over the entire top surface of the work and to permit rapid lowering when necessary to retard or stop the flow of concrete. The discharge end shall be closed at the start of the work to prevent water entering the tube and shall be entirely sealed at all times, except when the concrete is being placed. The tremie tube shall be kept full of concrete. The flow shall be continuous until the work is completed and the resulting concrete seal shall be monolithic and homogeneous. The tip of the tremie tube shall always be kept about five feet below the surface of the concrete and definite steps and safeguards should be taken to insure that the tip of the tremie tube is never raised above the surface of the concrete.

A special concrete mix should be used for concrete to be placed below water. The design shall provide for concrete with a strength p.s.i. of 1,000 over the initial job specification. An admixture that reduces the problem of segregation of paste/aggregates and dilution of paste shall be included. The slump shall be commensurate to any research report for the admixture, provided that it shall also be the minimum for a reasonable consistency for placing when water is present.

Where caving occurs, it will be necessary to utilize casing or polymer drilling fluid to maintain open pile shafts. If casing is used, extreme care should be employed so that the pile is not pulled apart as the casing is withdrawn. At no time should the distance between the surface of the concrete and the bottom of the casing be less than 5 feet.

The frictional resistance between the soldier piles and retained geologic material may be used to resist the vertical component of the anchor load. The coefficient of friction may be taken as 0.30 based on uniform contact between the steel beam and lean-mix concrete and retained earth. The portion of soldier piles below the plane of excavation may also be employed to resist the downward loads. The downward capacity may be determined using a frictional resistance of 500 pounds per square foot. The minimum depth of embedment for shoring piles is 5 feet below the bottom of the footing excavation or 5 feet below the bottom of excavated plane whichever is deeper.

Lagging

Soldier piles and anchors should be designed for the full anticipated pressures. Due to arching in the geologic materials, the pressure on the lagging will be less. It is recommended that the lagging should be designed for the full design pressure but be limited to a maximum of 400 pounds per square foot. It is recommended that a representative of this firm observe the installation of lagging to insure uniform support of the excavated embankment.

Lateral Pressures

Cantilevered shoring supporting a level backslope may be designed utilizing a triangular distribution of pressure as indicated in the following table:

HEIGHT OF SHORING "H" (feet)	EQUIVALENT FLUID PRESSURE (pounds per cubic foot)
Up to 10	28

Where a combination of sloped embankment and shoring is utilized, the pressure will be greater and must be determined for each combination. Additional active pressure should be applied where the shoring will be surcharged by adjacent traffic or structures.

Deflection

It is difficult to accurately predict the amount of deflection of a shored embankment. It should be realized that some deflection will occur. It is recommended that shoring deflection be limited to ½ inch at the top of the shored embankment where a structure is within a 1:1 plane projected up from the base of the excavation. A maximum deflection of 1-inch has been allowed, provided there are no structures within a 1:1 plane drawn upward from the base of the excavation. If greater deflection occurs during construction, additional bracing may be necessary to minimize settlement of adjacent buildings and utilities in adjacent street and alleys. If desired to reduce the deflection, a greater active pressure could be used in the shoring design.

Monitoring

Because of the depth of the excavation, some means of monitoring the performance of the shoring system is suggested. The monitoring should consist of periodic surveying of the lateral and vertical locations of the tops of all soldier piles and the lateral movement along the entire lengths of selected soldier piles. Also, some means of periodically checking the load on selected anchors will be necessary, where applicable.

Some movement of the shored embankments should be anticipated as a result of the relatively deep excavation. It is recommended that photographs of the existing buildings on the adjacent properties be made during construction to record any movements for use in the event of a dispute.

Shoring Observations

It is critical that the installation of shoring is observed by a representative of Geotechnologies, Inc. Many building officials require that shoring installation should be performed during continuous observation of a representative of the geotechnical engineer. The observations insure that the recommendations of the geotechnical report are implemented and so that modifications of the recommendations can be made if variations in the geologic material or groundwater conditions warrant. The observations will allow for a report to be prepared on the installation of shoring for the use of the local building official, where necessary.

SLABS ON GRADE

Concrete Slabs-on Grade

Interior concrete floor slabs should be a minimum of 5 inches in thickness. Slabs-on-grade should be cast over undisturbed native alluvial soils or properly controlled fill materials. Any geologic materials loosened or over-excavated should be wasted from the site or properly compacted to 90 percent (or 95 percent for cohesionless soils having less than 15 percent finer than 0.005 millimeters) of the maximum dry density.

Outdoor concrete flatwork should be a minimum of 5 inches in thickness. Outdoor concrete flatwork should be cast over undisturbed native alluvial soils or properly controlled fill materials. Any geologic materials loosened or over-excavated should be wasted from the site or properly compacted to 90 percent (or 95 percent for cohesionless soils having less than 15 percent finer than 0.005 millimeters) of the maximum dry density.

Design of Slabs That Receive Moisture-Sensitive Floor Coverings

Geotechnologies, Inc. does not practice in the field of moisture vapor transmission evaluation and mitigation. Therefore, where necessary, it is recommended that a qualified consultant should be engaged to evaluate the general and specific moisture vapor transmission paths and any impact on the proposed construction. The qualified consultant should provide recommendations for mitigation of potential adverse impacts of moisture vapor on various components of the structure.

Where any dampness would be objectionable or where the slab will be cast below the historic high groundwater level, it is recommended that floor slabs should be waterproofed. A qualified waterproofing consultant should be engaged in order to recommend a product and/or method which would provide protection from unwanted moisture.

Based on ACI 302.2R-30, Chapter 7, for projects which do not have vapor sensitive coverings or humidity-controlled areas, a vapor retarder/barrier is not necessary. Where a vapor retarder/barrier is considered necessary, the design of the slab and the installation of the vapor retarder/barrier should comply with the most recent revisions of ASTM E 1643 and ASTM E 1745. The vapor retarder/barrier should comply with ASTM E 1745 Class A requirements. The necessity of a vapor retarder/barrier is not a geotechnical issue and should be confirmed by qualified members of the design team.

Based on ACI 302.2R-30, Chapter 7, for projects with vapor sensitive coverings, a vapor retarder/ barrier should be provided. Figure 7.1 shows that the slab should be poured on the vapor retarder/barrier. The ACI guide notes in 5.2.3.2 that the decision to locate the vapor retarder/barrier in direct contact with the slab's underside had long been debated. Experience has shown, however, that the greatest level of protection for floor coverings, coating, or building environments is provided when the vapor retarder/barrier is placed in direct contact with the slab. The necessity of a vapor retarder as well as the use of dry granular material, as discussed above is not a geotechnical issue and should be confirmed by qualified members of the design team.

Where a vapor retarder/barrier is used, it should be placed on a level and compact subgrade. Precautions should be taken to protect the vapor retarder/barrier from damage during installation of reinforcing, utilities and concrete. The use of stakes driven thought the vapor retarder/barrier should be avoided. Repair any damaged areas of the vapor retarder/barrier prior to concrete placement.

Concrete Crack Control

The recommendations presented in this report are intended to reduce the potential for cracking of concrete slabs-on-grade due to settlement. However even where these recommendations have been implemented, foundations, stucco walls and concrete slabs-on-grade may display some cracking due to minor soil movement and/or concrete shrinkage. The occurrence of concrete cracking may be reduced and/or controlled by limiting the slump of the concrete used, proper concrete placement and curing, and by placement of crack control joints at reasonable intervals, in particular, where re-entrant slab corners occur.

For standard control of concrete cracking, a maximum crack control joint spacing of 8 feet should not be exceeded. Lesser spacings would provide greater crack control. Joints at curves and angle points are recommended. The crack control joints should be installed as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. Construction joints should be designed by a structural engineer.

Complete removal of the existing fill soils beneath outdoor flatwork such as walkways or patio areas, is not required, however, due to the rigid nature of concrete, some cracking, a shorter design life and increased maintenance costs should be anticipated. In order to provide uniform support beneath the flatwork it is recommended that a minimum of 12 inches of the exposed subgrade beneath the flatwork be scarified and recompacted to 90 percent (or 95 percent for cohesionless soils having less than 15 percent finer than 0.005 millimeters) relative compaction.

Slab Reinforcing

Concrete slabs-on-grade and outdoor flatwork should be reinforced with a minimum of #4 steel bars on 16-inch centers each way.

PAVEMENTS

Prior to placing paving, the existing grade should be scarified to a depth of 12 inches, moistened as required to obtain optimum moisture content, and recompacted to 90 percent (or 95 percent for cohesionless soils having less than 15 percent finer than 0.005 millimeters) relative compaction, as determined by the most recent revision of ASTM D 1557. The client should be aware that removal of all existing fill in the area of new paving is not required, however, pavement constructed in this manner will most likely have a shorter design life and increased maintenance costs. The following pavement sections are recommended:

Service	Asphalt Pavement Thickness Inches	Base Course Inches
Passenger Cars Traffic	4	5
Moderate Truck Traffic	5	7

Concrete paving may also be used on the project. For passenger cars and moderate truck traffic, concrete paving should be 6 inches of concrete over 4 inches of compacted base. For standard crack control maximum expansion joint spacing of 8 feet should not be exceeded. Lesser spacings would provide greater crack control. Joints at curves and angle points are recommended. Concrete paving should be reinforced with a minimum of #4 steel bars on 16-inch centers each way.

Aggregate base should be compacted to a minimum of 95 percent of the most recent revision of ASTM D 1557 laboratory maximum dry density. Base materials should conform to Sections 200-2.2 or 200-2.4 of the "Standard Specifications for Public Works Construction", (Green Book), latest edition.

The performance of pavement is highly dependent upon providing positive surface drainage away from the edges. Ponding of water on or adjacent to pavement can result in saturation of the subgrade materials and subsequent pavement distress. If planter islands are planned, the perimeter curb should extend a minimum of 12 inches below the bottom of the aggregate base.

SITE DRAINAGE

Proper surface drainage is critical to the future performance of the project. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Proper site drainage should be maintained at all times.

All site drainage, with the exception of any required to disposed of onsite by stormwater regulations, should be collected and transferred to the street in non-erosive drainage devices. The proposed structure should be provided with roof drainage. Discharge from downspouts, roof drains and scuppers should not be permitted on unprotected soils within five feet of the building perimeter. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Drainage should not be allowed to flow uncontrolled over any descending slope. Planters which are located within a distance equal to the depth of a retaining wall should be sealed to prevent moisture adversely affecting the wall. Planters which are located within five feet of a foundation should be sealed to prevent moisture affecting the earth materials supporting the foundation.

STORMWATER DISPOSAL

Recently regulatory agencies have been requiring the disposal of a certain amount of stormwater generated on a site by infiltration into the site soils. Increasing the moisture content of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. This means that any overlying structure, including buildings, pavements and concrete flatwork, could sustain damage due to saturation of the subgrade soils. Structures serviced by subterranean levels could be adversely impacted by stormwater disposal by increasing the design fluid pressures on retaining walls and causing leaks in the walls. Proper site drainage is critical to the performance of any structure in the built environment.

Percolation testing of the on-site soils was not conducted by this firm. However, based on the fines content of the majority of the site soils, it is the opinion of this firm that these soils will have poor infiltration capabilities. Allowing stormwater infiltration would result in a perched water condition. In addition, some of the site soils were determined to be highly expansive when saturated.

Groundwater was encountered during exploration, to depths ranging between 20 and 21½ feet below grade. Current regulations require that the bottom of infiltration systems maintain a minimum vertical separation of 10 feet above the groundwater level. Based on the required vertical separation, and the shallowest depth to groundwater observed during exploration, any potential stormwater infiltration to be conducted at the site would have to occur within the upper 10 feet of soils. Infiltration within this upper soil stratum is not recommend, as it would saturate the soils providing primary support to the proposed structure. Saturation of these soils would affect their strength.

Based on the above considerations, stormwater infiltration is not recommended for the subject site. Where infiltration of stormwater into the subgrade soils is not advisable, most Building Officials have allowed the stormwater to be filtered through soils in planter areas. Once the water has been filtered through a planter it may be released into the storm drain system. It is recommended that overflow pipes are incorporated into the design of the discharge system in the planters to prevent flooding. In addition, the planters shall be sealed and waterproofed to prevent leakage. Please be advised that adverse impact to landscaping and periodic maintenance may result due to excessive water and contaminants discharged into the planters.

It is recommended that the design team (including the structural engineer, waterproofing consultant, plumbing engineer, and landscape architect) be consulted in regards to the design and construction of filtration systems.

DESIGN REVIEW

Engineering of the proposed project should not begin until approval of the geotechnical report by the Building Official is obtained in writing. Significant changes in the geotechnical recommendations may result during the building department review process.

It is recommended that the geotechnical aspects of the project be reviewed by this firm during the design process. This review provides assistance to the design team by providing specific recommendations for particular cases, as well as review of the proposed construction to evaluate whether the intent of the recommendations presented herein are satisfied.

CONSTRUCTION MONITORING

Geotechnical observations and testing during construction are considered to be a continuation of the geotechnical investigation. It is critical that this firm review the geotechnical aspects of the project during the construction process. Compliance with the design concepts, specifications or recommendations during construction requires review by this firm during the course of construction. All foundations should be observed by a representative of this firm prior to placing concrete or steel. Any fill which is placed should be observed, tested, and verified if used for engineered purposes. Please advise Geotechnologies, Inc. at least twenty-four hours prior to any required site visit.

If conditions encountered during construction appear to differ from those disclosed herein, notify Geotechnologies, Inc. immediately so the need for modifications may be considered in a timely manner.

It is the responsibility of the contractor to ensure that all excavations and trenches are properly sloped or shored. All temporary excavations should be cut and maintained in accordance with applicable OSHA rules and regulations.

EXCAVATION CHARACTERISTICS

The exploration performed for this investigation is limited to the geotechnical excavations described. Direct exploration of the entire site would not be economically feasible. The owner, design team and contractor must understand that differing excavation and drilling conditions may be encountered based on boulders, gravel, oversize materials, groundwater and many other conditions. Fill materials, especially when they were placed without benefit of modern grading codes, regularly contain materials which could impede efficient grading and drilling. Southern California sedimentary bedrock is known to contain variable layers which reflect differences in depositional environment. Such layers may include abundant gravel, cobbles and boulders. Similarly bedrock can contain concretions. Concretions are typically lenticular and follow the bedding. They are formed by mineral deposits. Concretions can be very hard. Excavation and drilling in these areas may require full size equipment and coring capability. The contractor should be familiar with the site and the geologic materials in the vicinity.

CLOSURE AND LIMITATIONS

The purpose of this report is to aid in the design and completion of the described project. Implementation of the advice presented in this report is intended to reduce certain risks associated with construction projects. The professional opinions and geotechnical advice contained in this report are sought because of special skill in engineering and geology and were prepared in accordance with generally accepted geotechnical engineering practice. Geotechnologies, Inc. has a duty to exercise the ordinary skill and competence of members of the engineering profession. Those who hire Geotechnologies, Inc. are not justified in expecting infallibility, but can expect reasonable professional care and competence.

The recommendations of this report pertain only to the site investigated and are based upon the assumption that the geologic conditions do not deviate from those disclosed in the investigation. If any variations are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geotechnologies, Inc. should be notified so that supplemental recommendations can be prepared.

This report is issued with the understanding that it is the responsibility of the owner, or the owner's representatives, to ensure that the information and recommendations contained herein are brought to the attention of the project architect and engineer and are incorporated into the plans. The owner is also responsible to see that the contractor and subcontractors carry out the geotechnical recommendations during construction.

The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside control of this firm. Therefore, this report is subject to review and should not be relied upon after a period of three years.

Geotechnical observations and testing during construction is considered to be a continuation of the geotechnical investigation. It is, therefore, most prudent to employ the consultant performing the initial investigative work to provide observation and testing services during construction. This practice enables the project to flow smoothly from the planning stages through to completion.

Should another geotechnical firm be selected to provide the testing and observation services during construction, that firm should prepare a letter indicating their assumption of the responsibilities of geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for review. The letter should acknowledge the concurrence of the new geotechnical engineer with the recommendations presented in this report.

EXCLUSIONS

Geotechnologies, Inc. does not practice in the fields of methane gas, radon gas, environmental engineering, waterproofing, dewatering organic substances or the presence of corrosive soils or wetlands which could affect the proposed development including mold and toxic mold. Nothing in this report is intended to address these issues and/or their potential effect on the proposed development. A competent professional consultant should be retained in order to address environmental issues, waterproofing, organic substances and wetlands which might affect the proposed development.

GEOTECHNICAL TESTING

Classification and Sampling

The soil is continuously logged by a representative of this firm and classified by visual examination in accordance with the Unified Soil Classification system. The field classification is verified in the laboratory, also in accordance with the Unified Soil Classification System. Laboratory classification may include visual examination, Atterberg Limit Tests and grain size distribution. The final classification is shown on the excavation logs.

Samples of the geologic materials encountered in the exploratory excavations were collected and transported to the laboratory. Undisturbed samples of soil are obtained at frequent intervals. Unless noted on the excavation logs as an SPT sample, samples acquired while utilizing a hollow-stem auger drill rig are obtained by driving a thin-walled, California Modified Sampler with successive 30-inch drops of a 140-pound automatic hammer. The soil is retained in brass rings of 2.50 inches outside diameter and 1.00 inch in height. The central portion of the samples are stored in close fitting, waterproof containers for transportation to the laboratory. Samples noted on the excavation logs as SPT samples are obtained in general accordance with the most recent revision of ASTM D 1586. Samples are retained for 30 days after the date of the geotechnical report.

Moisture and Density Relationships

The field moisture content and dry unit weight are determined for each of the undisturbed soil samples, and the moisture content is determined for SPT samples in general accordance with the most recent revision of ASTM D 4959 or ASTM D 4643. This information is useful in providing a gross picture of the soil consistency between exploration locations and any local variations. The dry unit weight is determined in pounds per cubic foot and shown on the "Excavation Logs", A-Plates. The field moisture content is determined as a percentage of the dry unit weight.

Direct Shear Testing

Shear tests are performed in general accordance with the most recent revision of ASTM D 3080 with a strain controlled, direct shear machine manufactured by Soil Test, Inc. or a Direct Shear Apparatus manufactured by GeoMatic, Inc. The rate of deformation is approximately 0.025 inches per minute. Each sample is sheared under varying confining pressures in order to determine the Mohr-Coulomb shear strength parameters of the cohesion intercept and the angle of internal friction. Samples are generally tested in an artificially saturated condition. Depending upon the sample location and future site conditions, samples may be tested at field moisture content. The results are plotted on the "Shear Test Diagram," B-Plates.

The most recent revision of ASTM 3080 limits the particle size to 10 percent of the diameter of the direct shear test specimen. The sheared sample is inspected by the laboratory technician running the test. The inspection is performed by splitting the sample along the sheared plane and observing the soils exposed on both sides. Where oversize particles are observed in the shear plane, the results are discarded and the test run again with a fresh sample.

Consolidation Testing

Settlement predictions of the soil's behavior under load are made on the basis of the consolidation tests in general accordance with the most recent revision of ASTM D 2435. The consolidation apparatus is designed to receive a single one-inch high ring. Loads are applied in several increments in a geometric progression, and the resulting deformations are recorded at selected time intervals. Porous stones are placed in contact with the top and bottom of each specimen to permit addition and release of pore fluid. Samples are generally tested at increased moisture content to determine the effects of water on the bearing soil. The normal pressure at which the water is added is noted on the drawing. Results are plotted on the "Consolidation Test," C-Plates.

Expansion Index Testing

The expansion tests performed on the remolded samples are in accordance with the Expansion Index testing procedures, as described in the most recent revision of ASTM D 4829. The soil sample is compacted into a metal ring at a saturation degree of 50 percent. The ring sample is then placed in a consolidometer, under a vertical confining pressure of 1 lbf/square inch and inundated with distilled water. The deformation of the specimen is recorded for a period of 24 hour or until the rate of deformation becomes less than 0.0002 inches/hour, whichever occurs first. The expansion index, EI, is determined by dividing the difference between final and initial height of the ring sample by the initial height, and multiplied by 1,000. Results are presented in Plate D of this report.

Laboratory Compaction Characteristics

The maximum dry unit weight and optimum moisture content of a soil are determined in general accordance with the most recent revision of ASTM D 1557. A soil at a selected moisture content is placed in five layers into a mold of given dimensions, with each layer compacted by 25 blows of a 10 pound hammer dropped from a distance of 18 inches subjecting the soil to a total compactive effort of about 56,000 pounds per cubic foot. The resulting dry unit weight is determined. The procedure is repeated for a sufficient number of moisture contents to establish a relationship between the dry unit weight and the water content of the soil. The data when plotted represent a curvilinear relationship known as the compaction curve. The values of optimum moisture content and modified maximum dry unit weight are determined from the compaction curve. Results are presented in Plate D of this report.

Grain Size Distribution

These tests cover the quantitative determination of the distribution of particle sizes in soils. Sieve analysis is used to determine the grain size distribution of the soil larger than the Number 200 sieve. The most recent revision of ASTM D 422 is used to determine particle sizes smaller than the Number 200 sieve. A hydrometer is used to determine the distribution of particle sizes by a sedimentation process. The grain size distributions are plotted on the E-Plate presented in the Appendix of this report.

Atterberg Limits

Depending on their moisture content, cohesive soils can be solid, plastic, or liquid. The water contents corresponding to the transitions from solid to plastic or plastic to liquid are known as the Atterberg Limits. The transitions are called the plastic limit and liquid limit. The difference between the liquid and plastic limits is known as the plasticity index. ASTM D 4318 is utilized to determine the Atterberg Limits. The results are shown on the enclosed F-Plate.

REFERENCES

California Department of Conservation, 2008, Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication 117A, California Geological Survey.

California Department of Conservation, Division of Mines and Geology, 1998 (Revised 2006), Seismic Hazard Zone Report of the Hollywood 7½-Minute Quadrangle, Los Angeles County, California., C.D.M.G. Seismic Hazard Zone Report 026, map scale 1:24,000.

California Department of Conservation, Division of Mines and Geology, 1999, Seismic Hazard Zones Map, Hollywood 7½-minute Quadrangle, CDMG Seismic Hazard Zone Mapping Act of 1990.

California Geological Survey, 2014, Earthquake Zones of Required Investigation, Hollywood 7½-minute Quadrangle.

Leighton and Associates, Inc., 1990, Technical Appendix to the Safety Element of the Los Angeles County General Plan: Hazard Reduction in Los Angeles County.

Poland, J.F., Garell, A.A., AND Sinott, A., 1959, Geology, Hydrology, and Chemical Character of Groundwaters in the Torrance-Santa Monica area, California; U.S. Geological Survey, Water Supply Paper 1461.

SEAOC/OSHPD U.S. Seismic Design Maps tool.

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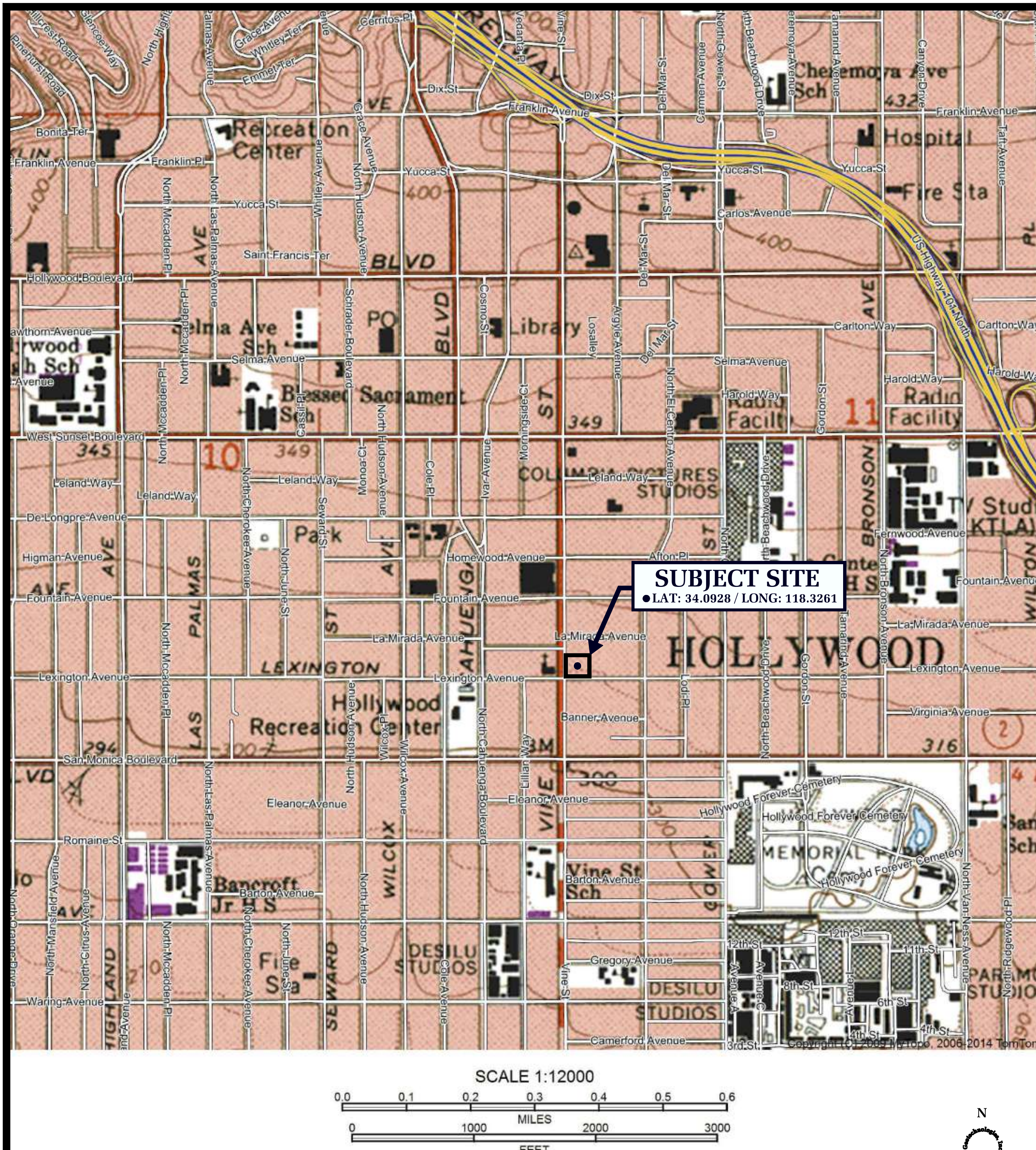
Stewart, J.P., Blake, T.F., and Hollingsworth, R.A., 2003, a screen analysis procedure of seismic slope stability: Earthquake Spectra, v. 19, n. 3, p. 697-712.

Tinsley, J.C., and Fumal, T.E., 1985, Mapping quaternary Sedimentary Deposits for Areal Variations in Shaking Response, in Evaluation Earthquake Hazards in the Los Angeles Region- An Earth Science Perspective, U.S. Geological Survey Professional Paper 1360, Ziony, J.I. ed., pp 101-125.

United States Geological Survey, 2014, U.S.G.S. Interactive Deaggregation Program. http://eqint.cr.usgs.gov/deaggint/2014/index.php.

Yerkes, R.F., McCulloh, T.H., Schoellhamer, J.E., Vedder, J.G., Geology of the Los Angeles Basin, Southern California-An Introduction, U.S. Geological Professional Paper 420-A.



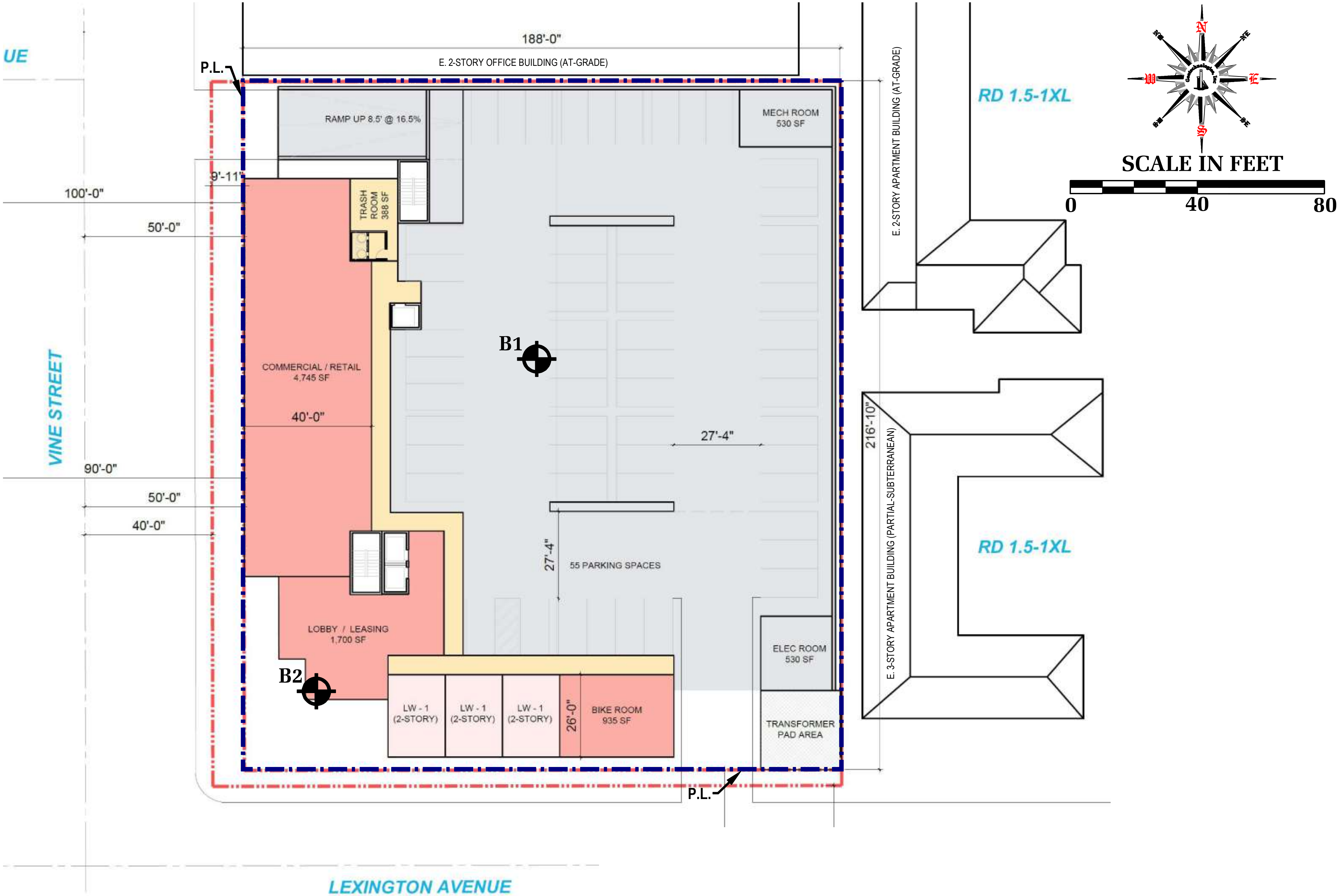
REFERENCE: U.S.G.S. TOPOGRAPHIC MAPS, 7.5 MINUTE SERIES,
HOLLYWOOD, CA QUADRANGLE

VICINITY MAP

Geotechnologies, Inc.
Consulting Geotechnical Engineers

GRUBB PROPERTIES
1200 N. VINE ST., LOS ANGELES, CA

FILE NO. 22207



LEGEND

B2 LOCATION & NUMBER OF BORING

REFERENCE: CONCEPTUAL PLAN (LEVEL 1) BY KTGY
DATED 10/11/21

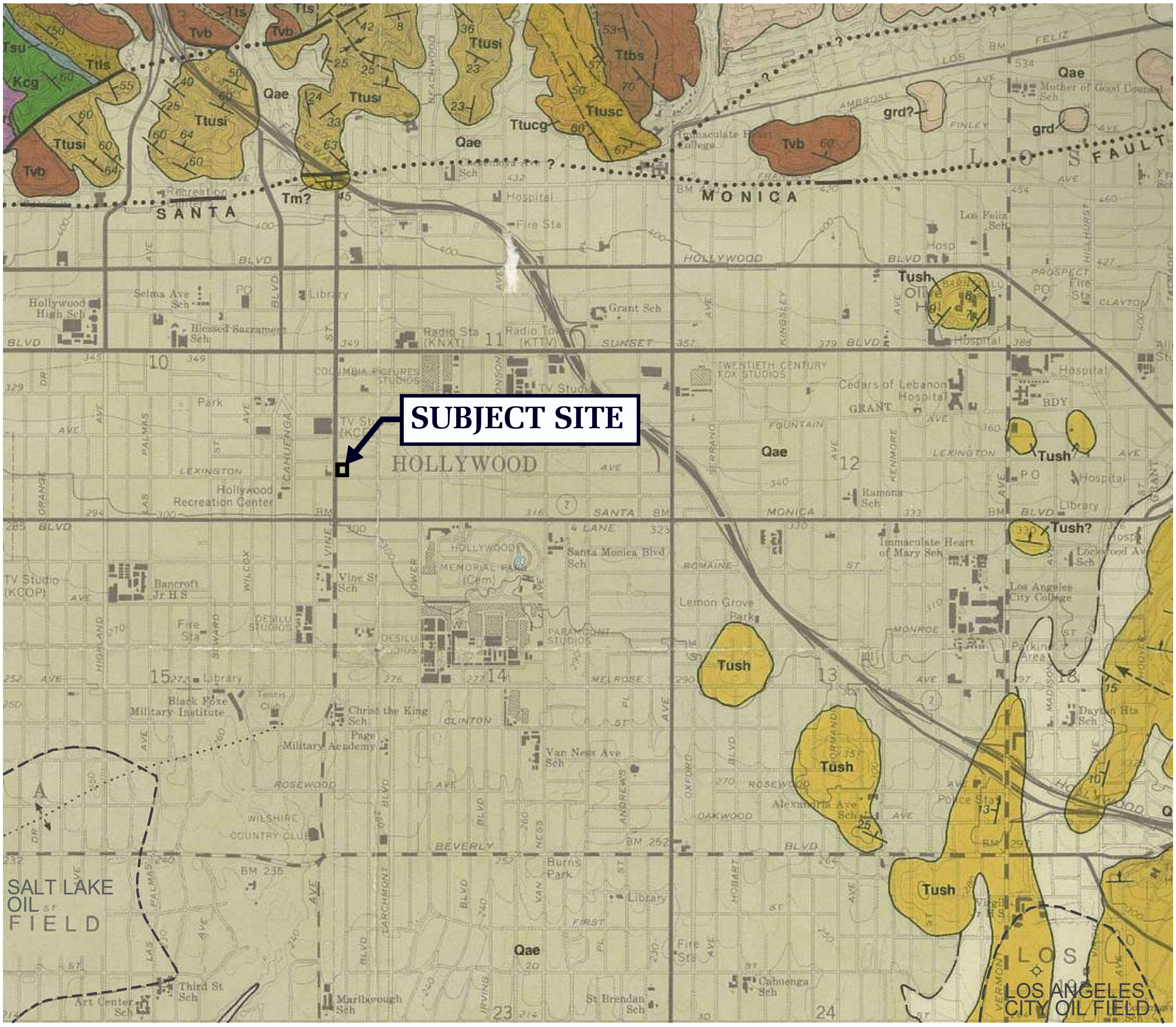
Geotechnologies, Inc.
Consulting Geotechnical Engineers

PLOT PLAN

GRUBB PROPERTIES
1200 N. VINE STREET, LOS ANGELES, CA

File No.: 22207

Date: December 2021



SCALE IN FEET

0 1000 2000 4000

LEGEND

Qae: Alluvium- Clay, sand and gravel, slightly elevated and dissected
Tush: Unnamed Shale- Silty clay shale
Ttusi: Upper Topanga Formation- Clay shale or claystone
Ttus: Upper Topanga Formation- Sandstone
Ttusc: Upper Topanga Formation- Massive sandstone
Ttucg: Upper Topanga Formation- Cahuenga conglomerate
Tvb: Middle Topanga Formation- Basaltic volcanic rocks
Kcg: Unnamed Streta- Crudely bedded conglomerate
—••••? Fault - dashed where indefinite or inferred, dotted where concealed, queried where existence is doubtful

N

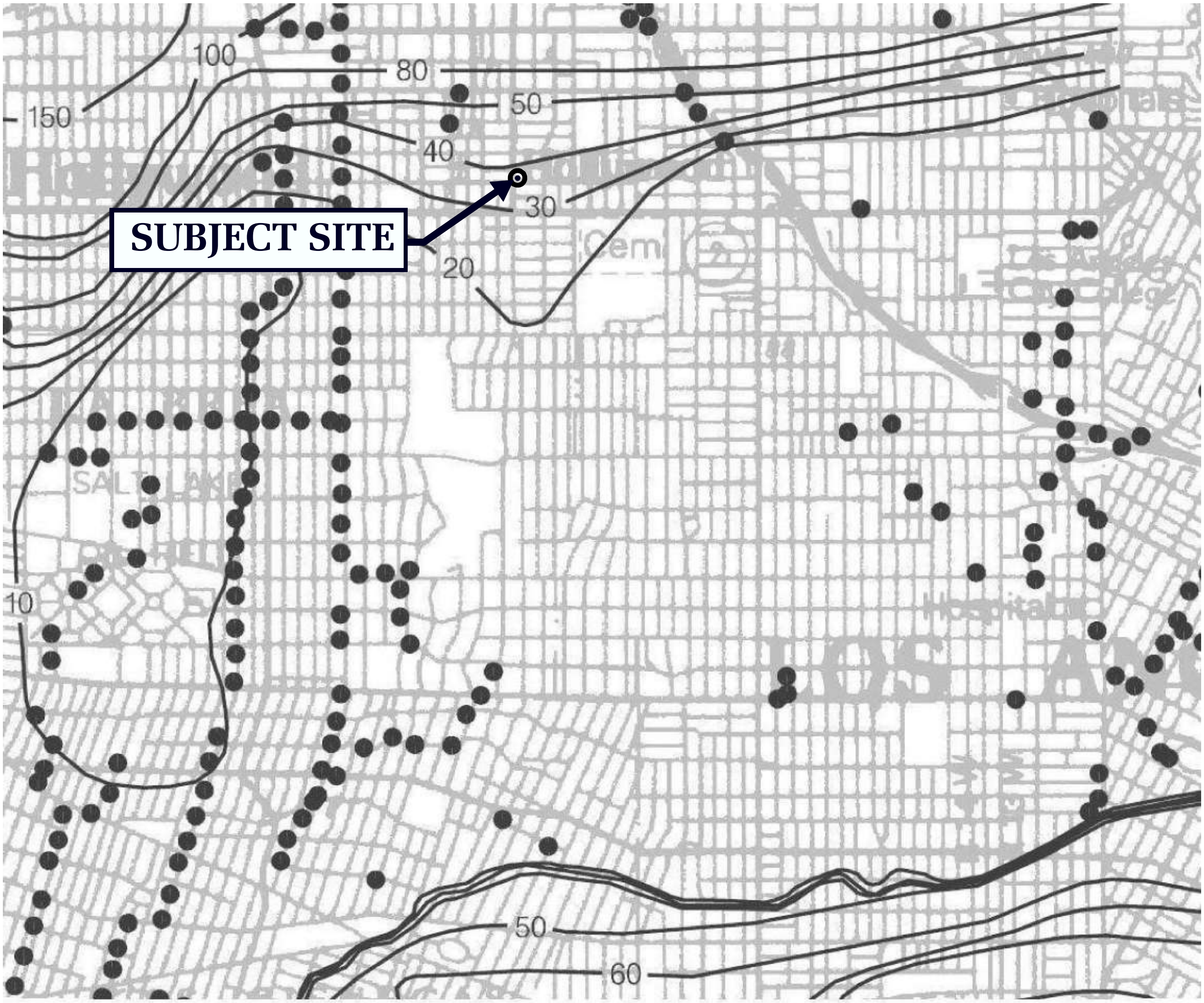
REFERENCE:DIBBLEE, T.W., (1991), MAP #DF-30, GEOLOGIC MAP OF THE HOLLWOOD AND BURBANK (SOUTH 1/2) QUADRANGLES

LOCAL GEOLOGIC MAP

Geotechnologies, Inc.
Consulting Geotechnical Engineers

GRUBB PROPERTIES
1200 N. VINE ST., LOS ANGELES, CA

FILE NO. 22207



LEGEND

20 Depth to groundwater in feet

REFERENCE: CDMG, SEISMIC HAZARD ZONE REPORT, 026
HOLLYWOOD 7.5 - MINUTE QUADRANGLE, LOS ANGELES COUNTY, CALIFORNIA (1998, REVISED 2006)

N

HISTORICALLY HIGHEST GROUNDWATER LEVELS

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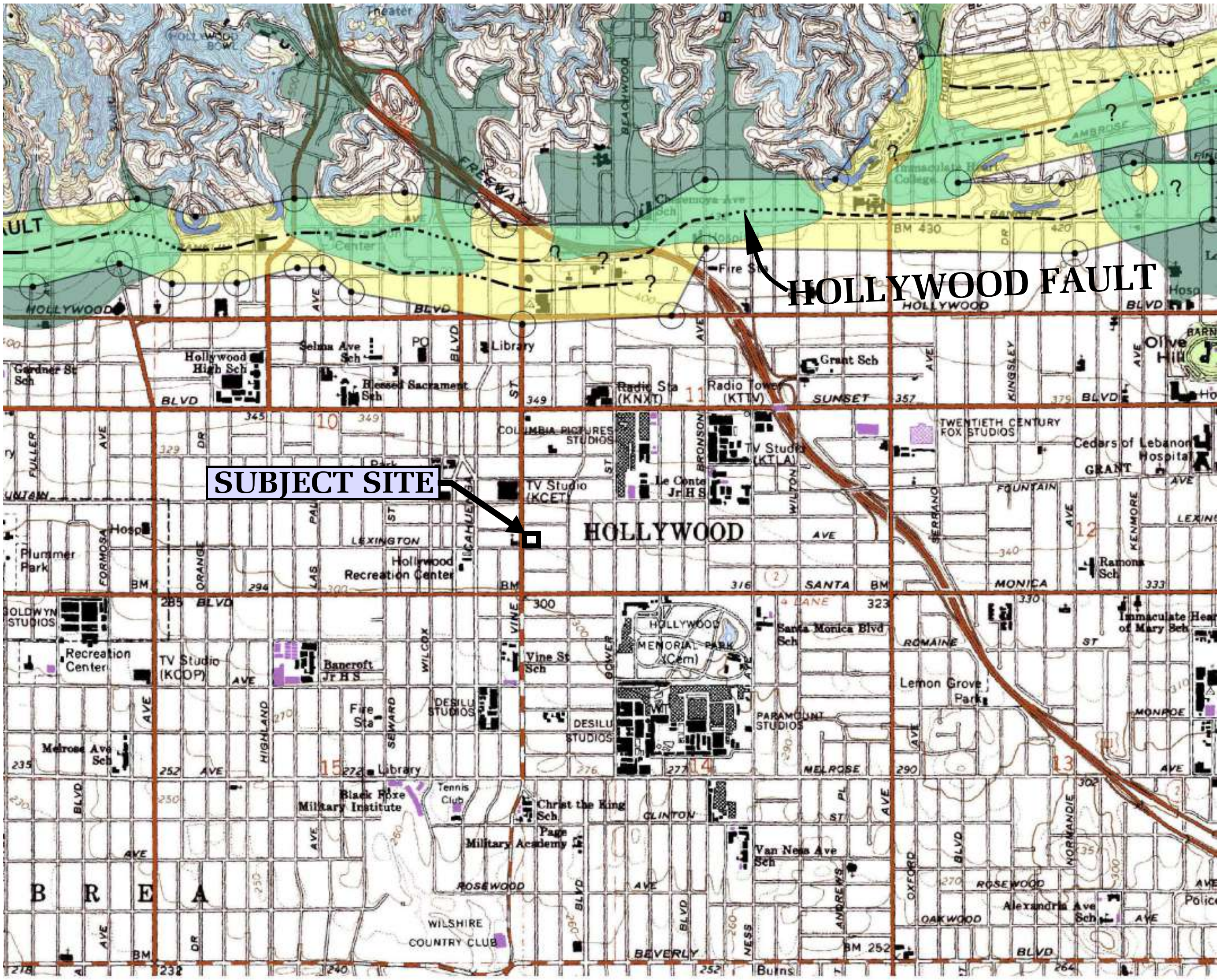
Consulting Geotechnical Engineers

GRUBB PROPERTIES
1200 N. VINE ST., LOS ANGELES, CA

FILE NO. 22207



Earthquake Fault Zones
Alquist-Priolo Earthquake Fault Zone

Liquefaction Area

Contour Interval 20 Feet

REFERENCE: EARTHQUAKE ZONES OF REQUIRED INVESTIGATION, HOLLYWOOD QUADRANGLE, CALIFORNIA GEOLOGICAAL SURVEY, NOVEMBER 6, 2014

EARTHQUAKE ZONES OF REQUIRED INVESTIGATION MAP

Geotechnologies, Inc.
Consulting Geotechnical Engineers

GRUBB PROPERTIES
1200 N. VINE ST., LOS ANGELES, CA

FILE NO. 22207

BORING LOG NUMBER 1

Grubb Properties **Date: 10/25/21** **Elevation: 315.0'***

File No. 22207 **Method: 8-inch diameter Hollow Stem Auger**

ln *Reference: Land Title Survey by LG Land Surveying, Inc. dated 10/13/20

Sample Depth ft.	Blows per ft.	Moisture content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description Surface Conditions: Asphalt for Parking
				0 --		4-inch Asphalt over 2-inch Base
				-		
				1 --		FILL: Sandy Silt, dark brown, moist, stiff
				-		
				2 --		
2.5	19	19.3	110.6	-		
				3 --		
				-	CL	NATIVE SOIL: Silty Clay, dark brown, moist, stiff
				4 --		
				-		
5	15	16.1	SPT	5 --		
				-	SM/ML	Silty Sand to Sandy Silt, dark brown, moist, medium dense, stiff, fine grained
				6 --		
				-		
				7 --		
7.5	26	11.4	109.5	-		
				8 --	SM	Silty Sand, dark brown, moist, medium dense, fine grained, minor pebbles
				-		
				9 --		
				-		
10	13	8.0	SPT	10 --		
				-	SM/SP	Silty Sand to Sand, dark and yellowish brown, moist, medium dense, fine to medium grained
				11 --		
				-		
				12 --		
12.5	22	10.8	115.5	-		
				13 --	SP	Sand, dark brown, moist, medium dense, fine to medium grained
				-		
				14 --		
				-		
15	15	8.7	SPT	15 --		
				-	SP/SM	Silty Sand to Sand, dark brown, moist, medium dense, fine grained
				16 --		
				-		
				17 --		
17.5	28	18.4	106.5	-		
				18 --	ML/CL	Sandy Silt to Silty Clay, dark brown, moist, stiff
				-		
				19 --		
				-		
20	19	12.7	SPT	20 --		
				-	SM/ML	Silty Sand to Sandy Silt, dark brown, moist, medium dense, stiff, fine grained
				21 --		
				-		
22.5	70	10.7	123.2	22 --		
				-		
				23 --		
				-		
				24 --		
				-		
25	11	24.6	SPT	25 --		
				-	CL/SC	Silty Clay to Clayey Sand, dark brown, wet, medium dense, stiff, fine grained

BORING LOG NUMBER 1

Grubb Properties

File No. 22207

ln

Sample Depth ft.	Blows per ft.	Moisture content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description
				26 --		
27.5	22	17.8	113.5	27 -- / 28 --		
				29 --		
30	21	16.8	SPT	30 --	SM	Silty Sand, dark brown, very moist, medium dense, fine to medium grained
				31 --		
32.5	77	14.4	120.2	32 -- / 33 --		
				34 --		
35	31	16.3	SPT	35 --	SM/SP	Silty Sand to Sand, dark brown, moist, medium dense, fine to medium grained
				36 --		
37.5	84	11.9	114.5	37 -- / 38 --	SP	Sand, dark brown, wet, very dense, fine to medium grained
				39 --		
40	26	15.2	SPT	40 --		medium dense
				41 --		
42.5	70	11.0	123.9	42 -- / 43 --	SP	Sand, dark brown, wet, very dense, fine grained, minor cobbles
				44 --		
45	35	15.4	SPT	45 --		medium dense
				46 --		
47.5	75	15.6	115.8	47 -- / 48 --	SM/ML	Silty Sand to Sandy Silt with Clay, dark brown, dense, stiff, fine to medium grained
				49 --	CL	Silty Clay, dark brown, moist, stiff
50	20	24.9	SPT	50 --		Total Depth: 50 feet Water at 20 feet Fill To 3 feet

GEOTECHNOLOGIES, INC.

Plate A-1b

BORING LOG NUMBER 2

Grubb Properties — **Date: 10/25/21** — **Elevation: 312.5'***

File No. 22207 — **Method: 8-inch diameter Hollow Stem Auger**

ln — *Reference: Land Title Survey by LG Land Surveying, Inc. dated 10/13/20

Sample Depth ft.	Blows per ft.	Moisture content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description Surface Conditions: Asphalt for Parking
				0 --		4-inch Asphalt over 2-inch Base
				-		
				1 --		FILL: Sandy to Clayey Silt, dark brown, moist, stiff
				-		
				2 --		
2.5	30	18.0	114.2	-		
				3 --		
				-	ML/CL	NATIVE SOILS: Clayey Silt to Silty Clay, dark brown, moist, stiff
				4 --		
				-		
5	31	14.1	113.7	5 --		
				-		
				6 --		
				-		
				7 --		
				-		
				8 --		
				-		
				9 --		
				-		
10	27	11.8	119.3	10 --		
				-	SM/ML	Silty Sand to Sandy Silt, dark brown, moist, medium dense, fine grained
				11 --		
				-		
				12 --		
				-		
				13 --		
				-		
				14 --		
				-		
15	28	5.6	106.6	15 --		
				-	SP	Sand, dark and yellowish brown, moist, medium dense fine to medium grained
				16 --		
				-		
				17 --		
				-		
				18 --		
				-		
				19 --		
				-		
20	27	15.1	116.0	20 --		
				-	SM	Silty Sand, dark brown, moist, medium dense, fine grained
				21 --		
				-		
				22 --		
				-		
				23 --		
				-		
				24 --		
				-		
25	16	20.1	110.9	25 --		
				-	ML/CL	Sandy Silt to Silty Clay, dark brown, moist, stiff

BORING LOG NUMBER 2

Grubb Properties

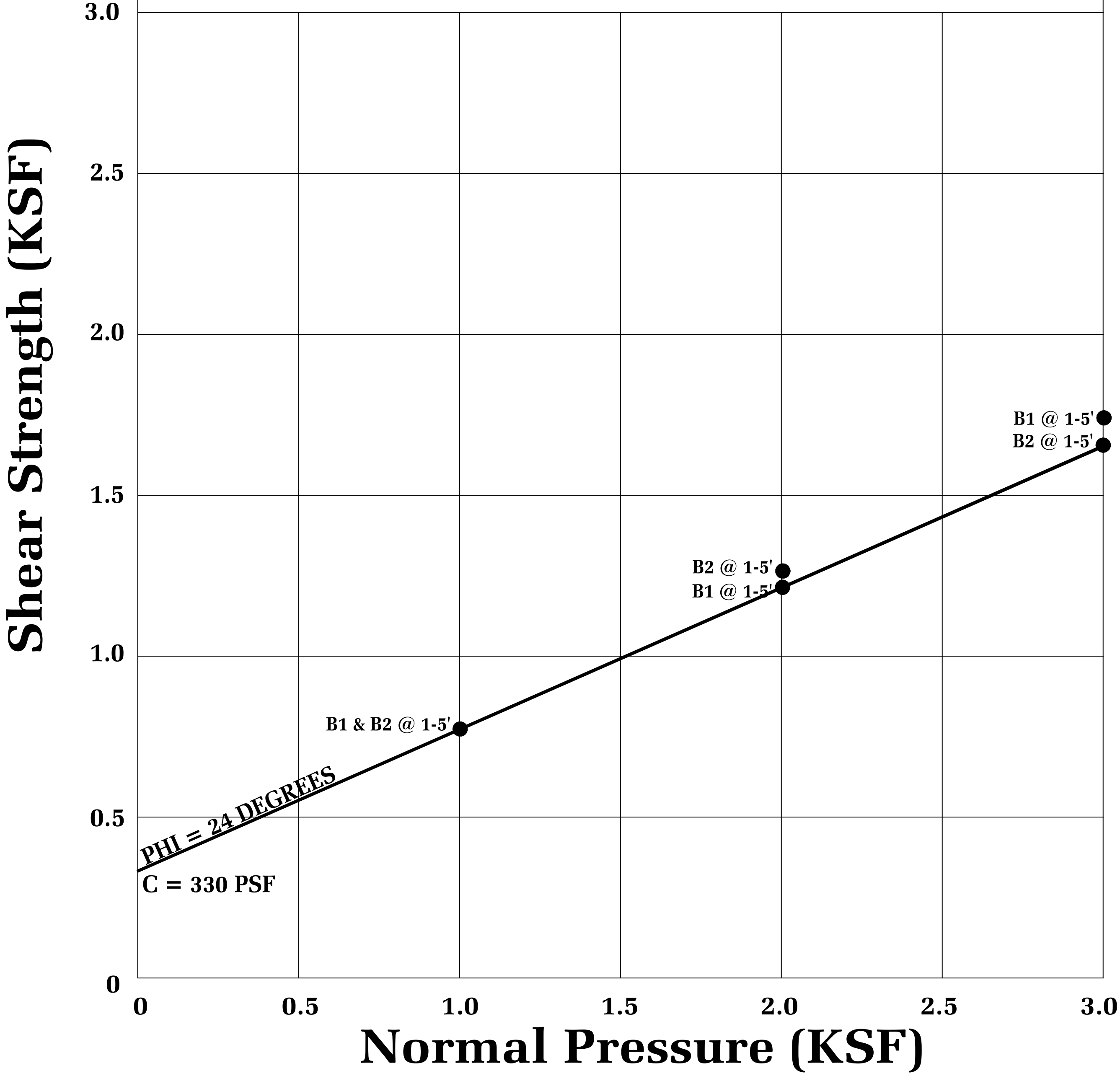
File No. 22207

ln

Sample Depth ft.	Blows per ft.	Moisture content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description
				-		
				26 --		
				-		
				27 --		
				-		
				28 --		
				-		
				29 --		
				-	ML	Sandy to Clayey Silt, dark and grayish brown, moist, stiff
30	81	14.8	120.9	30 --		
				-		Total Depth: 30 feet
				31 --		Water At 21.5 feet
				-		Fill To 3 feet
				32 --		
				-		NOTE: The stratification lines represent the approximate
				33 --		boundary between earth types; the transition may be gradual.
				-		
				34 --		Used 8-inch diameter Hollow-Stem Auger
				-		140-lb. Automatic Hammer, 30-inch drop
				35 --		Modified California Sampler used unless otherwise noted
				-		
				36 --		
				-		
				37 --		
				-		
				38 --		
				-		
				39 --		
				-		
				40 --		
				-		
				41 --		
				-		
				42 --		
				-		
				43 --		
				-		
				44 --		
				-		
				45 --		
				-		
				46 --		
				-		
				47 --		
				-		
				48 --		
				-		
				49 --		
				-		
				50 --		
				-		

BULK SAMPLE REMOLDED TO 90 PERCENT OF THE MAXIMUM LABORATORY DENSITY

SAMPLE	SOIL TYPE	DRY DENSITY (PCF)	INITIAL MOISTURE(%)	FINAL MOISTURE(%)
B1 @ 1-5'	ML/CL	119.2	13.0	24.2
B2 @ 1-5'	ML/CL	120.9	12.5	22.9



● Direct Shear, Saturated

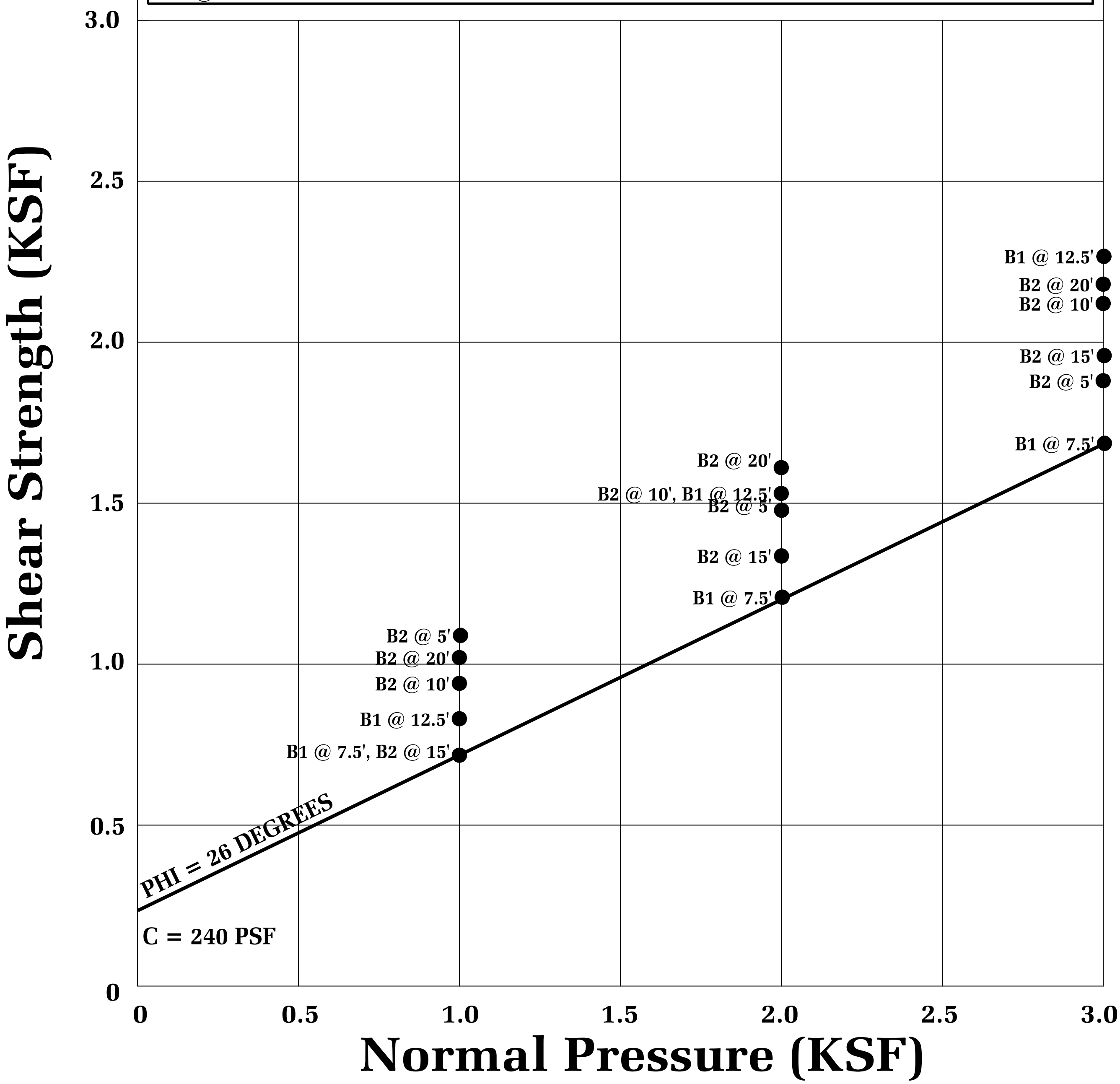
SHEAR TEST DIAGRAM

Geotechnologies, Inc.
Consulting Geotechnical Engineers

GRUBB PROERTIES
1200 NORTH VINE STREET, LOS ANGELES

FILE NO. 22207 | PLATE: B-1

SAMPLE	SOIL TYPE	DRY DENSITY (PCF)	INITIAL MOISTURE(%)	FINAL MOISTURE(%)
B2 @ 5'	ML/CL	113.7	14.1	16.3
B1 @ 7.5'	SC	109.5	11.4	17.1
B2 @ 10'	SM/ML	119.3	11.8	18.5
B1 @ 12.5'	SP/SC	115.5	10.8	14.0
B2 @ 15'	SP/SC	106.6	5.6	18.8
B2 @ 20'	SC	116.0	15.1	20.5



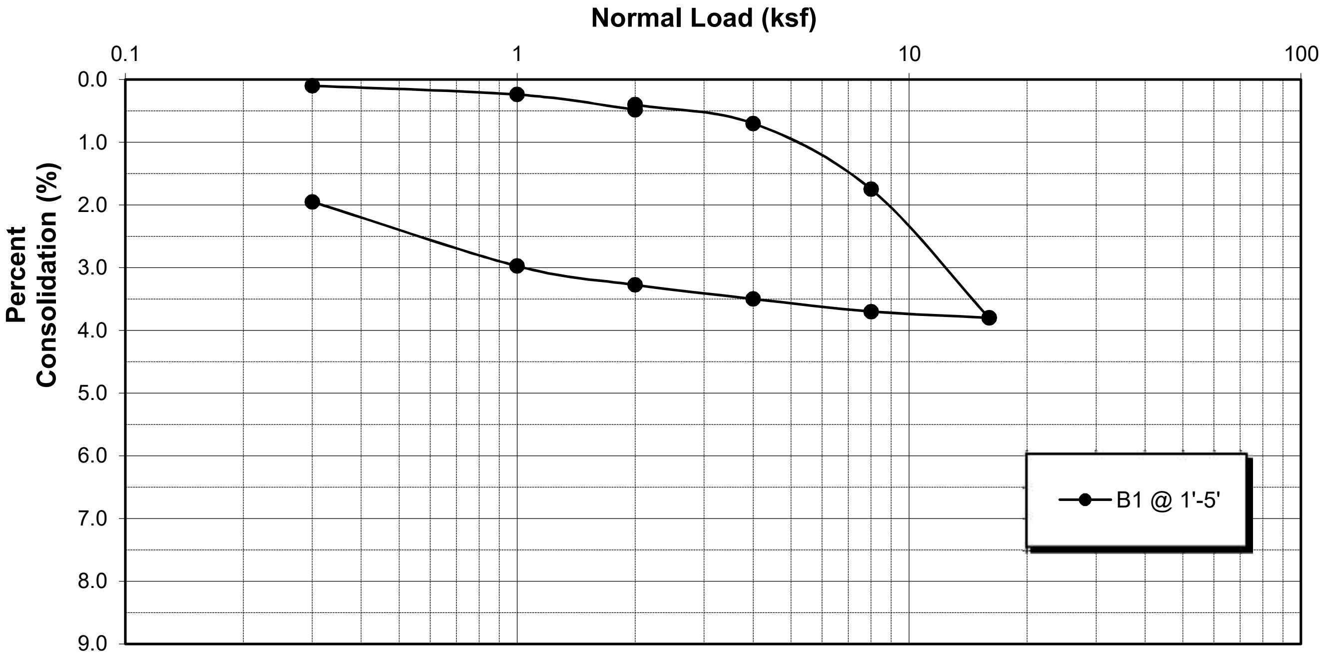
● Direct Shear, Saturated

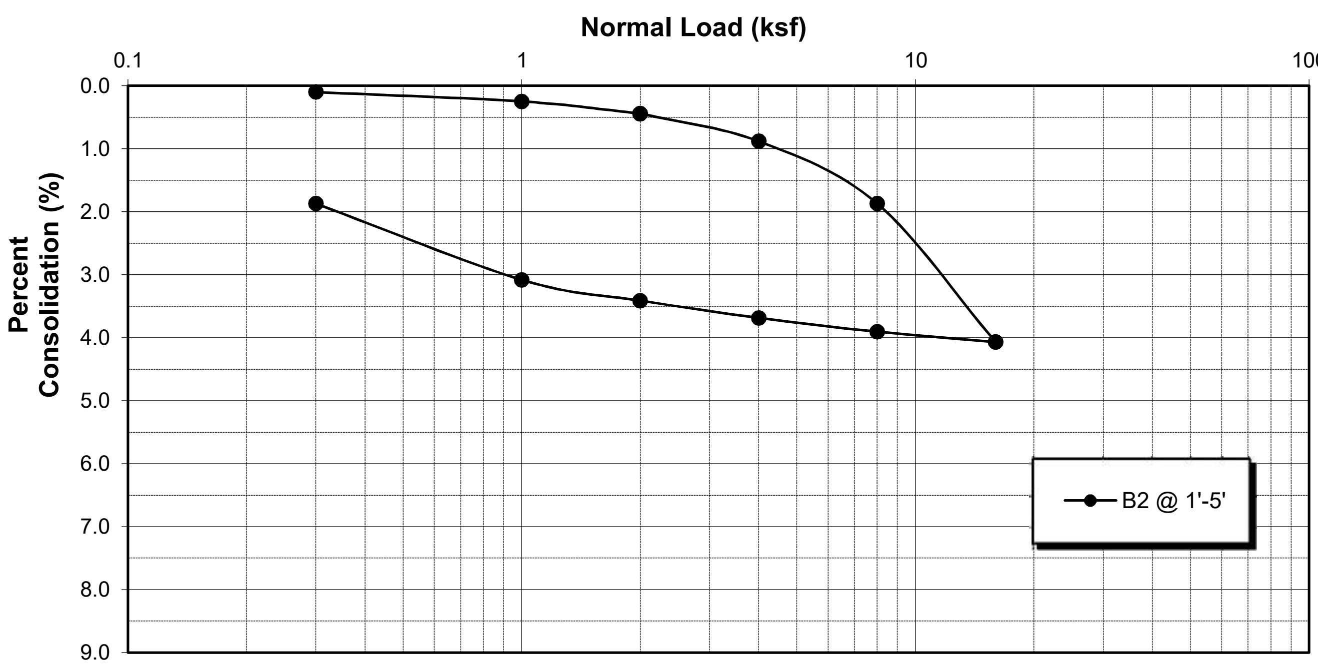
SHEAR TEST DIAGRAM

Geotechnologies, Inc.
Consulting Geotechnical Engineers

GRUBB PROPERTIES
1200 NORTH VINE STREET, LOS ANGELES

FILE NO. 22207 | PLATE: B-2



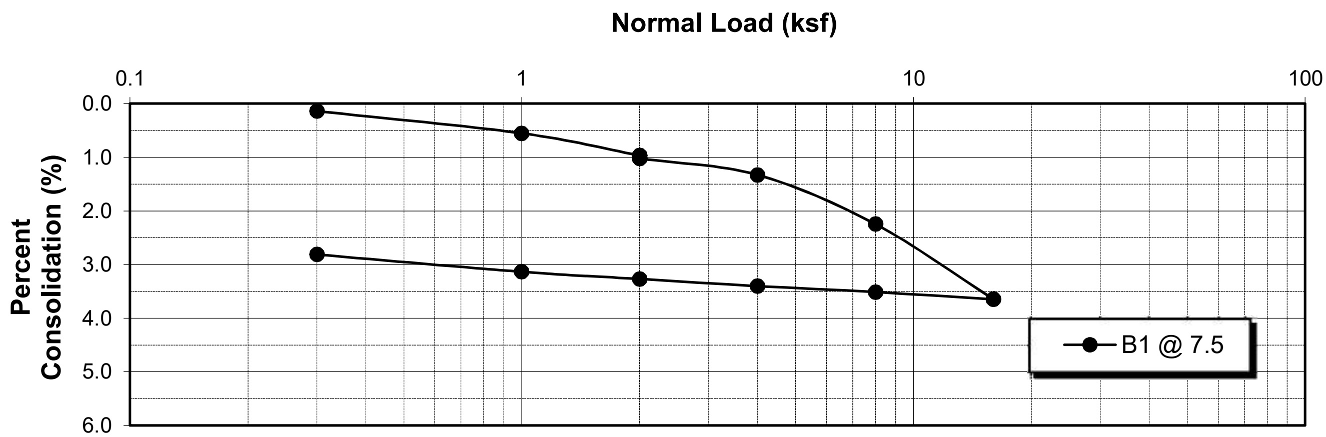


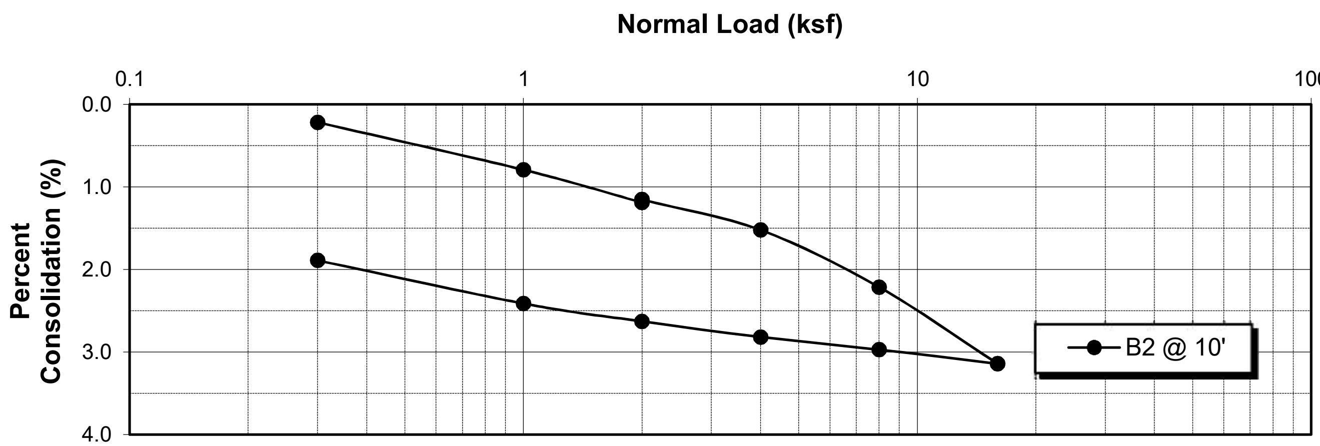
Water added at 2 KSF

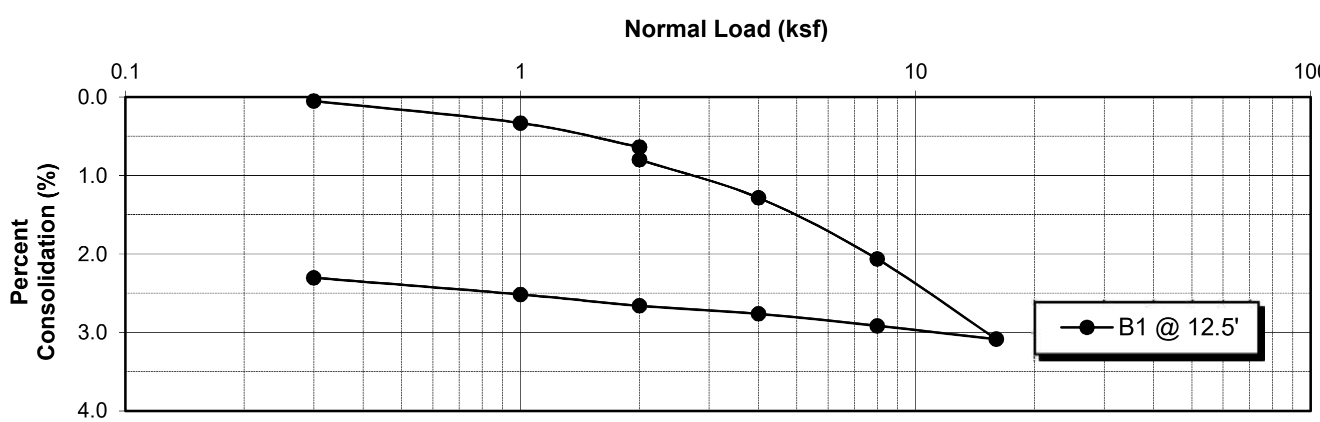
CONSOLIDATION

Geotechnologies, Inc.
Consulting Geotechnical Engineers

PROJECT: GRUBB PROPERTIES	
FILE NO.: 22207	PLATE: C-1





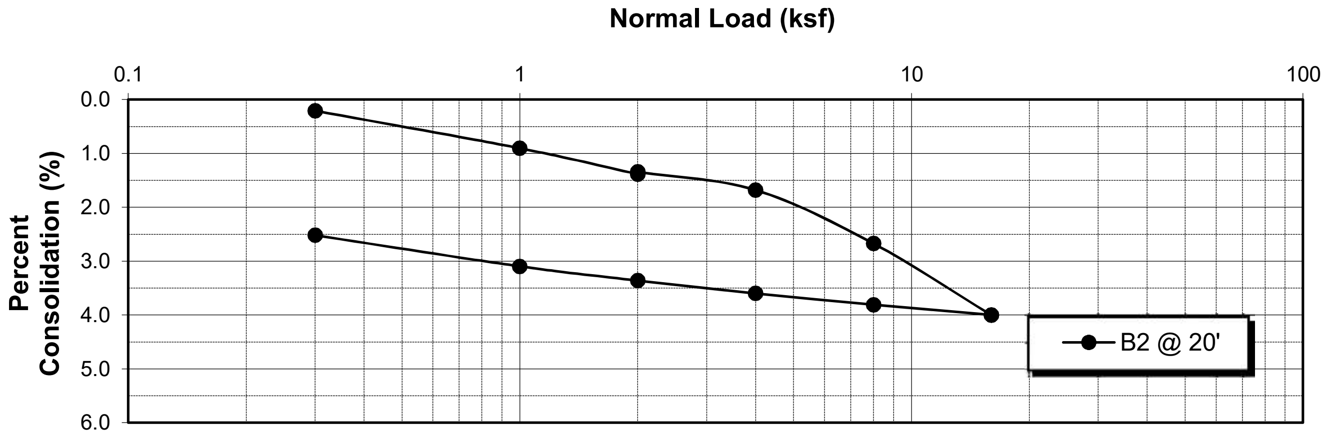


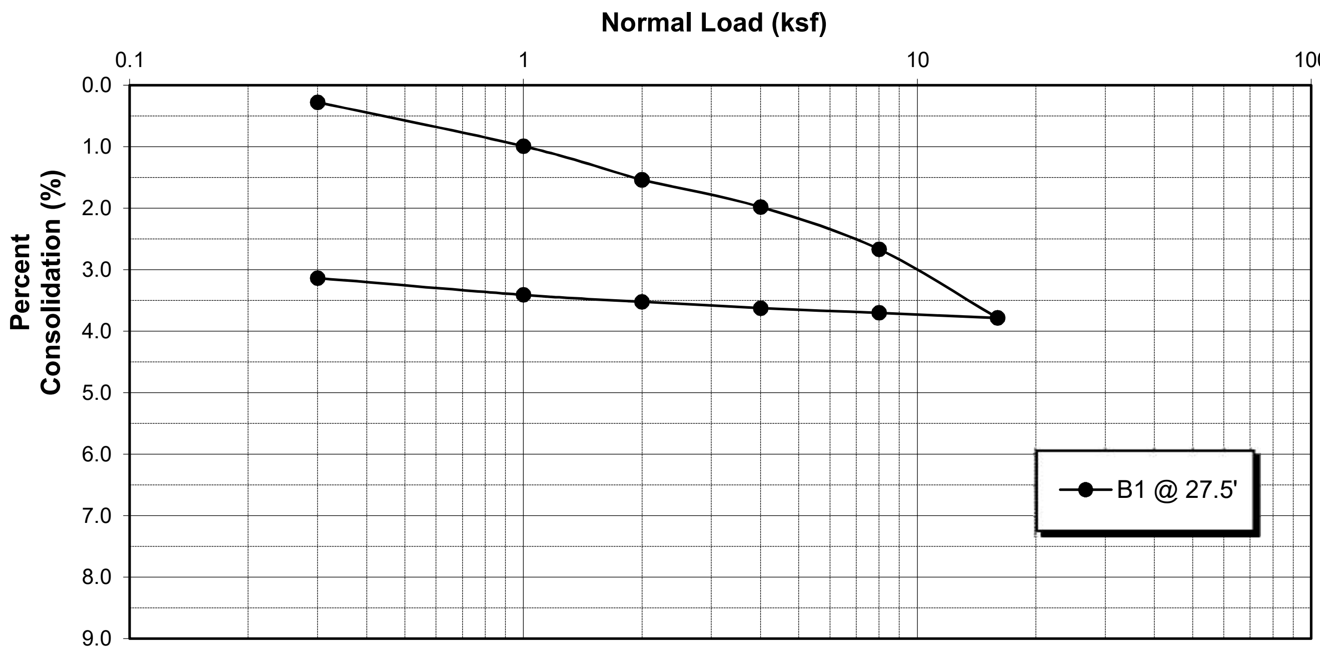
Water added at 2 KSF

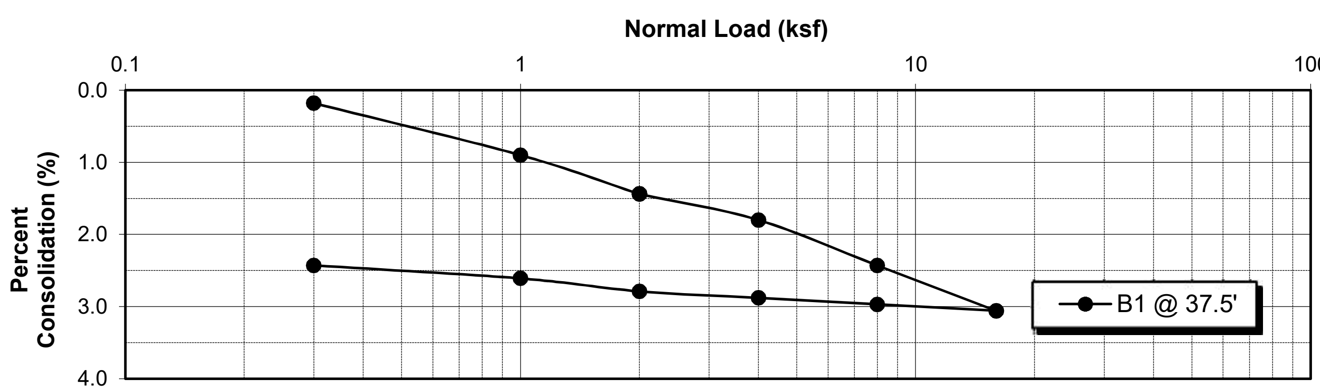
CONSOLIDATION

Geotechnologies, Inc.
Consulting Geotechnical Engineers

PROJECT: GRUBB PROPERTIES	
FILE NO.: 22207	PLATE: C-2







Water added at 2 KSF

CONSOLIDATION

Geotechnologies, Inc.

Consulting Geotechnical Engineers

PROJECT: GRUBB PROPERTIES	
FILE NO.: 22207	PLATE: C-3

ASTM D-1557		
SAMPLE	B1 @ 1'-5'	B2 @ 1'-5'
SOIL TYPE	ML/CL	ML/CL
MAXIMUM DENSITY PCF.	119.2	120.9
OPTIMUM MOISTURE %	13	12.5

ASTM D 4829		
SAMPLE	B1 @ 1'-5'	B2 @ 1'-5'
SOIL TYPE	ML/CL	ML/CL
EXPANSION INDEX UBC STANDARD 18-2	94	106
EXPANSION CHARACTER	HIGH	HIGH

SULFATE CONTENT		
SAMPLE	B1 @ 1'-5'	B2 @ 1'-5'
SULFATE CONTENT: (PERCENTAGE BY WEIGHT)	<0.1%	<0.1%

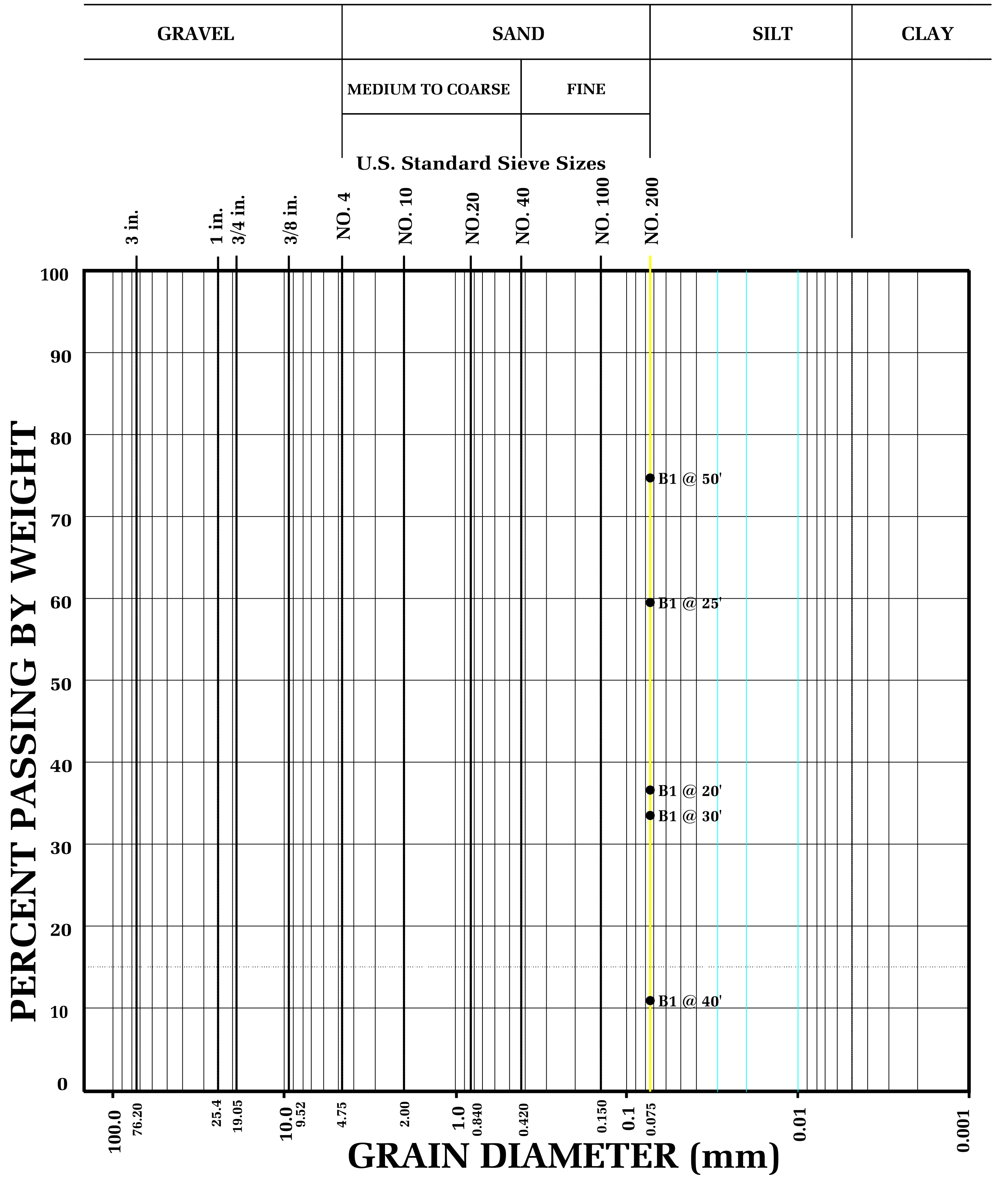
COMPACTION/EXPANSION/SULFATE DATA SHEET

Geotechnologies, Inc.
Consulting Geotechnical Engineers

GRUBB PROPERTIES
1200 NORTH VINE STREET, LOS ANGELES

FILE NO. 22207

PLATE: D-1



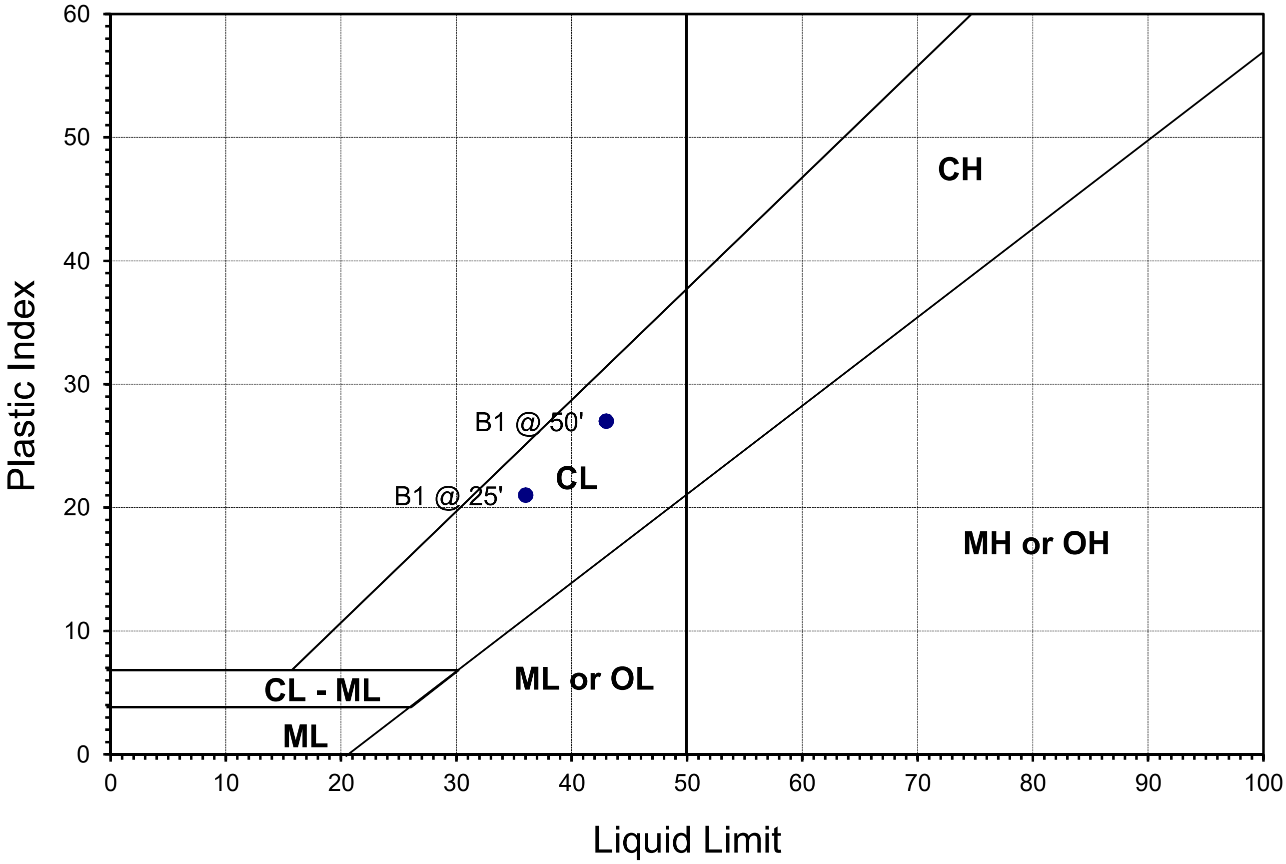
GRAIN SIZE DISTRIBUTION

Geotechnologies, Inc.
Consulting Geotechnical Engineers

GRUBB PROPERTIES
1200 NORTH VINE STREET, LOS ANGELES

FILE NO. 22207

PLATE: E



Sample ID	Descriptions	Passing #200	Liquid Limit	Plastic Limit	Plastic Index
B1 @ 25'	CL	59.5	36.0	15.0	21.0
B1 @ 50'	CL	74.7	43.0	16.0	27.0
0	0	0.0	0.0	0.0	0.0
0	0	0.0	0.0	0.0	0.0
0	0	0.0	0.0	0.0	0.0
0	0	0.0	0.0	0.0	0.0
0	0	0.0	0.0	0.0	0.0
0	0	0.0	0.0	0.0	0.0
0	0	0.0	0.0	0.0	0.0
0	0	0.0	0.0	0.0	0.0

ATTERBERG LIMITS

Geotechnologies, Inc.

CONSULTING GEOTECHNICAL ENGINEERS

PROJECT: GRUBB PROPERTIES

FILE NO.: 22207

PLATE: F-1

Geotechnologies, Inc.

Project: Grubb Properties
File No.: 22207
Description: Liquefaction Analysis
Boring No: B1

LIQUEFACTION EVALUATION (Idriss & Boulanger, EERI NO 12)

EARTHQUAKE INFORMATION:

Earthquake Magnitude (M):	6.8
Peak Ground Horizontal Acceleration, PGA (g):	0.99
Calculated Mag.Wtg.Factor:	1.203

GROUNDWATER INFORMATION:

Current Groundwater Level (ft):	20.0
Historically Highest Groundwater Level* (ft):	20.0
Unit Weight of Water (pcf):	62.4

* Based on California Geological Survey Seismic Hazard Evaluation Report

BOREHOLE AND SAMPLER INFORMATION:

Borehole Diameter (inches):	8
SPT Sampler with room for Liner (Y/N):	Y

LIQUEFACTION BOUNDARY:

Plastic Index Cut Off (PI):	18
Minimum Liquefaction FS:	1.3

Depth to Base Layer (feet)	Total Unit Weight (pcf)	Current Water Level (feet)	Historical Water Level (feet)	Field SPT Blowcount N	Depth of SPT Blowcount (feet)	Fines Content #200 Sieve (%)	Plastic Index (PI)	Vetical Stress σ_{vc}, (psf)	Effective Vert. Stress σ_{vc}', (psf)	Fines Corrected $(N_1)_{60-cs}$	Stress Reduction Coeff, r_d	Cyclic Shear Ratio CSR	Mag. Scaling Factor (Sand) MSF	Overburden Corr. Factor K_σ	Cyclic Resist. Ratio $CRR_{M7.5,\sigma vc'=1}$	Cyclic Resistance Ratio (CRR)	Factor of Safety CRR/CSR (F.S.)	Liquefaction Settlment ΔS_i (inches)
1	131.9	Unsaturated	Unsaturated	15	5	0.0	0	131.9	131.9	35.1	1.00	0.646	1.20	1.10	1.120	1.481	Non-Liq.	0.00
2	131.9	Unsaturated	Unsaturated	15	5	0.0	0	263.8	263.8	35.1	1.00	0.644	1.20	1.10	1.120	1.481	Non-Liq.	0.00
3	131.9	Unsaturated	Unsaturated	15	5	0.0	0	395.7	395.7	35.1	1.00	0.642	1.20	1.10	1.120	1.481	Non-Liq.	0.00
4	131.9	Unsaturated	Unsaturated	15	5	0.0	0	527.6	527.6	33.1	0.99	0.640	1.20	1.10	0.775	1.025	Non-Liq.	0.00
5	131.9	Unsaturated	Unsaturated	15	5	0.0	0	659.5	659.5	33.2	0.99	0.637	1.20	1.10	0.784	1.037	Non-Liq.	0.00
6	131.9	Unsaturated	Unsaturated	15	5	0.0	0	791.4	791.4	31.2	0.99	0.635	1.20	1.10	0.573	0.758	Non-Liq.	0.00
7	131.9	Unsaturated	Unsaturated	15	5	0.0	0	923.3	923.3	29.4	0.98	0.633	1.20	1.10	0.450	0.595	Non-Liq.	0.00
8	122.0	Unsaturated	Unsaturated	15	5	0.0	0	1045.3	1045.3	28.0	0.98	0.630	1.20	1.10	0.382	0.505	Non-Liq.	0.00
9	122.0	Unsaturated	Unsaturated	15	5	0.0	0	1167.3	1167.3	28.5	0.97	0.627	1.20	1.10	0.403	0.534	Non-Liq.	0.00
10	122.0	Unsaturated	Unsaturated	15	5	0.0	0	1289.3	1289.3	27.3	0.97	0.625	1.20	1.09	0.356	0.466	Non-Liq.	0.00
11	122.0	Unsaturated	Unsaturated	13	10	0.0	0	1411.3	1411.3	22.5	0.97	0.622	1.20	1.06	0.240	0.306	Non-Liq.	0.00
12	122.0	Unsaturated	Unsaturated	13	10	0.0	0	1533.3	1533.3	21.6	0.96	0.619	1.20	1.05	0.227	0.285	Non-Liq.	0.00
13	128.0	Unsaturated	Unsaturated	13	10	0.0	0	1661.3	1661.3	20.8	0.96	0.616	1.20	1.03	0.216	0.268	Non-Liq.	0.00
14	128.0	Unsaturated	Unsaturated	13	10	0.0	0	1789.3	1789.3	20.0	0.95	0.613	1.20	1.02	0.206	0.253	Non-Liq.	0.00
15	128.0	Unsaturated	Unsaturated	13	10	0.0	0	1917.3	1917.3	21.9	0.95	0.610	1.20	1.01	0.232	0.283	Non-Liq.	0.00
16	128.0	Unsaturated	Unsaturated	15	15	0.0	0	2045.3	2045.3	25.1	0.94	0.607	1.20	1.01	0.291	0.352	Non-Liq.	0.00
17	128.0	Unsaturated	Unsaturated	15	15	0.0	0	2173.3	2173.3	24.3	0.94	0.603	1.20	1.00	0.275	0.329	Non-Liq.	0.00
18	126.1	Unsaturated	Unsaturated	15	15	0.0	0	2299.4	2299.4	23.7	0.93	0.600	1.20	0.99	0.261	0.310	Non-Liq.	0.00
19	126.1	Unsaturated	Unsaturated	15	15	0.0	0	2425.5	2425.5	23.0	0.93	0.597	1.20	0.98	0.250	0.294	Non-Liq.	0.00
20	126.1	Unsaturated	Unsaturated	15	15	0.0	0	2551.6	2551.6	22.4	0.92	0.593	1.20	0.97	0.240	0.281	Non-Liq.	0.00
21	126.1	Saturated	Saturated	19	20	36.6	0	2677.7	2615.3	35.2	0.92	0.604	1.20	0.94	1.148	1.302	2.2	0.00
22	126.1	Saturated	Saturated	19	20	36.6	0	2803.8	2679.0	34.8	0.91	0.614	1.20	0.94	1.071	1.208	2.0	0.00
23	136.4	Saturated	Saturated	19	20	36.6	0	2940.2	2753.0	34.5	0.91	0.623	1.20	0.93	0.992	1.112	1.8	0.00
24	136.4	Saturated	Saturated	19	20	36.6	0	3076.6	2827.0	34.1	0.90	0.631	1.20	0.93	0.923	1.029	1.6	0.00
25	136.4	Saturated	Saturated	19	20	36.6	0	3213.0	2901.0	33.7	0.89	0.638	1.20	0.92	0.864	0.958	1.5	0.00
26	136.4	Saturated	Saturated	11	25	59.5	21	3349.4	2975.0	19.9	0.89	0.644	1.20	0.95	0.204	0.234	Non-Liq.	0.00
27	136.4	Saturated	Saturated	11	25	59.5	21	3485.8	3049.0	19.7	0.88	0.650	1.20	0.95	0.202	0.231	Non-Liq.	0.00
28	133.7	Saturated	Saturated	11	25	59.5	21	3619.5	3120.3	20.3	0.88	0.655	1.20	0.95	0.210	0.239	Non-Liq.	0.00
29	133.7	Saturated	Saturated	11	25	59.5	21	3753.2	3191.6	20.1	0.87	0.660	1.20	0.94	0.208	0.236	Non-Liq.	0.00
30	133.7	Saturated	Saturated	11	25	59.5	21	3886.9	3262.9	20.0	0.87	0.664	1.20	0.94	0.205	0.233	Non-Liq.	0.00
31	133.7	Saturated	Saturated	21	30	33.5	0	4020.6	3334.2	37.6	0.86	0.668	1.20	0.86	2.000	2.000	3.0	0.00
32	133.7	Saturated	Saturated	21	30	33.5	0	4154.3	3405.5	37.3	0.85	0.671	1.20	0.86	1.865	1.925	2.9	0.00
33	137.5	Saturated	Saturated	21	30	33.5	0	4291.8	3480.6	36.9	0.85	0.673	1.20	0.85	1.713	1.757	2.6	0.00
34	137.5	Saturated	Saturated	21	30	33.5	0	4429.3	3555.7	36.6	0.84	0.675	1.20	0.85	1.581	1.615	2.4	0.00
35	137.5	Saturated	Saturated	21	30	33.5	0	4566.8	3630.8	36.3	0.84	0.677	1.20	0.85	1.465	1.491	2.2	0.00
36	137.5	Saturated	Saturated	31	35	0.0	0	4704.3	3705.9	49.9	0.83	0.678	1.20	0.83	2.000	2.000	2.9	0.00
37	137.5	Saturated	Saturated	31	35	0.0	0	4841.8	3781.0	49.7	0.82	0.679	1.20	0.83	2.000	1.991	2.9	0.00
38	128.1	Saturated	Saturated	26	40	10.9	0	4969.9	3846.7	42.1	0.82	0.680	1.20	0.82	2.000	1.979	2.9	0.00
39	128.1	Saturated	Saturated	26	40	10.9	0	5098.0	3912.4	41.8	0.81	0.681	1.20	0.82	2.000	1.967	2.9	0.00
40	128.1	Saturated	Saturated	26	40	10.9	0	5226.1	3978.1	41.5	0.81	0.682	1.20	0.81	2.000	1.955	2.9	0.00
41	128.1	Saturated	Saturated	26	40	10.9	0	5354.2	4043.8	41.2	0.80	0.682	1.20	0.81	2.000	1.943	2.8	0.00
42	128.1	Saturated	Saturated	26	40	10.9	0	5482.3	4109.5	40.9	0.79	0.682	1.20	0.80	2.000	1.932	2.8	0.00
43	137.4	Saturated	Saturated	35	45	0.0	0	5619.7	4184.5	54.6	0.79	0.681	1.20	0.80	2.000	1.919	2.8	0.00
44	137.4	Saturated	Saturated	35	45	0.0	0	5757.1	4259.5	54.4	0.78	0.681	1.20	0.79	2.000	1.906	2.8	0.00
45	137.4	Saturated	Saturated	35	45	0.0	0	5894.5	4334.5	54.1	0.78	0.680	1.20	0.79	2.000	1.894	2.8	0.00
46	137.4	Saturated	Saturated	35	45	0.0	0	6031.9	4409.5	53.9	0.77	0.678	1.20	0.78	2.000	1.882	2.8	0.00
47	137.4	Saturated	Saturated	35	45	0.0	0	6169.3	4484.5	53.6	0.76	0.677	1.20	0.78	2.000	1.870	2.8	0.00
48	133.9	Saturated	Saturated	35	45	0.0	0	6303.2	4556.0	53.4	0.76	0.676	1.20	0.77	2.000	1.859	2.8	0.00
49	133.9	Saturated	Saturated	35	45	0.0	0	6437.1	4627.5	53.2	0.75	0.674	1.20	0.77	2.000	1.848	2.7	0.00
50	133.9	Saturated	Saturated	20	50	74.7	27	6571.0	4699.0	30.7	0.75	0.673	1.20	0.83	0.529	0.530	Non-Liq.	0.00

Geotechnologies, Inc.

Project: Grubb Properties

File No.: 22207

Settlement Calculation - Column Footing

Description: Column footing bearing in compacted fill

Soil Unit Weight	120.0 pcf	Column	Footing
Bearing Value	5000.0 psf	690	kips
Depth of Footing	3.0 feet		
Width of Footing	11.75 feet		

* Influence Values are based on Westergaard's Analyses (Ref: Sowers)

Depth Below Basement Surbgrade (feet)	Average Depth Below Ground Surface (feet)	Average Depth Below Foundation (feet)	Ratio of Foundation vs. Depth (a/z)	Influence Value	Foundation Influence Pressure (psf)	Natural Soil Pressure (psf)	Total Pressure (psf)	Consolidation Curve Used	Percent Strain [Total] (%)	Percent Strain [Natural] (%)	Percent Strain [Net] (%)	Thickness of Depth Increment (feet)	Net Settlement (inches)
3.0													
	4.5	1.5	7.8	83%	4153.875	540	4693.875	B1 @ 1-5'	0.80	0.25	0.55	3.0	0.20
6.0													
	8.0	5.0	2.4	50%	2493.75	960	3453.75	B1 @ 7.5'	1.25	0.60	0.65	4.0	0.31
10.0													
	12.5	9.5	1.2	29%	1429	1500	2929	B1 @ 12.5'	1.05	0.50	0.55	5.0	0.33
15.0													
	21.3	18.3	0.6	10%	499.5	2550	3049.5	B2 @ 20'	1.50	1.40	0.10	12.5	0.15
27.5													

Settlement: 0.99

Total Settlement in inches: ***0.99***

Geotechnologies, Inc.

Project: Grubb Properties

File No.: 22207

Settlement Calculation - Column Footing

Description: Column footing bearing in native soils

Soil Unit Weight	120.0 pcf		Column Footing	
Bearing Value	5000.0 psf		690 kips	
Depth of Footing	3.0 feet			
Width of Footing	11.75 feet			

* Influence Values are based on Westergaard's Analyses (Ref: Sowers)

Depth Below Basement Surbgrade (feet)	Average Depth Below Ground Surface (feet)	Average Depth Below Foundation (feet)	Ratio of Foundation vs. Depth (a/z)	Influence Value	Foundation Influence Pressure (psf)	Natural Soil Pressure (psf)	Total Pressure (psf)	Consolidation Curve Used	Percent Strain [Total] (%)	Percent Strain [Natural] (%)	Percent Strain [Net] (%)	Thickness of Depth Increment (feet)	Net Settlement (inches)
3.0													
	6.5	3.5	3.4	63%	3154.5	780	3934.5	B1 @ 7.5'	1.30	0.55	0.75	7.0	0.63
10.0													
	12.5	9.5	1.2	29%	1429	1500	2929	B1 @ 12.5'	1.07	0.52	0.55	5.0	0.33
15.0													
	21.3	18.3	0.6	10%	499.5	2550	3049.5	B2 @ 20'	1.50	1.47	0.03	12.5	0.05
27.5													

Settlement: 1.01

Total Settlement in inches: ***1.01***

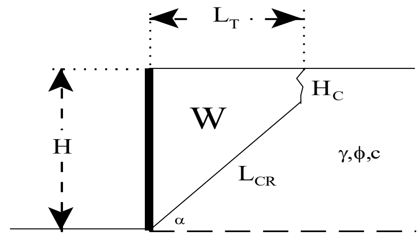
Geotechnologies, Inc.

Project: Grubb Properties
File No.: 22207
Description: Drained Catilever Retaining Wall (up to 6 feet)

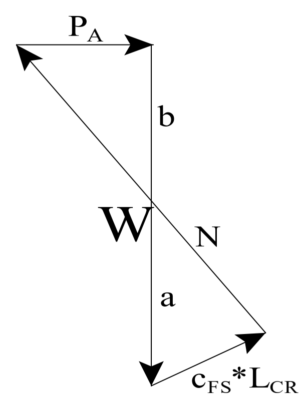
Retaining Wall Design with Level Backfill
(Vector Analysis)

Input:

Retaining Wall Height	(H)	6.00	feet
Unit Weight of Retained Soils	(γ)	120.0	pcf
Friction Angle of Retained Soils	(ϕ)	26.0	degrees
Cohesion of Retained Soils	(c)	240.0	psf
Factor of Safety	(FS)	1.50	
Factored Parameters:	(ϕ_{FS})	18.0	degrees
	84.2	160.0	psf



Failure Angle (α) degrees	Height of Tension Crack (H_C) feet	Area of Wedge (A) $feet^2$	Weight of Wedge (W) lbs/lineal foot	Length of Failure Plane (L_{CR}) feet	a lbs/lineal foot	b lbs/lineal foot	Active Pressure (P_A) lbs/lineal foot
40	4.4	10	1176.6	2.5	998.3	178.3	72.0
41	4.3	10	1207.4	2.6	1008.4	199.0	84.4
42	4.2	10	1225.1	2.7	1008.5	216.6	96.4
43	4.1	10	1232.5	2.8	1001.2	231.2	107.8
44	4.0	10	1231.3	2.8	988.4	242.9	118.4
45	4.0	10	1223.1	2.9	971.4	251.8	128.2
46	3.9	10	1209.3	2.9	951.2	258.1	137.1
47	3.8	10	1190.7	3.0	928.8	261.9	145.1
48	3.8	10	1168.3	3.0	904.8	263.5	152.1
49	3.8	10	1142.7	3.0	879.5	263.1	158.0
50	3.7	9	1114.3	3.0	853.5	260.8	162.9
51	3.7	9	1083.7	3.0	826.9	256.9	166.7
52	3.7	9	1051.3	2.9	799.9	251.4	169.5
53	3.7	8	1017.2	2.9	772.7	244.5	171.1
54	3.7	8	981.8	2.9	745.4	236.4	171.7
55	3.7	8	945.2	2.8	718.0	227.2	171.2
56	3.7	8	907.7	2.8	690.6	217.1	169.5
57	3.7	7	869.2	2.7	663.1	206.1	166.8
58	3.7	7	829.9	2.7	635.6	194.3	163.0
59	3.8	7	789.9	2.6	608.0	181.9	158.1
60	3.8	6	749.3	2.6	580.2	169.1	152.2
61	3.8	6	708.0	2.5	552.2	155.8	145.2
62	3.9	6	666.0	2.4	523.8	142.2	137.2
63	4.0	5	623.4	2.3	495.0	128.4	128.3
64	4.0	5	580.1	2.2	465.6	114.5	118.5
65	4.1	4	536.2	2.1	435.5	100.7	107.9



Design Equations (Vector Analysis):

$a = c_{FS}*L_{CR}*\sin(90+\phi_{FS})/\sin(\alpha-\phi_{FS})$

$b = W-a$

$P_A = b*\tan(\alpha-\phi_{FS})$

$EFP = 2*P_A/H^2$

Maximum Active Pressure Resultant

$P_{A,\,max}$ 171.7 lbs/lineal foot

Equivalent Fluid Pressure (per lineal foot of wall)

$EFP = 2*P_A/H^2$

EFP 9.5 pcf

Design Wall for an Equivalent Fluid Pressure: **45 pcf** **(High E.I.)**

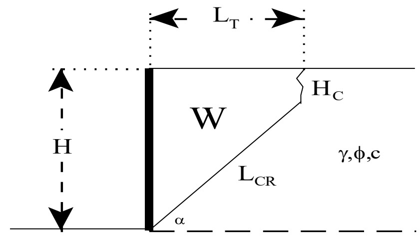
Geotechnologies, Inc.

Project: Grubb Properties
File No.: 22207
Description: Drained Catilever Retaining Wall (up to 6 feet)

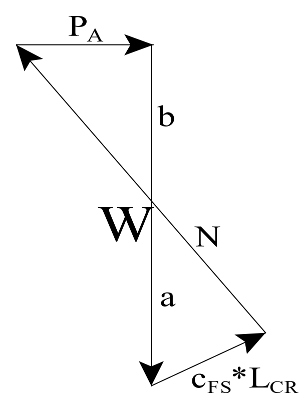
Retaining Wall Design with Level Backfill
(Vector Analysis)

Input:

Retaining Wall Height	(H)	6.00 feet	
Unit Weight of Retained Soils	(γ)	57.6 pcf	**(Buoyant)**
Friction Angle of Retained Soils	(ϕ)	26.0 degrees	
Cohesion of Retained Soils	(c)	240.0 psf	
Factor of Safety	(FS)	1.50	
Factored Parameters:	(ϕ_{FS})	18.0 degrees	
	84.2	160.0 psf	



Failure Angle (α) degrees	Height of Tension Crack (H_C) feet	Area of Wedge (A) feet^2	Weight of Wedge (W) lbs/lineal foot	Length of Failure Plane (L_{CR}) feet	a lbs/lineal foot	b lbs/lineal foot	Active Pressure (P_A) lbs/lineal foot
40	9.2	-29	-1675.9	-5.0	-2029.7	353.7	0.0
41	9.0	-25	-1468.6	-4.5	-1759.4	290.8	0.0
42	8.7	-22	-1293.9	-4.1	-1534.7	240.8	0.0
43	8.6	-20	-1146.2	-3.7	-1347.1	200.9	0.0
44	8.4	-18	-1021.1	-3.4	-1190.2	169.0	0.0
45	8.2	-16	-915.0	-3.2	-1058.5	143.5	0.0
46	8.1	-14	-825.0	-2.9	-948.1	123.0	0.0
47	8.0	-13	-748.8	-2.7	-855.4	106.6	0.0
48	7.9	-12	-684.3	-2.6	-777.8	93.5	0.0
49	7.8	-11	-630.0	-2.4	-713.0	83.0	0.0
50	7.8	-10	-584.5	-2.3	-659.1	74.7	0.0
51	7.7	-9	-546.6	-2.2	-614.8	68.2	0.0
52	7.7	-9	-515.6	-2.1	-578.7	63.2	0.0
53	7.7	-9	-490.5	-2.1	-549.9	59.5	0.0
54	7.6	-8	-470.7	-2.0	-527.6	56.8	0.0
55	7.7	-8	-455.7	-2.0	-510.9	55.2	0.0
56	7.7	-8	-445.0	-2.0	-499.5	54.5	0.0
57	7.7	-8	-438.2	-2.0	-492.9	54.6	0.0
58	7.8	-8	-435.1	-2.1	-490.6	55.6	0.0
59	7.8	-8	-435.2	-2.1	-492.5	57.3	0.0
60	7.9	-8	-438.5	-2.2	-498.4	59.9	0.0
61	8.0	-8	-444.8	-2.3	-508.1	63.3	0.0
62	8.1	-8	-453.9	-2.4	-521.6	67.7	0.0
63	8.2	-8	-465.8	-2.5	-538.8	73.0	0.0
64	8.4	-8	-480.5	-2.6	-560.0	79.5	0.0
65	8.5	-9	-497.9	-2.8	-585.1	87.2	0.0



Design Equations (Vector Analysis):

$a = c_{FS}*L_{CR}*\sin(90+\phi_{FS})/\sin(\alpha-\phi_{FS})$

$b = W-a$

$P_A = b*\tan(\alpha-\phi_{FS})$

$EFP = 2*P_A/H^2$

Maximum Active Pressure Resultant

$P_{A,\,max}$ 0.0 lbs/lineal foot

Equivalent Fluid Pressure (per lineal foot of wall)

$EFP = 2*P_A/H^2$

EFP 0.0 pcf

Design Wall for an Equivalent Fluid Pressure: 98 pcf (Includes Hydrostatic Pressure)

Geotechnologies, Inc.

Project: Grubb Properties **DRAINED RESTRAINED RETAINING WALL**

File No.: 22207

Soil Weight	γ	120	pcf
Internal Friction Angle	ϕ	26	degrees
Cohesion	c	0	psf
Height of Retaining Wall	H	6	feet

Restrained Retaining Wall Design based on At Rest Earth Pressure

$\sigma'_h = K_o\sigma'_v$

$K_o = 1 - \sin\phi$	0.562	
$\sigma'_v = \gamma H$	720.0	psf

$\sigma'_h =$	404.4	psf	
EFP =	67.4	pcf	
$P_o =$	1213.1	lbs/ft	(based on a triangular distribution of pressure)

Design wall for an EFP of 68 pcf

Geotechnologies, Inc.

Project: Grubb Properties **UNDRAINED RESTRAINED RETAINING WALL**
File No.: 22207

Soil Weight	γ	57.6 pcf	**(Buoyant)**
Internal Friction Angle	ϕ	26 degrees	
Cohesion	c	0 psf	
Height of Retaining Wall	H	6 feet	

Restrained Retaining Wall Design based on At Rest Earth Pressure

$\sigma'_h = K_o\sigma'_v$

$K_o = 1 - \sin\phi$	0.562
$\sigma'_v = \gamma H$	345.6 psf

$\sigma'_h =$	194.1 psf	
EFP =	32.3 pcf	
$P_o =$	582.3 lbs/ft	(based on a triangular distribution of pressure)

Design wall for an EFP of 93 pcf **(Includes Hydrostatic Pressure)**

Geotechnologies, Inc.

Project: GRUBB PROPERTIES
File No.: 22207
Description: Slot Cut

Slot Cut Calculation

Input:

Height of Slots	(H)	7	feet
Unit Weight of Soils	(γ)	120.0	pcf
Friction Angle of Soils	(ϕ)	26.0	degrees
Cohesion of Soils	(c)	240.0	psf
Factor of Safety	(FS)	1.25	

Factor of Safety = Resistance Force/Driving Force

Coefficient of Lateral Earth Pressure At-Rest	K_o	0.5	

Surcharge Pressure:

Line Load	(q_L)	2500.0	plf
Distance Away from Edge of Excavation	(X)	0.0	feet

Design Equations

$b = H/(\tan \alpha)$

$A = 0.5*H*b$

$W = 0.5*H*b*\gamma$ *(per lineal foot of slot width)*

$F_1 = d*W*(\sin \alpha)*(\cos \alpha)$

$F_2 = d*L$

$R_1 = d*[W*(\cos^2 \alpha)*(\tan \phi)+(c*b)]$

$R_2 = 2*\Delta F$

$\Delta F = A*[1/3*\gamma*H*K_o*(\tan \phi)+c]$

FS = Resistance Force/Driving Force

FS = $(R_1+R_2)/(F_1+F_2)$

Failure Angle (α) degrees	Base Width of Failure Wedge (b) feet	Area of Failure Wedge (A) feet2	Weight of Failure Wedge (W) lbs/lineal foot	**Driving Force** Wedge + Surcharge per lineal foot of Slot Wdith	**Resisting Force** Failure Wedge per lineal foot of Slot Width	**Resisting Force** Side Resistance Force (ΔF) lbs	Allowable Width of Slots* (d) feet
60	4.0	14	1697.4	1817.5	1481.8	4438.0	11.4
61	3.9	14	1629.7	1751.1	1404.7	4260.8	11.0
62	3.7	13	1563.2	1684.3	1330.1	4087.1	10.7
63	3.6	12	1498.0	1617.2	1257.9	3916.6	10.4
64	3.4	12	1433.9	1550.0	1188.1	3749.1	10.1
65	3.3	11	1370.9	1482.7	1120.6	3584.4	9.9
66	3.1	11	1309.0	1415.3	1055.3	3422.4	9.7
67	3.0	10	1248.0	1348.0	992.2	3262.8	9.5
68	2.8	10	1187.8	1280.9	931.2	3105.7	9.4
69	2.7	9	1128.6	1214.0	872.2	2950.7	9.2
70	2.5	9	1070.1	1147.4	815.2	2797.8	9.1
71	2.4	8	1012.3	1081.2	760.0	2646.8	9.0
72	2.3	8	955.3	1015.5	706.8	2497.6	9.0
73	2.1	7	898.8	950.3	655.3	2350.1	8.9
74	2.0	7	843.0	885.8	605.6	2204.1	8.9
75	1.9	7	787.8	821.9	557.6	2059.7	8.8
76	1.7	6	733.0	758.9	511.2	1916.5	8.8
77	1.6	6	678.8	696.7	466.3	1774.6	8.8
78	1.5	5	624.9	635.5	423.0	1633.9	8.9
79	1.4	5	571.5	575.3	381.1	1494.2	8.9
80	1.2	4	518.4	516.2	340.6	1355.4	9.0
81	1.1	4	465.7	458.2	301.5	1217.5	9.1
82	1.0	3	413.2	401.5	263.6	1080.3	9.1
83	0.9	3	361.0	346.1	227.0	943.8	9.3
84	0.7	3	309.0	292.0	191.5	807.9	9.4
85	0.6	2	257.2	239.4	157.2	672.5	9.5

Critical Slot Width with Factor of Safety equal or exceeding 1.5:

d_{allow} 8.8 feet

The proposed excavation may be made using the A-B-C Slot-Cutting Method with a Maximum Allowable Slot Width of 8 Feet, and up to 7 Feet in Height, with a Factor of Safety Equal or Exceeding 1.25.

Geotechnologies, Inc.

Project: Grubb Properties

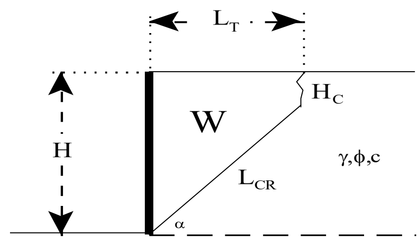
File No.: 22207

Description: Temporary Shoring (up to 10 feet)

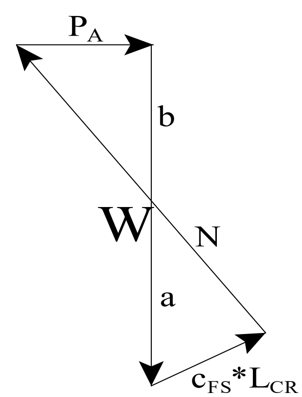
Shoring Design with Level Backfill
(Vector Analysis)

Input:

Shoring Height	(H)	10.00	feet
Unit Weight of Retained Soils	(γ)	120.0	pcf
Friction Angle of Retained Soils	(ϕ)	26.0	degrees
Cohesion of Retained Soils	(c)	240.0	psf
Factor of Safety	(FS)	1.25	
Factored Parameters:	(ϕ_{FS})	21.3	degrees
	84.2	192.0	psf



Failure Angle (α) degrees	Height of Tension Crack (H_C) feet	Area of Wedge (A) $feet^2$	Weight of Wedge (W) lbs/lineal foot	Length of Failure Plane (L_{CR}) feet	a lbs/lineal foot	b lbs/lineal foot	Active Pressure (P_A) lbs/lineal foot
40	6.1	38	4512.8	6.1	3410.4	1102.3	372.8
41	5.9	38	4529.4	6.3	3348.3	1181.2	422.6
42	5.7	38	4515.1	6.5	3270.5	1244.6	469.9
43	5.5	37	4476.7	6.6	3182.9	1293.8	514.5
44	5.4	37	4419.6	6.7	3089.3	1330.3	556.1
45	5.2	36	4347.8	6.7	2992.6	1355.2	594.5
46	5.1	36	4264.6	6.8	2894.9	1369.7	629.6
47	5.0	35	4172.4	6.8	2797.3	1375.1	661.3
48	5.0	34	4073.2	6.8	2701.0	1372.1	689.7
49	4.9	33	3968.5	6.8	2606.6	1361.9	714.6
50	4.8	32	3859.6	6.7	2514.4	1345.1	736.0
51	4.8	31	3747.3	6.7	2424.8	1322.6	753.9
52	4.7	30	3632.6	6.7	2337.7	1294.9	768.4
53	4.7	29	3516.0	6.6	2253.3	1262.7	779.4
54	4.7	28	3398.0	6.6	2171.6	1226.4	786.9
55	4.7	27	3278.9	6.5	2092.3	1186.6	790.9
56	4.7	26	3159.1	6.4	2015.4	1143.7	791.5
57	4.7	25	3038.8	6.3	1940.8	1098.0	788.5
58	4.7	24	2918.1	6.2	1868.2	1049.9	782.1
59	4.7	23	2797.2	6.1	1797.5	999.7	772.2
60	4.8	22	2676.1	6.0	1728.4	947.7	758.9
61	4.8	21	2554.9	5.9	1660.6	894.2	742.0
62	4.9	20	2433.5	5.8	1594.1	839.5	721.7
63	4.9	19	2312.0	5.7	1528.3	783.7	697.9
64	5.0	18	2190.3	5.5	1463.2	727.1	670.6
65	5.1	17	2068.3	5.4	1398.3	670.0	639.9



Design Equations (Vector Analysis):

$a = c_{FS}*L_{CR}*\sin(90+\phi_{FS})/\sin(\alpha-\phi_{FS})$

$b = W-a$

$P_A = b*\tan(\alpha-\phi_{FS})$

$EFP = 2*P_A/H^2$

Maximum Active Pressure Resultant

$P_{A,\ max}$ 791.5 lbs/lineal foot

Equivalent Fluid Pressure (per lineal foot of shoring)

$EFP = 2*P_A/H^2$

EFP 15.8 pcf

Design Shoring for an Equivalent Fluid Pressure: 28 pcf

Soil Corrosivity Evaluation Report for Grubb Properties

December 7, 2021

Prepared for:
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Project X Job #: S211203F
Client Job or PO #: 22207

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1 Executive Summary

A corrosion evaluation of the soils at Grubb Properties was performed to provide corrosion control recommendations for general construction materials. The site is located at 1200 North Vine St, Los Angeles, CA. Two (2) samples were tested to a depth of 20 ft. Site ground water and topography information was provided by Geotechnologies, Inc.. Groundwater depth was determined to be 20 feet below finished grade.

Every material has its weakness. Aluminum alloys, galvanized/zinc coatings, and copper alloys do not survive well in very alkaline or very acidic pH environments. Copper and brasses do not survive well in high nitrate or ammonia environments. Steels and irons do not survive well in low soil resistivity and high chloride environments. High chloride environments can even overcome and attack steel encased in normally protective concrete. Concrete does not survive well in high sulfate environments. And nothing survives well in high sulfide and low redox potential environments with corrosive bacteria. This is why Project X tests for these 8 factors to determine a soil's corrosivity towards various construction materials. **Depending solely on soil resistivity or Caltrans corrosion guidelines (which concentrate on concrete/steel highways), will over-simplify descriptions as corrosive or non-corrosive. This approach will not detect these other factors attacking other metals because it is possible to have bad levels of corrosive ions and still have greater than 1,100 ohm-cm soil resistivity. We have observed this fact on thousands of soil samples tested in our laboratory.**

It should not be forgotten that import soil should also be tested for all factors to avoid making your site more corrosive than it was to begin with.

The recommendations outlined herein are not a substitute for any design documents previously prepared for the purpose of construction and apply only to the depth of samples collected.

Soil samples were tested for minimum resistivity, pH, chlorides, sulfates, ammonia, nitrates, sulfides and redox.

As-Received soil resistivities ranged between 14,740 ohm-cm and 20,770.0 ohm-cm. This data would be similar to a Wenner 4 pin test in the field and used in the design of a cathodic protection or grounding bed system. This resistivity can change seasonally depending on the weather and moisture in the ground. This reading alone can be misleading because condensation or minor water leaks will occur underground along pipe surfaces creating a saturated soil environment in the trench on infrastructure surfaces. This is why minimum or saturated soil resistivity measurements are more important than as-received resistivities.

Saturated soil resistivities ranged between 2,010 ohm-cm to 2,211 ohm-cm. The worst of these values is considered to be moderately corrosive to general metals.

PH levels ranged between 8.0 to 8.1 pH. PH levels were determined to be at levels not detrimental to copper or aluminum alloys. The pH of these samples can allow corrosion of steel and iron in moist environments.

Chlorides ranged between 6 mg/kg to 17 mg/kg. Chloride levels in these samples are low and may cause insignificant corrosion of metals.

Sulfates ranged between 33 mg/kg to 36 mg/kg. Sulfate levels in these samples are negligible for corrosion of cement. Any type of cement can be used that does not contain encased metal.

Ammonia ranged between 0.6 mg/kg to 1.8 mg/kg. Nitrates ranged between 24.4 mg/kg to 36.8 mg/kg. Concentrations of these elements were not high enough to cause accelerated corrosion of copper and copper alloys such as brass.

Sulfides presence was determined to be negative. REDOX ranged between + 210 mV to + 215 mV. The probability of corrosive bacteria was determined to be low due to the sulfide and positive REDOX levels determined in these samples.

2 Corrosion Control Recommendations

The following recommendations are based upon the results of soil testing.

2.1 Cement

The highest reading for sulfates was 36 mg/kg or 0.0036 percent by weight.

Per ACI 318-14, Table 19.3.1.1, sulfate levels in these samples categorized as S0 and are negligible for corrosion of metals and cement. Per ACI 318-14 Table 19.3.2.1 any type of cement not containing steel or other metal can be used.

2.2 Steel Reinforced Cement/ Cement Mortar Lined & Coated (CML&C)

Chlorides in soil can overcome the corrosion inhibiting property of cement for steel, as it can also break through passivated surfaces of aluminum and stainless steels.[1,2] The highest concentration of chlorides was 17 mg/kg.

Chloride levels in these samples are not significantly corrosive to metals not in tension. Standard cement cover may be used in these soils.

Though soils at some locations are significantly corrosive to various metals, per ACI 318-14 Chapter 19 Table 19.3.1.1, all slabs on this site exposure categories and class for **Corrosion Protection of Reinforcement (C) would be considered C1** as Concrete exposed to moisture [mud/rain] (slab sides and bottom) but not to an external source of chlorides. Though there are chlorides in the soil, ACI 318's definition of "external source of chlorides" consists of deicing chemicals, salt, brackish water, seawater, or spray from these sources. The chloride levels in seawater are typically over 19,000 mg/L or 19,000 ppm.

When concrete is tested for water-soluble chloride ion content, the tests should be made at an age of 28 to 42 days. The limits in Per ACI 318-14 Table 5.3.2.1 are to be applied to chlorides contributed from the concrete ingredients, not those from the environment surrounding the concrete.[3]

[1] Design Manual 303: Cement Cylinder Pipe. Ameron. p.65
[2] *Chapter 19, Table 1904.2.2(1), 2012 International Building Code*

[3] ACI 381-14., BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14) AND COMMENTARY (ACI 318R-14)

2.3 Stainless Steel Pipe/Conduit/Fittings

Stainless steels derive their corrosion resistance from their chromium content and oxide layer which needs oxygen to regenerate if damaged. Thus stainless steel is not good for deep soil applications where oxygen levels are extremely low. Stainless steels should not be installed deeper than a plant root zone. Stainless steels typically have the same nobility as copper on the galvanic series and can be connected to copper. If stainless steel must be used, it must be backfilled with soil having greater than 10,000 ohm-cm resistivity and excellent drainage. 304 Stainless steel will also corrode if in contact with carbon materials such as activated carbon. Stainless steel welds should be pickled.

The soil at this site has low probability for anaerobic corrosive bacteria and low chloride levels. Per Nickel Institute guidelines, 304 or 316 Stainless steels can be used in these soils.

2.4 Steel Post Tensioning Systems

The proper sealing of stressing holes is of utmost importance in PT Systems. Cut off excess strand 1/2" to 3/4" back in the hole. Coat or paint exposed anchorage, grippers, and stub of strands with "Rust-o-leum" or equal. After tendons have been coated, the cement contractor shall dry pack blockouts within ten (10) days. A non-shrink, non-metallic, non-porous moisture-insensitive grout (Master EMACO S 488 or equivalent), or epoxy grout shall be used for this purpose. If an encapsulated post-tension system is used, regular non-shrink grout can be used.

Due to the low chloride concentrations measured on samples obtained from this site, post-tensioned slabs should be protected in accordance with soil considered normal (non-corrosive).[4,5] Addition of grease caps to the cut strand at live end anchors can deter construction defect accusations but are not needed.

2.5 Steel Piles

Steel piles are most susceptible to corrosion in disturbed soil where oxygen is available. Further, a dissimilar environment corrosion cell would exist between the steel embedded in cement, such as pile caps and the steel in the soil. In the cell, the steel in the soil is the anode (corroding metal), and the steel in cement is the cathode (protected metal). This cell can be minimized by coating the part of the steel piles that will be embedded in cement to prevent contact with cement and reinforcing steel.

Piles driven into soils without disturbing soils will avoid oxygen introduction and low corrosion rates unless there is a probability for corrosive anaerobic bacteria. Galvanized steel's zinc coating can provide significant protection for driven piles. In corrosive soils in which normal zinc coatings are not enough, the life of piles can be extended by increasing zinc coating thickness, using sacrificial metal, or providing a combination of epoxy coatings and cathodic protection. Corrosion has been observed to be extremely localized even at and below underground water tables. Pit depths of this magnitude do not have an appreciable effect on the strength or useful life of piling structures because the reduction in pile cross section is not

[4] *Standard Requirements for Design and Analysis of Shallow Post-Tensioned Concrete Foundations on Expansive Soils, PTI DC10.5-12,Table 4.1, pg 16*
[5] *Specification for Unbonded Single Strand Tendons. Post-tensioning Institute (PTI), Phoenix, AZ, 2000.*

significant.[6] Pitting is of more importance to pipes transporting liquids or gases which should not be leaked into the ground.

The following recommendations are recommended to achieve desired life. We defer to structural engineers to use our estimated corrosion rates and to choose from the corrosion control options listed below.

1) Sacrificial metal by use of thicker piles per non-disturbed soil corrosion rates, or
2) Galvanized steel piles per non-disturbed soil corrosion rates, or
3) Combination of galvanized and sacrificial metal per non-disturbed soil corrosion rates, or
4) For no loss of metal, coat entire pile with abrasion resistant epoxy coating such as 3M Scotchkote 323, or PowercreteDD, or equivalent, or
5) Use high yield steel which will corrode at the same rate as mild steel but have greater yield strength and thus be able to suffer more material loss than mild steel.

2.5.1 *Expected Corrosion Rate of Steel and Zinc in disturbed soil*

In general, the corrosion rate of metals in soil depends on the electrical resistivity, the elemental composition, and the oxygen content of the soil. Soils can vary greatly from one acre to the next, especially at earthquake faults. The better a soil is for farming; the easier it will be for corrosion to take place. Expansive soils will also be considered disturbed simply because of their nature from dry to wet seasons.

In Melvin Romanoff's NBS Circular 579, the corrosion rates of carbon steels and various metals was studied over long term periods. Various metals were placed in various soil types to gather corrosion rate data of all metals in all soil types. Samples were collected and material loss measured over the course of 20 years in some sites. The following corrosion rates were estimated by comparing the worst results of soils tested with similar soils in Romanoff's studies and Highway Research Board's publications.[7] The corrosion rate of zinc in disturbed soils is determined per Romanoff studies and King Nomograph.[8]

Expected Corrosion Rate for Steel = 1.53 mils/year for one sided attack

Expected Corrosion Rate for Zinc = 0.34 mils/year for one sided attack.

Note: 1 mil = 0.001 inch

In undisturbed soils, a corrosion rate of 1 mil/year for steel is expected with little change in the corrosion rate of zinc due to it's low nobility in the galvanic series.

Per CTM 643: Years to perforation of corrugated galvanized steel culverts

- 33.9 Years to Perforation for a 18 gage metal culvert
- 44.1 Years to Perforation for a 16 gage metal culvert

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[6] Melvin Romanoff, Corrosion of Steel Pilings in Soils, National Bureau of Standards Monograph 58, pg 20.

[7] Field test for Estimating Service Life of Corrugated Metal Culverts, J.L. Beaton, Proc. Highway Research Board, Vol 41, P. 255, 1962

[8] King, R.A. 1977, Corrosion Nomograph, TRRC Supplementary Report, British Corrosion Journal

- 54.3 Years to Perforation for a 14 gage metal culvert
- 74.6 Years to Perforation for a 12 gage metal culvert
- 94.9 Years to Perforation for a 10 gage metal culvert
- 115.3 Years to Perforation for a 8 gage metal culvert

2.5.2 ***Expected Corrosion Rate of Steel and Zinc in Undisturbed soil***

Expected Corrosion Rate for Steel = 1 mils/year for one sided attack

Expected Corrosion Rate for Zinc = 0.34 mils/year for one sided attack.

Note: 1 mil = 0.001 inch

2.6 Steel Storage tanks

Underground fuel tanks must be constructed and protected in accordance with California Underground Storage Tank Regulations, CCR, Title 23, Division 3, Chapter 16. Metals should be protected with cathodic protection or isolated from backfill material with an epoxy coating.

2.7 Steel Pipelines

Though a site may not be corrosive in nature at the time of construction, **installation of corrosion test stations and electrical continuity joint bonding should be performed during construction** so that future corrosion inspections can be performed. If steel pipes with gasket joints or other possibly non-conductive type joints are installed, their joints should be bonded across by welding or pin brazing a #8 AWG copper strand bond cable. Electrical continuity is necessary for corrosion inspections and for cathodic protection.

Corrosion test stations should be installed every 1,000 feet of pipeline.

Test stations shall have two #8 HMWPE copper strand wire test leads welded or pin brazed to the underground pipe, brought up into the test station hand hole and marked CTS. Wires should be brought into test station hand hole at finished grade with 12 inches of wire coiled within test station.

At isolation joints and pipe casings, 4 wire test stations shall be installed using #8 HMWPE copper strand wire test leads. Use different color wires to distinguish which wires are bonded to one side of isolation joint or to casing. Wires should be brought into test station hand hole at finished grade with 12 inches of wire coiled within test station.

Prevent dissimilar metal corrosion cells per NACE SP0286:

1) Electrically isolate dissimilar metal connections
2) Electrically isolate dissimilar coatings (Epoxy vs CML&C) segments connections
3) Electrically isolate river crossing segments
4) Electrically isolate freeway crossing segments
5) Electrically isolate old existing pipelines from new pipelines

6) Electrically isolate aboveground and underground pipe segments with flange isolation joint kits per NACE SP0286 to avoid galvanic corrosion cells. **These are especially important for fire risers.**

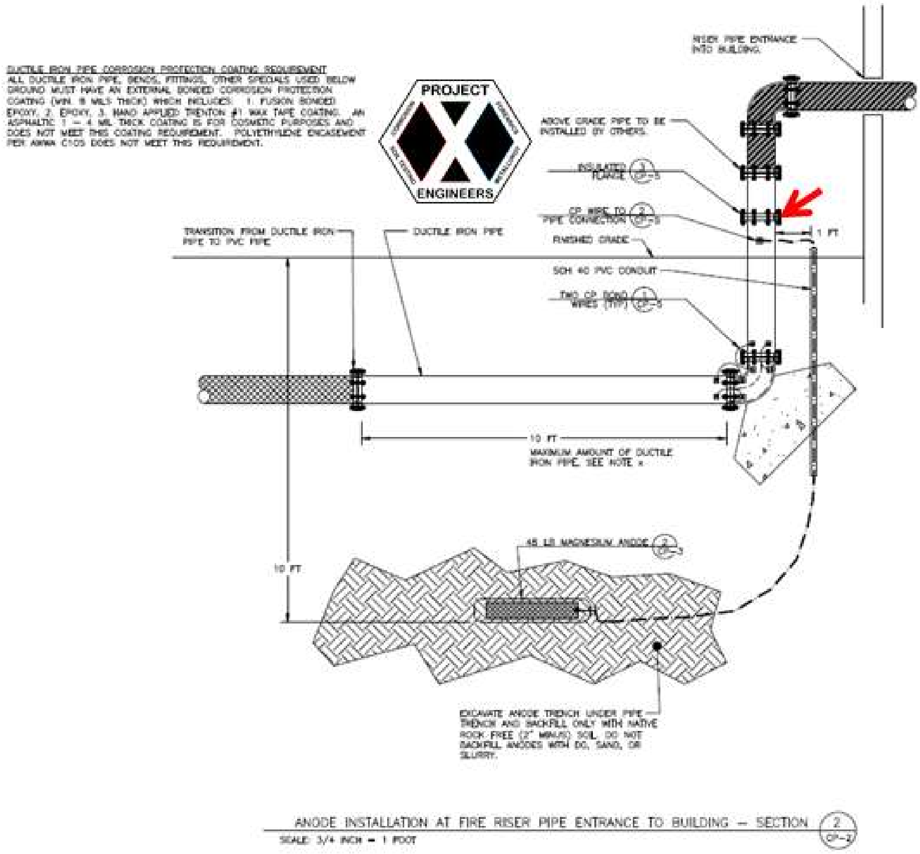


Figure 1- Fire Riser Detail: Install Isolation joint at red arrow

The bare steel surfaces, the corrosivity at this site is mildly corrosive to steel. The corrosion control options for this site are as follows:

1) Apply impermeable dielectric coating such as minimum 10 mil thick polyethylene, or
2) Tape coating system per AWWA C214, or
3) Wax tape per AWWA C217, or
4) Coal tar enamel per AWWA C203, or
5) Fusion bonded epoxy per AWWA C213, or
6) For bare steel surfaces, such as welded pipe joints, apply 3 inch thick field coating of Type II cement or high pH slurry that will maintain pH higher than 12. Cement is both a corrosion inhibitor and a coating for ferrous metals. Cement naturally holds a pH of 12 or higher for many years if not exposed to high levels of carbon dioxide. (For CML&C pipes, CML&C factory applied 3/4 inch thick coating is equivalent and needs no extra thickness added.)

It is critical for the life of the pipe that the protective wrap contains no openings or holes. Prevent damage to the protective sleeve during backfilling of the pipe trench. Penetrations of any kind within these or other protective materials generally leads to accelerated corrosion failure due to the fact that the corrosion attack is concentrated at the location of these penetrations. Cathodic protection will protect these defects. The better the coating, the less expensive a cathodic protection system will be in anode material and power requirement if needed.

2.8 Steel Fittings

The corrosivity at this site is mildly corrosive to steel. The corrosion control options for this site can be one of the following:

1) Apply impermeable dielectric coating such as minimum 10 mil thick polyethylene, or
2) Tape coating system per AWWA C214, or
3) Wax tape per AWWA C217, or
4) Coal tar enamel per AWWA C203, or
5) Fusion bonded epoxy per AWWA C213
6) Use powder coated steel with minimum 60 micron (2-3 mil) thick coating[9], or
7) Galvanized steel, or
8) Apply standard concrete cover of Type II cement or high pH slurry that will maintain pH higher than 12. Cement is both a corrosion inhibitor and a coating for ferrous metals. Cement naturally holds a pH of 12 or higher for many years if not exposed to high levels of carbon dioxide.

It is critical for the life of the metal that the protective wrap contains no openings or holes. Prevent damage to the protective sleeve during backfilling of the pipe trench. Penetrations of any kind within these or other protective materials generally leads to accelerated corrosion failure due to the fact that the corrosion attack is concentrated at the location of these penetrations. Cathodic protection will protect these defects. The better the coating, the less expensive a cathodic protection system will be in anode material and power requirement if needed.

2.9 Ductile Iron (DI) & Cast Iron Fittings

AWWA C105 developed a 10 point system to classify sites as aggressive or non-aggressive to ductile iron materials. The 10-point system does not, and was never intended to, quantify the corrosivity of a soil. It is a tool used to distinguish nonaggressive from aggressive soils relative to iron pipe. Soils <10 points are considered nonaggressive to iron pipe, whereas soils ≥10 points are considered aggressive. A 15 and a 20 point soil are both considered aggressive to iron pipe, however, because of the nature of the soil parameters measured, the 20 point soil may not necessarily be more aggressive than the 15 point soil. The criterion is based upon soil resistivities, soil drainage, pH, sulfide presence, and reduction-oxidation (REDOX) potential. The soil samples tested for this site resulted in a score of 1 out of 25.5. A score greater or equal

[9] Manish Kumar Bhadu, Akshya Kumar Guin, Veena Singh, Shyam K. Choudhary, "Corrosion Study of Powder-Coated Galvanised Steel", International Scholarly Research Notices, vol. 2013, Article ID 464710, 9 pages, 2013

to 10 points classifies soils as aggressive to iron materials. The black coating on iron pipes is purely for aesthetic purposes and should not be relied upon for corrosion protection.[10]

The corrosivity at this site is mildly corrosive to iron. The corrosion control options for this site are as follows:

1) Apply impermeable dielectric coating such as minimum 10 mil thick polyethylene, or
2) Tape coating system per AWWA C214, or
3) Wax tape per AWWA C217, or
4) Coal tar enamel per AWWA C203, or
5) Fusion bonded epoxy per AWWA C213
6) Apply standard concrete cover of Type II cement or high pH slurry that will maintain pH higher than 12. Cement is both a corrosion inhibitor and a coating for ferrous metals. Cement naturally holds a pH of 12 or higher for many years if not exposed to high levels of carbon dioxide.

It is critical for the life of the metal that the protective wrap contains no openings or holes. Prevent damage to the protective sleeve during backfilling of the pipe trench. Penetrations of any kind within these or other protective materials generally leads to accelerated corrosion failure due to the fact that the corrosion attack is concentrated at the location of these penetrations. Cathodic protection will protect these defects. The better the coating, the less expensive a cathodic protection system will be in anode material and power requirement if needed.

2.10 Ductile Iron & Cast Iron Pipe

AWWA C105 developed a 10 point system to classify sites as aggressive or non-aggressive to ductile iron materials. The 10-point system does not, and was never intended to, quantify the corrosivity of a soil. It is a tool used to distinguish nonaggressive from aggressive soils relative to iron pipe. Soils <10 points are considered nonaggressive to iron pipe, whereas soils ≥10 points are considered aggressive. A 15 and a 20 point soil are both considered aggressive to iron pipe, however, because of the nature of the soil parameters measured, the 20 point soil may not necessarily be more aggressive than the 15 point soil. The criterion is based upon soil resistivities, soil drainage, pH, sulfide presence, and reduction-oxidation (REDOX) potential. The soil samples tested for this site resulted in a score of 1 out of 25.5. A score greater or equal to 10 points classifies soils as aggressive to iron materials. The black coating on iron pipes is purely for aesthetic purposes and should not be relied upon for corrosion protection.[11]

Though a site may not be corrosive in nature at the time of construction, **installation of corrosion test stations and electrical continuity joint bonding should be performed during construction** so that future corrosion inspections can be performed. If steel pipes with gasket joints or other possibly non-conductive type joints are installed, their joints should be bonded across by welding or pin brazing a #8 AWG copper strand bond cable. Electrical continuity is necessary for corrosion inspections and for cathodic protection. **If using thermite, perform one**

[10] https://www.dipra.org/ductile-iron-pipe-resources/frequently-asked-questions/corrosion-control

[11] https://www.dipra.org/ductile-iron-pipe-resources/frequently-asked-questions/corrosion-control

test bond using a half-charge then pressure test to confirm excess heat and pinholes were not created.

Pea gravel is used by plumbers to lay pipes and establish slopes. If the gravel has more than 200 ppm chlorides or is not tested, a 25 mil plastic should be placed between the gravel and pipe to avoid corrosion.

Corrosion test stations should be installed every 1,000 feet of pipeline.

Test stations shall have two #8 HMWPE copper strand wire test leads welded or pin brazed to the underground pipe, brought up into the test station hand hole and marked CTS. Wires should be brought into test station hand hole at finished grade with 12 inches of wire coiled within test station.

At isolation joints and pipe casings, 4 wire test stations shall be installed using #8 HMWPE copper strand wire test leads. Use different color wires to distinguish which wires are bonded to one side of isolation joint or to casing. Wires should be brought into test station hand hole at finished grade with 12 inches of wire coiled within test station.

Prevent dissimilar metal corrosion cells per NACE SP0286:

1) Electrically isolate dissimilar metal connections
2) Electrically isolate dissimilar coatings (Epoxy vs CML&C) segments connections
3) Electrically isolate river crossing segments
4) Electrically isolate freeway crossing segments
5) Electrically isolate old existing pipelines from new pipelines
6) Electrically isolate aboveground and underground pipe segments with flange isolation joint kits per NACE SP0286**. These are especially important for fire risers.**

The corrosivity at this site is mildly corrosive to iron. The corrosion control options for this site are as follows:

1) Apply impermeable dielectric coating such as minimum 10 mil thick polyethylene, or
2) Tape coating system per AWWA C214, or
3) Wax tape per AWWA C217, or
4) Coal tar enamel per AWWA C203, or
5) Fusion bonded epoxy per AWWA C213
6) Apply standard concrete cover of Type II cement or high pH slurry that will maintain pH higher than 12. Cement is both a corrosion inhibitor and a coating for ferrous metals. Cement naturally holds a pH of 12 or higher for many years if not exposed to high levels of carbon dioxide.

It is critical for the life of the metal that the protective wrap contains no openings or holes. Prevent damage to the protective sleeve during backfilling of the pipe trench. Penetrations of any kind within these or other protective materials generally leads to accelerated corrosion failure due to the fact that the corrosion attack is concentrated at the location of these penetrations. Cathodic protection will protect these defects. The better the coating, the less expensive a cathodic protection system will be in anode material and power requirement if needed.

2.11 Copper Materials

Copper is an amphoteric material which is susceptible to corrosion at very high and very low pH. It is one of the most noble metals used in construction thus typically making it a cathode when connected to dissimilar metals. Copper's nobility can change with temperature, similar to the phenomenon in zinc. When zinc is at room temperature, it is less noble than steel and can provide cathodic protection to steel. But when zinc is at a temperature above 140F such as in a water heater, it becomes more noble than the steel and the steel becomes the sacrificial anode. This is why zinc is not used in steel water heaters or boilers. Cold copper has one native potential, but when heated it develops a more electronegative electro-potential aka open circuit potential. Thus hot and cold copper pipes should be electrically isolated from each other to avoid creation of a thermo-galvanic corrosion cell.

2.11.1 Copper Pipes

The lowest pH for this area was measured to be 8.0. Copper is greatly affected by pH, ammonia and nitrate concentrations[12]. The highest nitrate concentration was 36.8 mg/kg and the highest ammonia concentration was 1.8 mg/kg at this site.

These soils were determined mildly corrosive to copper and copper alloys such as brass.

Underground, aboveground, cold water, and hot water pipes should be electrically isolated from each other by use of dielectric unions and plastic in-wall pipe supports per NACE SP0286. The following are corrosion control options for underground copper water pipes.

1) Cover cold copper piping with minimum 8 mil polyethylene and backfill with clean sand with 2 inch minimum cover above and below tubing. Backfill should have a pH between 6 and 8 with electrical resistivity greater than 2,000 ohm-cm
2) Heat increases corrosion rates. Hot water pipes should be installed within PVC piping to prevent soil contact, or
3) Cover hot water pipes with minimum 8 mil polyethylene sleeve or incase in double 4-mil thick polyethylene sleeves over a suitable primer

It is critical for the life of the metal that the protective wrap contains no openings or holes. Prevent damage to the protective sleeve during backfilling of the pipe trench. Penetrations of any kind within these or other protective materials generally leads to accelerated corrosion failure due to the fact that the corrosion attack is concentrated at the location of these penetrations. Cathodic protection will protect these defects. The better the coating, the less expensive a cathodic protection system will be in anode material and power requirement if needed.

2.11.2 Brass Fittings

Brass fittings should be electrically isolated from dissimilar metals by use of dielectric unions or isolation joint kits per NACE SP0286.

[12] Corrosion Data Handbook, Table 6, Corrosion Resistance of copper alloys to various environments, 1995

These soils were determined to be mildly corrosive to copper and copper alloys such as brass.

The following are corrosion control options for underground brass.

1) Cover with minimum 10 mil polyethylene or other impermeable coating and backfill with clean sand with 4 inch minimum cover above and below brass. Backfill should have a pH between 6 and 8 with electrical resistivity greater than 2,000 ohm-cm, or
2) Wrap fitting or valves in wax tape

It is critical for the life of the metal that the protective wrap contains no openings or holes. Prevent damage to the protective sleeve during backfilling of the pipe trench. Penetrations of any kind within these or other protective materials generally leads to accelerated corrosion failure due to the fact that the corrosion attack is concentrated at the location of these penetrations. Cathodic protection will protect these defects. The better the coating, the less expensive a cathodic protection system will be in anode material and power requirement if needed.

2.11.3 Bare Copper Grounding Wire

It is assumed that corrosion will occur at all sides of the bare wire, thus the corrosion rate is calculated as a two sided attack determining the time it takes for the corrosion from two sides to meet at the center of the wire. The estimated life of bare copper wire for this site is the following:[13]

Size (AWG)	**Diameter (mils)**	**Est. Time to penetration (Yrs)**
14	64.1	1068.3
13	72	1200.0
12	80.8	1346.7
11	90.7	1511.7
10	101.9	1698.3
9	114.4	1906.7
8	128.5	2141.7
7	144.3	2405.0
6	162	2700.0
5	181.9	3031.7
4	204.3	3405.0
3	229.4	3823.3
2	257.6	4293.3
1	289.3	4821.7

If the bare copper wire is being used as a grounding wire connected to less noble metals such as galvanized steel or carbon steel, the less noble metals will provide additional cathodic protection to the copper reducing the corrosion rate of the copper.

[13] Soil-Corrosion studies 1946 and 1948: Copper Alloys, Lead, and Zinc, Melvin Romanoff, National Bureau of Standards, Research Paper RP2077, 1950

It is recommended that a corrosion inhibiting and water-repelling coating be applied to aboveground and belowground copper-to-dissimilar metal connections to reduce risk of dissimilar corrosion. This can be wax tape, or other epoxy coating.

Tinned copper wiring or laying copper wire in conductive concrete can protect against chemical attack in soils with high nitrates, ammonia, sulfide and severely low soil electrical resistivity.

2.12 Aluminum Pipe/Conduit/Fittings

Aluminum is an amphoteric material prone to pitting corrosion in environments that are very acidic or very alkaline or high in chlorides.

Conditions at this site are safe for aluminum.

Aluminum derives its corrosion resistance from its oxide layer which needs oxygen to regenerate if damaged, similar to stainless steels. Thus aluminum is not good for deep soil applications. Since aluminum corrodes at very alkaline environments, it cannot be encased or placed against cement or mortar such as brick wall mortar up against an aluminum window frame.

Aluminum is also very low on the galvanic series scale making it most likely to become a sacrificial anode when in contact with dissimilar metals in moist environments. Avoid electrical continuity with dissimilar metals by use of insulators, dielectric unions, or isolation joints per NACE SP0286. Pooling of water at post bottoms or surfaces should be avoided by integrating good drainage.

2.13 Carbon Fiber or Graphite Materials

Carbon fiber or other graphite materials are extremely noble on the galvanic series and should always be electrically isolated from dissimilar metals. They can conduct electricity and will create corrosion cells if placed in contact within a moist environment with any metal.

2.14 Plastic and Vitrified Clay Pipe

No special precautions are required for plastic and vitrified clay piping from a corrosion viewpoint.

Protect all metallic fittings and pipe restraining joints with wax tape per AWWA C217, cement if previously recommended, or epoxy.

3 CLOSURE

In addition to soils chemistry and resistivity, another contributing influence to the corrosion of buried metallic structures is stray electrical currents. These electrical currents flowing through the earth originate from buried electrical systems, grounding of electrical systems in residences, commercial buildings, and from high voltage overhead power grids. Therefore, it is imperative that the application of protective wraps and/or coatings and electrical isolation joints be properly applied and inspected.

It is the responsibility of the builder and/or contractor to closely monitor the installation of such materials requiring protection in order to assure that the protective wraps or coatings are not damaged.

The recommendations outlined herein are in conformance with current accepted standards of practice that meet or exceed the provisions of the Uniform Building Code (UBC), the International Building Code (IBC), California Building Code (CBC), the American Cement Institute (ACI), Nickel Institute, National Association of Corrosion Engineers (NACE International), Post-Tensioning Institute Guide Specifications and State of California Department of Transportation, Standard Specifications, American Water Works Association (AWWA) and the Ductile Iron Pipe Research Association (DIPRA).

Our services have been performed with the usual thoroughness and competence of the engineering profession. No other warranty or representation, either expressed or implied, is included or intended.

Please call if you have any questions.

Respectfully Submitted,

Ed Hernandez, M.Sc., P.E.
Sr. Corrosion Consultant
NACE Corrosion Technologist #16592
Professional Engineer
California No. M37102
ehernandez@projectxcorrosion.com

4 SOIL ANALYSIS LAB RESULTS

Client: Geotechnologies, Inc.
Job Name: Grubb Properties
Client Job Number: 22207
Project X Job Number: S211203F
December 7, 2021

	Method	ASTM D4327		ASTM D4327		ASTM G187		ASTM D4972	ASTM G200	ASTM D4658	ASTM D4327	ASTM D6919	ASTM D6919	ASTM D6919	ASTM D6919	ASTM D6919	ASTM D6919	ASTM D4327	ASTM D4327
Bore# / Description	**Depth**	**Sulfates** SO_4^{2-}		**Chlorides** Cl^-		**Resistivity** As Rec'd	Minimum	**pH**	**Redox**	**Sulfide** S^{2-}	**Nitrate** NO_3^-	**Ammonium** NH_4^+	**Lithium** Li^+	**Sodium** Na^+	**Potassium** K^+	**Magnesium** Mg^{2+}	**Calcium** Ca^{2+}	**Fluoride** F_2^-	**Phosphate** PO_4^{3-}
	(ft)	(mg/kg)	(wt%)	(mg/kg)	(wt%)	(Ohm-cm)	(Ohm-cm)		(mV)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
B1 ML/CL	1-5	33.0	0.0033	6.3	0.0006	20,770	2,211	8.1	215	0.16	24.4	1.8	0.02	19.1	2.3	14.8	54.5	0.8	1.4
B2 ML/CL	1-5	35.7	0.0036	16.6	0.0017	14,740	2,010	8.0	210	0.15	36.8	0.6	0.02	88.4	5.6	19.3	20.4	4.1	2.2

Unk = Unknown
NT = Not Tested
ND = 0 = Not Detected
mg/kg = milligrams per kilogram (parts per million) of dry soil weight
Chemical Analysis performed on 1:3 Soil-To-Water extract
Anions and Cations tested via Ion Chromatograph except Sulfide.

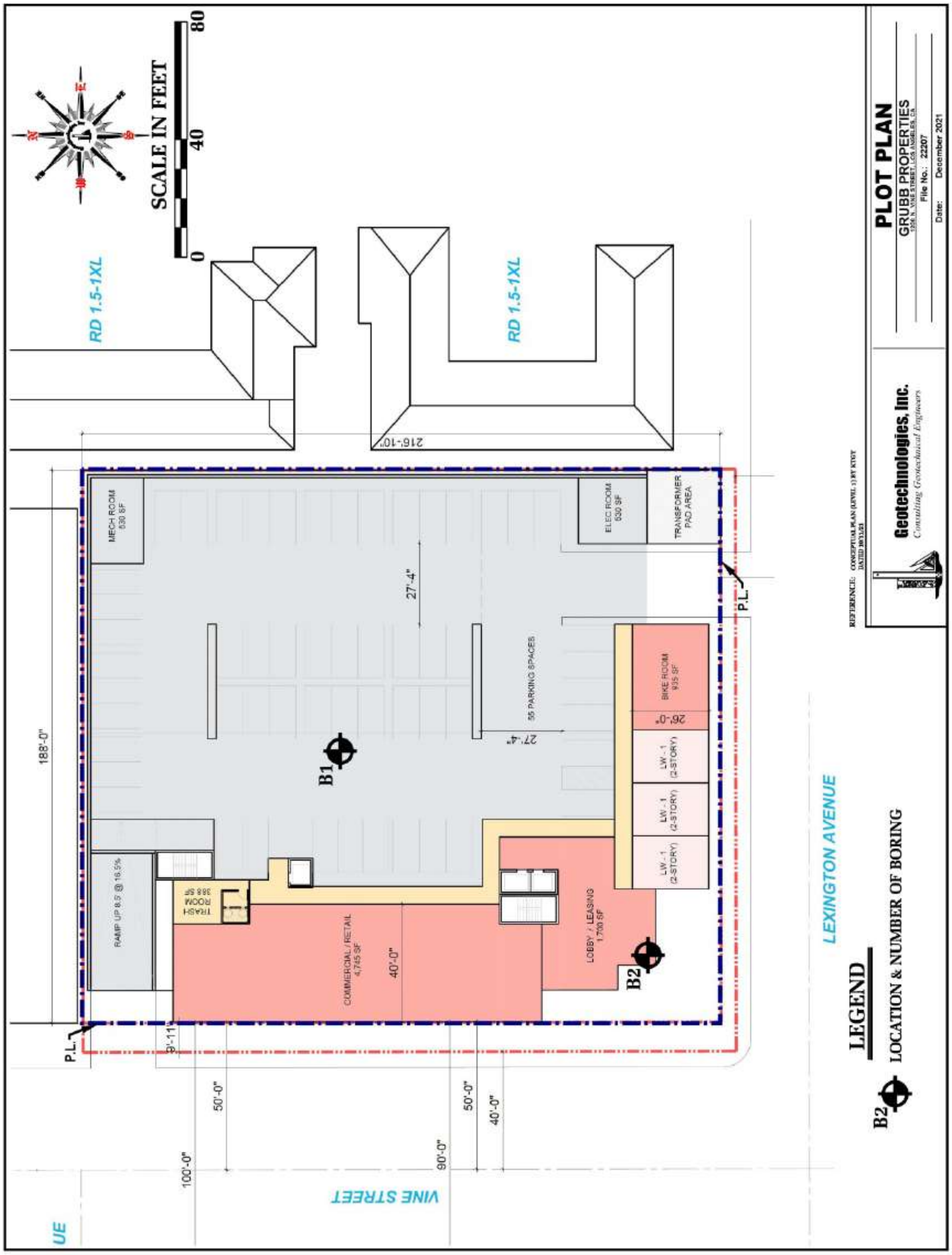

PLOT PLAN
GRUBB PROPERTIES
File No.: 22207
Date: December 2021
Geotechnologies, Inc.
Consulting Geotechnical Engineers
SCALE IN FEET
0
40
80
RD 1.5-1XL
RD 1.5-1XL
216'-10"
188'-0"
MECH ROOM
ELEC ROOM
TRANSFORMER PAD AREA
55 PARKING SPACES
27'-4"
27'-4"
BIKE ROOM
26'-0"
LW - 1 (2-STORY)
LW - 1 (2-STORY)
LW - 1 (2-STORY)
TRASH ROOM
COMMERCIAL / RETAIL
40'-0"
LOBBY / LEASING
B1
B2
P.L.
P.L.
LEXINGTON AVENUE
VINE STREET
50'-0"
50'-0"
40'-0"
100'-0"
90'-0"
LEGEND
B2 LOCATION & NUMBER OF BORING

Figure 2- Soil Sample Locations, 1200 North Vine St, Los Angeles, CA

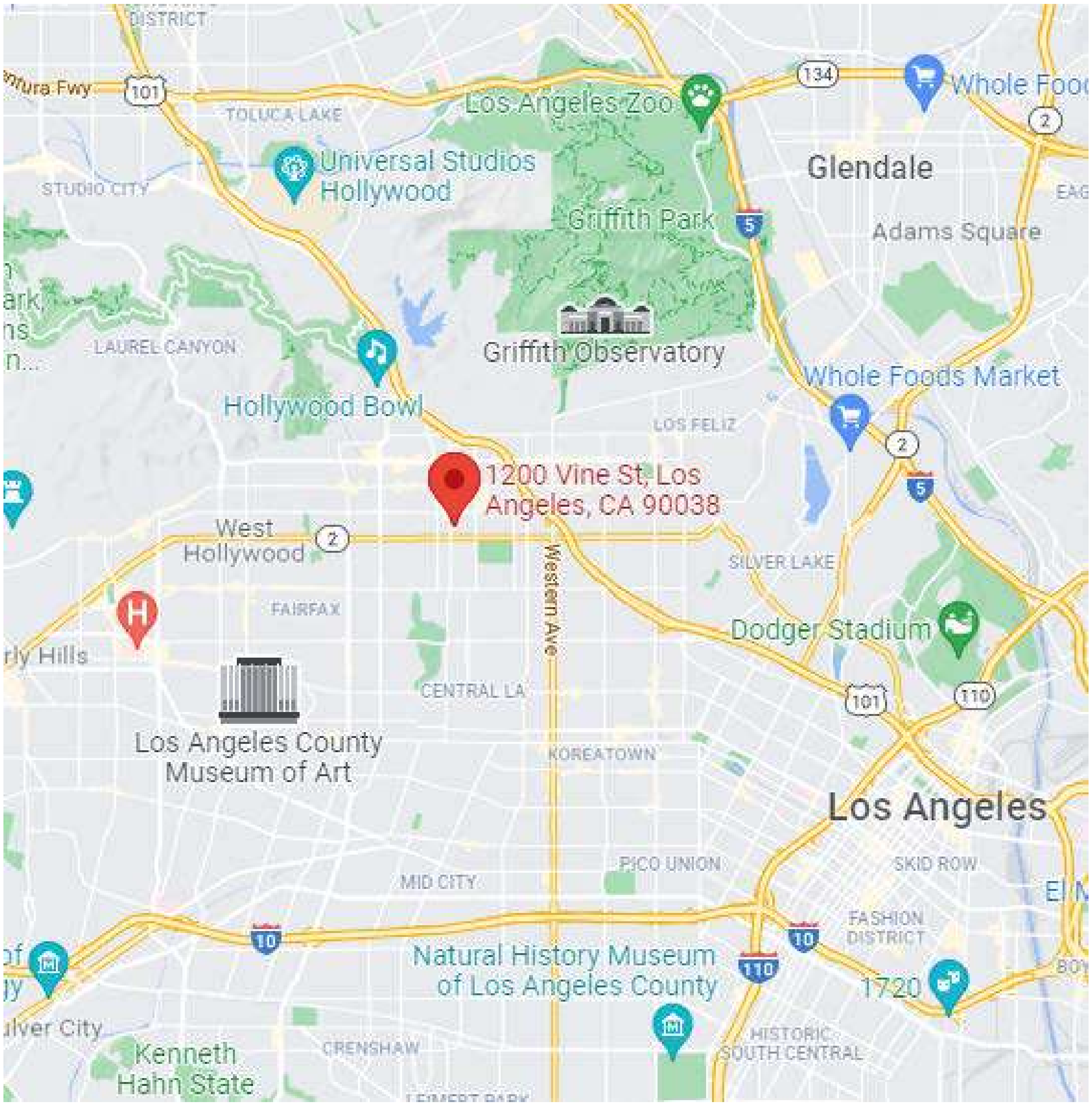


Figure 3- Vicinity Map, 1200 North Vine St, Los Angeles, CA

5 Corrosion Basics

In general, the corrosion rate of metals in soil depends on the electrical resistivity, the elemental composition, and the oxygen content of the soil. Soils can vary greatly from one acre to the next, especially at earthquake faults. The better a soil is for farming; the easier it will be for corrosion to take place. Expansive soils should be considered disturbed simply because of their nature from dry to wet seasons.

5.1 Pourbaix Diagram – In regards to a material's environment

All metals are unique and have a weakness. Some metals do not like acidic (low pH) environments. Some metals do not like alkaline (high pH) environments. Some metals don't like either high or low pH environments such as aluminum. These are called amphoteric materials. Some metals become passivated and do not corrode at high pH environments such as steel. These characteristics are documented in Marcel Pourbaix's book "Atlas of electrochemical equilibria in aqueous solutions"

In the mid 1900's, Marcel Pourbaix developed the Pourbaix diagram which describes a metal's reaction to an environment dependent on pH and voltage conditions. It describes when a metal remains passive (non-corroding) and in which conditions metals become soluble (corrode). Steels are passive in pH over 12 such as the condition when it is encased in cement. If the cement were to carbonate and its pH reduce to below 12, the cement would no longer be able to act as a corrosion inhibitor and the steel will begin to corrode when moist.

Some metals such as aluminum are amphoteric, meaning that they react with acids and bases. They can corrode in low pH and in high pH conditions. Aluminum alloys are generally passive within a pH of 4 and 8.5 but will corrode outside of those ranges. This is why aluminum cannot be embedded in cement and why brick mortar should not be laid against an aluminum window frame without a protective barrier between them.

5.2 Galvanic Series – In regards to dissimilar metal connections

All metals have a natural electrical potential. This electrical potential is measured using a high impedance voltmeter connected to the metal being tested and with the common lead connected to a copper copper-sulfate reference electrode (CSE) in water or soil. There are many types of reference electrodes. In laboratory measurements, a Standard Hydrogen Electrode (SHE) is commonly used. When different metal alloys are tested they can be ranked into an order from most noble (less corrosion), to least noble (more active corrosion). When a more noble metal is connected to a less noble metal, the less noble metal will become an anode and sacrifice itself through corrosion providing corrosion protection to the more noble metal. This hierarchy is known as the galvanic series named after Luigi Galvani whose experiments with electricity and muscles led Alessandro Volta to discover the reactions between dissimilar metals leading to the early battery. The greater the voltage difference between two metals, the faster the corrosion rate will be.

Table 1- Dissimilar Metal Corrosion Risk

	Zinc	Galvanized Steel	Aluminum	Cast Iron	Lead	Mild Steel	Tin	Copper	Stainless Steel
Zinc	None	Low	Medium	High	High	High	High	High	High
Galvanized Steel	Low	None	Medium	Medium	Medium	High	High	High	High
Aluminum	Medium	Medium	None	Medium	Medium	Medium	Medium	High	High
Cast Iron	High	Medium	Medium	None	Low	Low	Low	Medium	Medium
Lead	High	Medium	Medium	Low	None	Low	Low	Medium	Medium
Mild Steel	High	High	Medium	Low	Low	None	Low	Medium	Medium
Tin	High	High	Medium	Low	Low	Low	None	Medium	Medium
Copper	High	High	High	Medium	Medium	Medium	Medium	None	Low
Stainless Steel	High	High	High	Medium	Medium	Medium	Medium	Low	None

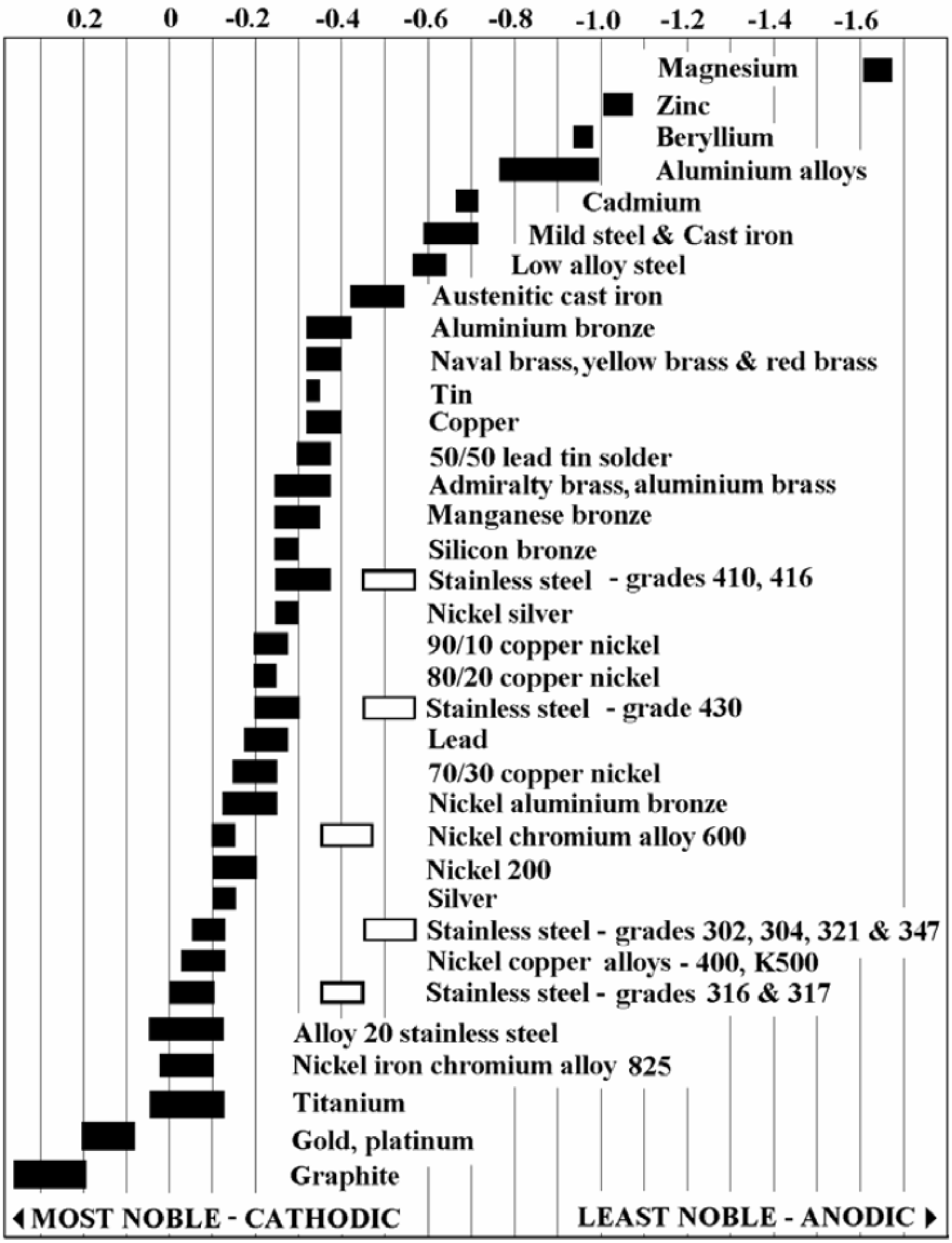
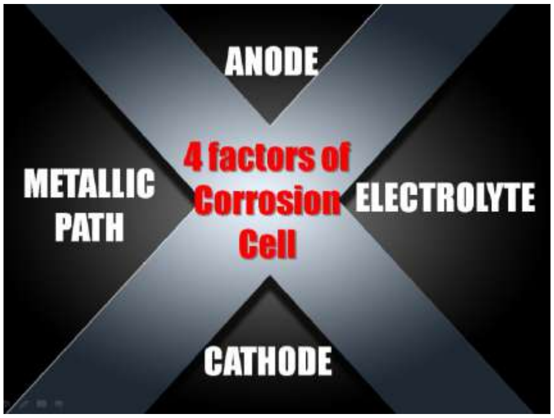
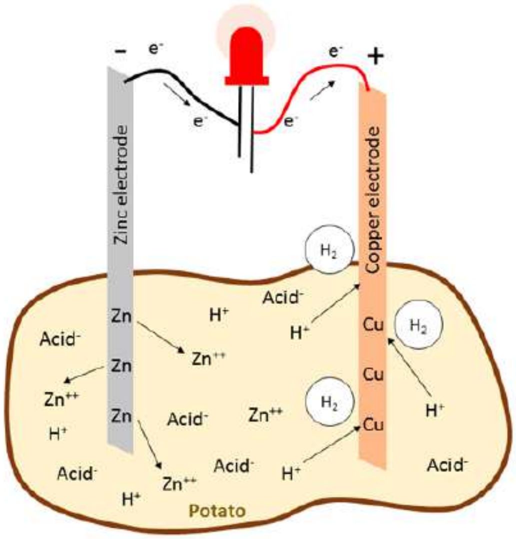


Figure 4 - Galvanic series of metals relative to CSE half cell.

5.3 Corrosion Cell



In order for corrosion to occur, four factors must be present. (1) The anode (2) the cathode (3) the electrolyte and (4) the metallic or conductive path joining the anode and the cathode. If any one of these is removed, corrosion activity will stop. This is how a simple battery produces electricity. An example of a non-metallic yet conductive material is graphite. Graphite is similar in nobility to gold. Do not connect graphite to anything in moist environments.



The anode is where the corrosion occurs, and the cathode is the corrosion free material. Sometimes the anode and cathode are different materials connected by a wire or union. Sometimes the anode and cathode are on the same pipe with one area of the pipe in a low oxygen zone while the other part of the pipe is in a high oxygen zone. A good example of this is a post in the ocean that is repeatedly splashed. Deep underwater, corrosion is minimal, but at the splash zone, the corrosion rate is greatest.

Low oxygen zones and crevices can also harbor corrosive bacteria which in moist environments will lead to corrosion. This is why pipes are laid on backfill instead of directly on native cut soil in a trench. Filling a trench slightly with backfill before installing pipe then finishing the backfill creates a uniform environment around the entire surface of the pipe.

The electrolyte is generally water, seawater, or moist soil which allows for the transfer of ions and electrical current. Pure water itself is not very conductive. It is when salts and minerals dissolve into pure water that it becomes a good conductor of electricity and chemical reactions. Metal ores are turned into metal alloys which we use in construction. They naturally want to return to their natural metal ore state but it requires energy to return to it. The corrosion cell, creates the energy needed to return a metal to its natural ore state.

The metallic or conductive path can be a wire or coupling. Examples are steel threaded into a copper joint, or an electrician grounding equipment to steel pipes inadvertently connecting electrical grid copper grounding systems to steel or iron underground pipes.

The ratio of surface area between the anode and the cathode is very important. If the anode is very large, and the cathode is very small, then the corrosion rate will be very small and the anode may live a long life. An example of this is when short copper laterals were connected to a large and long steel pipeline. The steel had plenty of surface area to spread the copper's attack, thus corrosion was not noticeable. But if the copper was the large pipe and the steel the short laterals, the steel would corrode at an amazing rate.

5.4 Design Considerations to Avoid Corrosion

The following recommendations are based upon typical observations and conclusions made by forensic engineers in construction defect lawsuits and NACE International (Corrosion Society) recommendations.

5.4.1 Testing Soil Factors (Resistivity, pH, REDOX, SO, CL, NO3, NH3)

As previously mentioned, different factors can cause corrosion. The most useful and common test for categorizing a soil's corrosivity has been the measure of soil resistivity which is typically measured in units of (ohm-cm) by corrosion engineers and geologists. Soil resistivity is the ability of soil to conduct or resist electrical currents and ion transfer. The lower the soil resistivity, the more conductive and corrosive it is. The following are "generally" accepted categories but keep in mind, the question is not "Is my soil corrosive?", the question should be, "What is my soil corrosive to?" and to answer that question, soil resistivity and chemistry must be tested. Though **soil resistivity is a good corrosivity indicator for steel materials, high chlorides or other corrosive elements do not always lower soil resistivity, thus if you don't test for chlorides and other water soluble salts, you can get an unpleasant surprise.** The largest contributing factor to a soil's electrical resistivity is its clay, mineral, metal, or sand make-up.

Table 2 - Corrosion Basics- An Introduction, NACE, 1984, pg 191

(Ohm-cm)	Corrosivity Description
0-500	Very Corrosive
500-1,000	Corrosive
1,000-2,000	Moderately Corrosive
2,000-10,000	Mildly Corrosive
Above 10,000	Progressively less corrosive

Testing a soil's pH provides information to reference the Pourbaix diagram of specific metals. Some elements such as ammonia and nitrates can create localized alkaline conditions which will greatly affect amphoteric materials such as aluminum and copper alloys.

Excess sulfates can break-down the structural integrity of cement and high concentrations of chlorides can overcome cement's corrosion inhibiting effect on encased ferrous metals and break down protective passivated surface layers on stainless steels and aluminum.

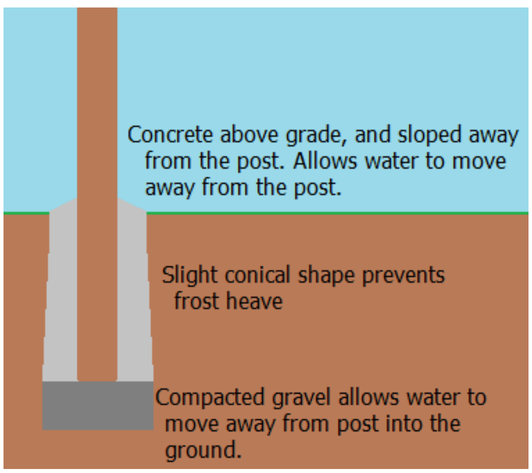
Corrosive bacteria are everywhere but can multiply significantly in anaerobic conditions with plentiful sulfates. The bacteria themselves do not eat the metal but their by-products can form corrosive sulfuric acids. The probability of corrosive bacteria is tested by measuring a soil's oxidation-reduction (REDOX) electro-potential and by testing for the presence of sulfides.

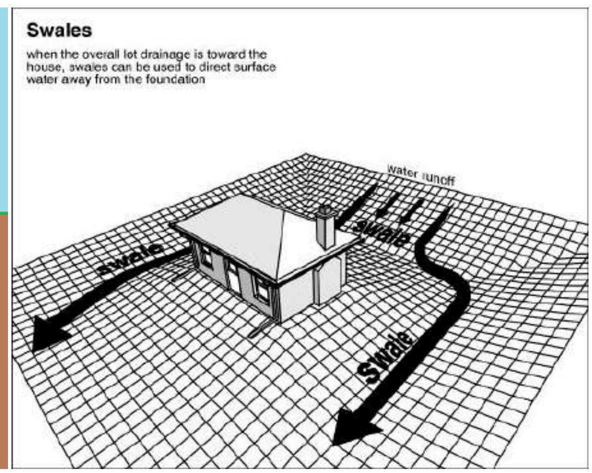
Only by testing a soil's chemistry for minimum resistivity, pH, chlorides, sulfates, sulfides, ammonia, nitrate, and redox potential can one have the information to evaluate the corrosion risk to construction materials such as steel, stainless steel, galvanized steel, iron, copper, brass, aluminum, and concrete.

5.4.2 Proper Drainage

It cannot be emphasized enough that pooled stagnant water on metals will eventually lead to corrosion. This stands for internal corrosion and external corrosion situations. In soils, providing good drainage will lower soil moisture content reducing corrosion rates. Attention to properly sealing polyethylene wraps around valves and piping will avoid water intrusion which would allow water to pool against metals. Above ground structures should not have cupped or flat surfaces that will pond water after rain or irrigation events.

Buildings typically are built on pads and have swales when constructed to drain water away from buildings directing it towards an acceptable exit point such as a driveway where it continues draining to a local storm drain. Many homeowners, landscapers and flatwork contractors appear to not be aware of this and destroy swales during remodeling. The majority of garage floor and finished grade elevations are governed by drainage during design. [14,15]



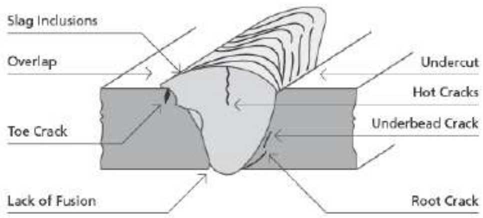


5.4.3 Avoiding Crevices

Crevices are excellent locations for oxygen differential induced corrosion cells to begin. Crevices can also harbor corrosive bacteria even in the most chemically treated waters. Crevices will also gather salts. If water's total alkalinity is low, its ability to maintain a stable pH can also become more difficult within a crevice allowing the pH to drop to acidic levels continuing a pitting process. Welds in extremely corrosive environments should be complete and well filleted without sharp edges to avoid crevices. Sharp edges should be avoided to allow uniform coating of protective epoxy. Detection of crevices in welds should be treated immediately. If pressures and loads are low, sanding and rewelding or epoxy patching can be suitable repairs. Damaged coatings can usually be repaired with Direct to Metal paints. **Scratches and crevice corrosion are like infections, they should not be left to fester or the infection will spread making things worse.**

[14] https://www.fencedaddy.com/blogs/tips-and-tricks/132606467-how-to-repair-a-broken-fence-post

[15] http://southdownstudio.co.uk/problme-drainage-maison.html



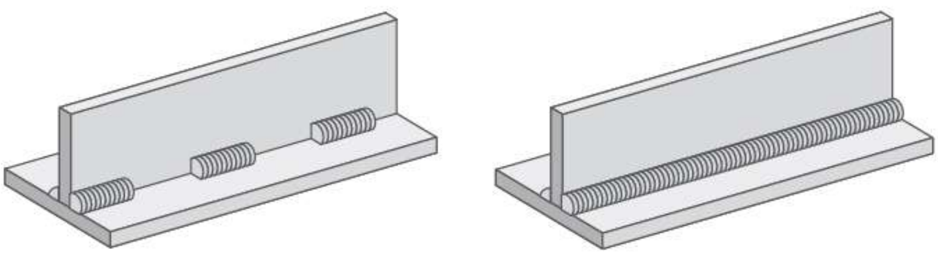


Figure 5 Defects which form weld crevices[16]

5.4.4 Coatings and Cathodic Protection

When faced with a corrosive environment, the best defense against corrosion is removing the electrolyte from the corrosion cell by applying coatings to separate the metal from the soil. During construction and installation, there is always some scratch or damage made to a coating. NACE training recommends that coatings be used as a first line of defense and that sacrificial or impressed current cathodic protection is used as a 2nd line of defense to protect the scratched areas. Use of a good coating dramatically reduces the amount of anodes a CP system would need. If CP is not installed as a 2nd line of defense in an extremely corrosive environment, the small scratched zones will suffer accelerated corrosion. CP details such as anode installation instructions must be designed by corrosion engineers or vessel manufacturers on a per project basis because it depends on electrolyte resistivity, surface area of infrastructure to be protected, and system geometry.

There are two types of cathodic protection systems, a Galvanic Anode Cathodic Protection (GACP) system and an Impressed Current Cathodic Protection (ICCP) system. A Galvanic Anode Cathodic Protection (GACP) system is simpler to install and maintain than an Impressed Current Cathodic Protection (ICCP) system. To protect the metals, they must all be electrically continuous to each other. In a GACP system, sacrificial zinc or magnesium anodes are then buried at locations per the CP design and connected by wire to a structure at various points in system. At the connection points, a wire connecting to the structure and the wire from the anode are joined in a Cathodic Protection Test Station hand hole which looks similar in size and shape to an irrigation valve pull box. By coating the underground structures, one can reduce the number of anodes needed to provide cathodic protection by 80% in many instances.

An ICCP system requires a power source, a rectifier, significantly more trenching, and more expensive type anodes. These systems are typically specified when bare metal is requiring protection

[16] http://www.daroproducts.co.uk/makes-good-weld/

in severely corrosive environments in which galvanic anodes do not provide enough power to polarize infrastructure to -850 mV structure-to-soil potential or be able to create a 100 mV potential shift as required by NACE SP169 to control corrosion. In severely corrosive environments, a GACP system simply may not last a required lifetime due to the high rate of consumption of the sacrificial anodes. ICCP system rectifiers must be inspected and adjusted quarterly or at a minimum bi-annually per NACE recommendations. Different anode installations may be possible but for large sites, anodes are placed evenly throughout the site and all anode wires must be trenched to the rectifier. For a large site, it may be beneficial to use two or more rectifiers to reduce wire lengths or trenching.

To simplify, a GACP system can be installed and practically forgotten with minor trenching because the anodes can be installed very close to the structures. An ICCP system must be inspected annually and anode wires run back to the rectifier which itself connects to the pile system. If any type of trenching or development is expected to occur at the site during the life of the site, it is a good idea to inspect the anode connections once a year to make sure wires are not cut and that the infrastructure is still being provided adequate protection. A common situation that occurs with ICCP systems is that a contractor accidently cuts the wires during construction then reconnects them incorrectly, turning the once cathode, into a sacrificing anode.

Design of a cathodic protection system protecting against soil side corrosion requires that Wenner Four Pin ground resistance measurements per ASTM G57 be performed by corrosion engineers at various locations of the site to determine the best depths and locations for anode installations. Ideally, a sample pile is installed and experiments determining current requirement are conducted. Using this data, the decision is made whether a GACP system is feasible or if an ICCP must be used.

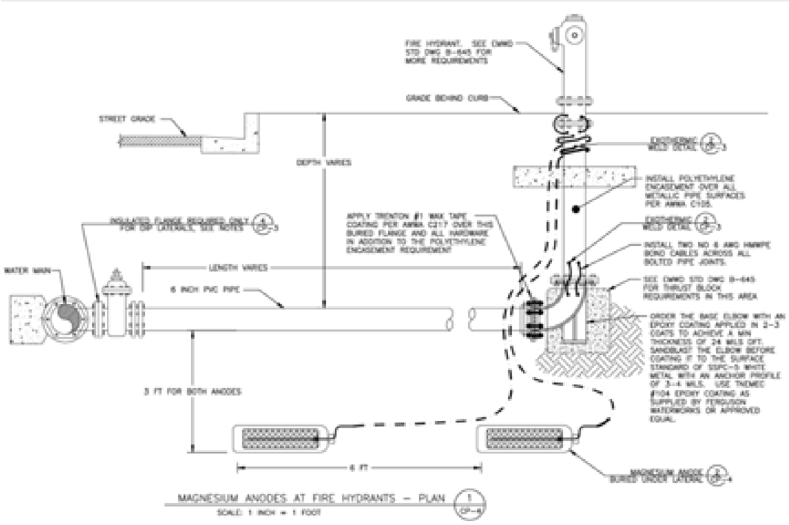


Figure 6 Sample anode design for fire hydrant underground piping

Vessels such as water tanks will have protective interior coatings and anodes to protect the interior surfaces. Anodes can also be buried on site and connected to system skid supports to protect the metal in contact with soil. A good example of a vessel cathodic protection system exists in all home water heaters which contain sacrificial aluminum or magnesium anodes. In environments that exceed 140F, zinc anodes cannot be used with carbon steel because they become the aggressor (Cathodic) to the steel instead of sacrificial (anodic). Anodes in vessels containing extremely brackish water with chloride levels over 2,000 ppm should inspect or change out their anodes every 6 months.

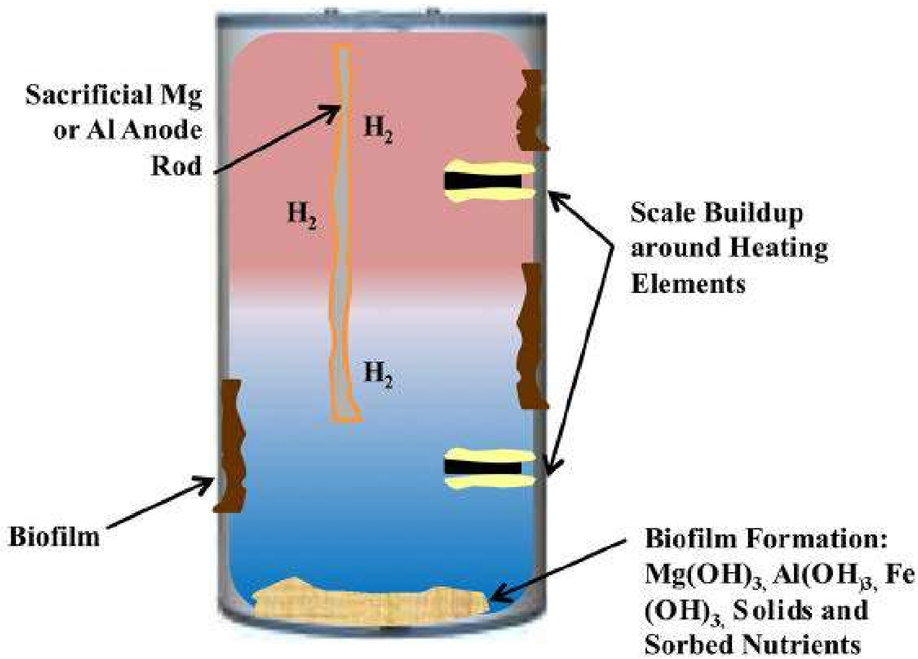


Figure 7 Cross section of boiler with anode

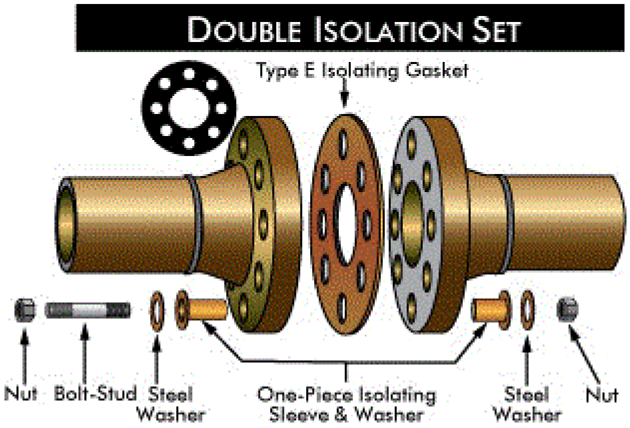
Cathodic protection can only protect a few diameters within a pipeline thus it is not recommended for small diameter pipelines and tubing internal corrosion protection. Anodes are like a lamp shining light in a room. They can only protect along their line of sight.

5.4.5 Good Electrical Continuity

In order for cathodic protection to protect a long pipeline or system of pipes from external soil side corrosion, they must all be electrically continuous to each other so that the electric current from the anode can travel along the pipes, then return through the earth to the anode. Electrical continuity is achieved by welding or pin brazing #8 AWG copper strand bond cable to the end of pipe sticks which have rubber gaskets at bell and spigots. If steel pipes are joined by full weld, bonding wires are not needed.

Electrical continuity between dissimilar metals is not desirable. Isolation joints or di-electric unions should be installed between dissimilar metals, such as steel pipes connecting to a brass valve per NACE SP0286. Bonding wires should then be welded onto the steel pipes by-passing the brass valve so that the cathodic protection system's current can continue to travel along the steel piping but isolate the brass valve from the steel pipeline. Another option would be to provide a separate cathodic protection system for steel pipes on both sides of the brass valve.

Typically, water heater inlets and outlets, gas meters and water meters have dielectric unions installed in them to separate utility property from homeowner property. This also protects them in the case that a home owner somehow electrically connects water pipes or gas pipes to a neighborhood electrical grounding system which can potentially have less noble steel in soil now connected to much more noble copper in soil which will then create a corrosion cell. This is exactly how a lemon powered clock works when a galvanized zinc nail and a steel nail are inserted into a lemon then connected to a clock. The clock is powered by the corrosion cell created.



5.4.6 Bad Electrical Continuity

Bad electrical continuity is when two different materials or systems are made electrically continuous (aka shorted) when they were not designed to be electrically continuous. Examples of this would be when gas lines are shorted to water lines or to electrical grounding beds. Very often, fire risers are shorted to electrical grounding systems, and water pipes at business parks. Since fire risers usually have a very short ductile iron pipe in the ground which connects to PVC pipe systems, they tend to experience leaks after 7 to 10 years of being attacked by underground copper systems.

It is absolutely imperative that any copper water piping or other metal conduits penetrating cement slab or footings, not come in contact with the reinforcing steel or post-tensioning tendons to avoid creation of galvanic corrosion cells.

5.4.7 Corrosion Test Stations

Corrosion test stations should be installed every 1,000 feet along pipelines in order to measure corrosion activity in the future. For a simple pipeline, two #8 AWG copper strand bond cable welded or pin brazed onto the pipeline are run up to finished grade and left in a hand hole. Corrosion test stations are used to measure pipe-to-soil electro potential relative to a copper copper-sulfate reference electrode to determine if the pipe is experiencing significant corrosion activity. By measuring test stations along a pipeline, hot spots can be determined, if any. The wires also allow for electrical continuity testing, condition assessment, and a multitude of other types of tests.

At isolation joints and pipe casings, two wires should be welded to either side of the isolation joint for a total of 4 wires to be brought up to the hand hole. This allows for future tests of the isolation joint, casing separation confirmation, and pipe-to-soil potential readings during corrosion surveys.

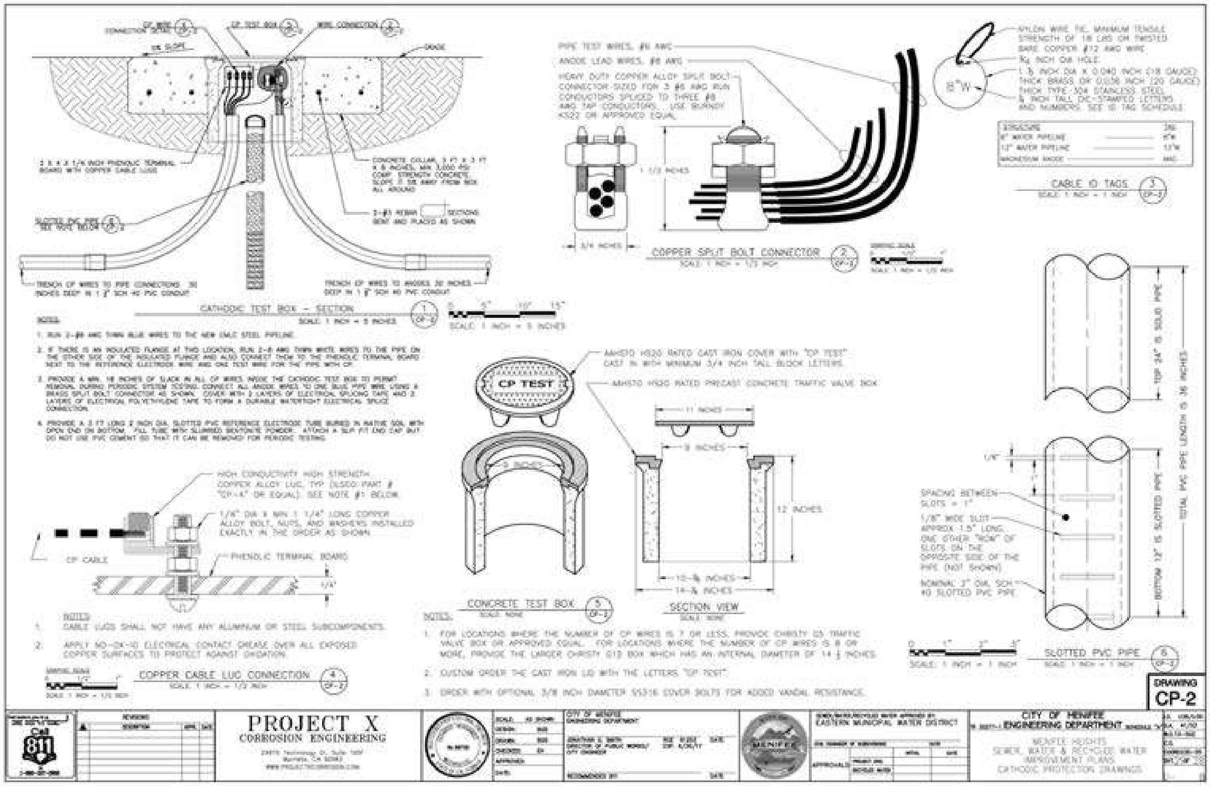


Figure 8 Sample of corrosion test station specification drawing

5.4.8 Excess Flux in Plumbing

Investigations of internal corrosion of domestic water plumbing systems almost always finds excess flux to be the cause of internal pitting of copper pipes. Some people believe that there is no such thing as too much flux. Flux runs have been observed to travel up to 20 feet with pitting occurring along the flux run. Flushing a soldered plumbing system with hot water for 15 minutes can remove significant amounts of excess flux left in the pipes. If a plumbing system is expected to be stagnant for some time, it should be drained to avoid stagnant water conditions that can lead to pitting and dezincification of yellow brasses.

5.4.9 Landscapers and Irrigation Sprinkler Systems

A significant amount of corrosion of fences is due to landscaper tools scratching fence coatings and irrigation sprinklers spraying these damaged fences. Recycled water typically has a higher salt content than potable drinking water, meaning that it is more corrosive than regular tap water. The same risk from damage and water spray exists for above ground pipe valves and backflow preventers. Fiber glass covers, cages, and cement footings have worked well to keep tools at an arm's length.

5.4.10 Roof Drainage splash zones

Unbelievably, even the location where your roof drain splashes down can matter. We have seen drainage from a home's roof valley fall directly down onto a gas meter causing it's piping to corrode at an accelerated rate reaching 50% wall thickness within 4 years. It is the same effect as a splash zone in the ocean or in a pool which has a lot of oxygen and agitation that can remove material as it corrodes.

5.4.11 Stray Current Sources

Stray currents which cause material loss when jumping off of metals may originate from direct-current distribution lines, substations, or street railway systems, etc., and flow into a pipe system or other steel structure. Alternating currents may occasionally cause corrosion. The corrosion resulting from stray currents (external sources) is similar to that from galvanic cells (which generate their own current) but different remedial measures may be indicated. In the electrolyte and at the metal-electrolyte interfaces, chemical and electrical reactions occur and are the same as those in the galvanic cell; specifically, the corroding metal is again considered to be the anode from which current leaves to flow to the cathode. Soil and water characteristics affect the corrosion rate in the same manner as with galvanic-type corrosion.

However, stray current strengths may be much higher than those produced by galvanic cells and, as a consequence, corrosion may be much more rapid. Another difference between galvanic-type currents and stray currents is that the latter are more likely to operate over long distances since the anode and cathode are more likely to be remotely separated from one another. Seeking the path of least resistance, the stray current from a foreign installation may travel along a pipeline causing severe corrosion where it leaves the line. Knowing when stray currents are present becomes highly important when remedial measures are undertaken since a simple sacrificial anode system is likely to be ineffectual in preventing corrosion under such circumstances.[17] Stray currents can be avoided by installing proper electrical shielding, installation of isolation joints, or installation of sacrificial jump off anodes at crossings near protected structures such as metal gas pipelines or electrical feeders.

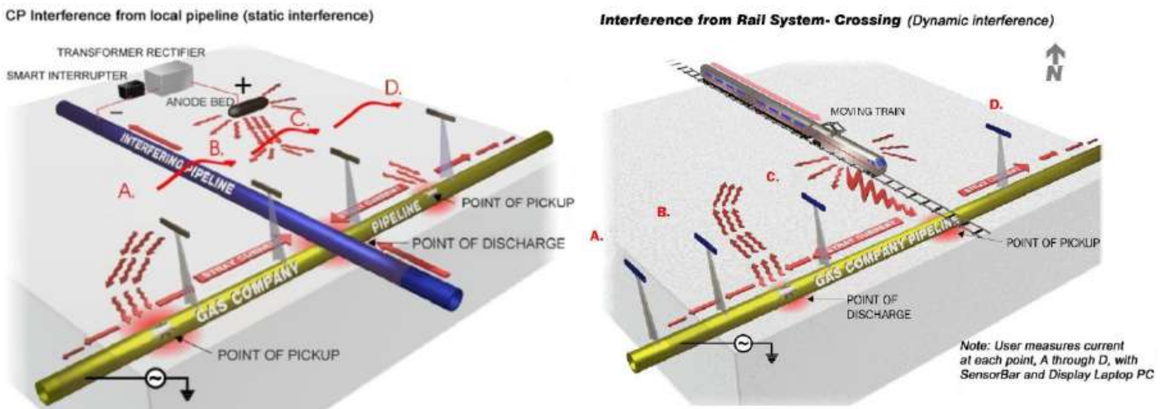


Figure 9 Examples of Stray Current[18]

[17] http://corrosion-doctors.org/StrayCurrent/Introduction.htm

[18] http://www.eastcomassoc.com/

CITY OF LOS ANGELES
CALIFORNIA

ERIC GARCETTI
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

OSAMA YOUNAN, P.E.
GENERAL MANAGER
SUPERINTENDENT OF BUILDING

JOHN WEIGHT
EXECUTIVE OFFICER

SOILS REPORT APPROVAL LETTER

July 29, 2022

LOG # 122343
SOILS/GEOLOGY FILE - 2

Grubb Properties
4601 Park Road, Suite 450
Charlotte, NC 28209

TRACT:	COLEGROVE (M R 53-10)
BLOCK:	BLK 12
LOT(S):	FR ARB 3-6, 8
LOCATION:	1200 -1218 N VINE ST, 6245 - 6247 W. LEXINGTON AVE.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Soils Report	22207	12/09/2021	Geotechnologies, Inc.

The Grading Division of the Department of Building and Safety has reviewed the referenced report that provides recommendations for the proposed 8-story mixed-use structure to be built at or near existing grade. The earth materials at the subsurface exploration locations consist of up to 3 feet of uncertified fill underlain by sand, silt and clay. The consultants recommend to support the proposed structure on conventional foundations bearing on minimum three feet of compacted fill.

The referenced report is acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2020 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. The soils engineer shall review and approve the detailed plans prior to issuance of any permit. This approval shall be by signature on the plans that clearly indicates the soils engineer has reviewed the plans prepared by the design engineer; and, that the plans included the recommendations contained in their reports (7006.1).

2. All recommendations of the report that are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

3. A copy of the subject and appropriate referenced reports and this approval letter shall be attached to the District Office and field set of plans (7006.1). Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit.

4. A grading permit shall be obtained for all structural fill and retaining wall backfill (106.1.2).

5. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557. Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density. Placement of gravel in lieu of compacted fill is only allowed if complying with LAMC Section 91.7011.3.

6. If import soils are used, no footings shall be poured until the soils engineer has submitted a compaction report containing in-place shear test data and settlement data to the Grading Division of the Department; and, obtained approval (7008.2).

7. Compacted fill shall extend beyond the footings a minimum distance equal to the depth of the fill below the bottom of footings or a minimum of three feet whichever is greater (7011.3).

8. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill (1809.2, 7011.3).

9. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction (7013.12).

10. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the General Safety Orders of the California Department of Industrial Relations (3301.1).

11. Temporary excavations that remove lateral support to the public way, adjacent property, or adjacent structures shall be supported by shoring or constructed using ABC slot cuts. Note: Lateral support shall be considered to be removed when the excavation extends below a plane projected downward at an angle of 45 degrees from the bottom of a footing of an existing structure, from the edge of the public way or an adjacent property. (3307.3.1)

12. Prior to the issuance of any permit that authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of the excavation, the owner of the subject site shall provide the Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation (3307.1).

13. The soils engineer shall review and approve the shoring and/or underpinning plans prior to issuance of the permit (3307.3.2).

14. Prior to the issuance of the permits, the soils engineer and/or the structural designer shall evaluate the surcharge loads used in the report calculations for the design of the retaining walls and shoring. If the surcharge loads used in the calculations do not conform to the actual surcharge loads, the soil engineer shall submit a supplementary report with revised recommendations to the Department for approval.

15. Unsurcharged temporary excavation may be cut vertical up to 5 feet. Excavations over 5 feet to a maximum height of 15 feet shall be trimmed back at a uniform gradient not exceeding 1:1, from top to bottom of excavation, as recommended.

16. Shoring shall be designed for the lateral earth pressures specified in the section titled "Shoring Design" starting on page 30 of the 12/08/2021 report; all surcharge loads shall be included into the design.

17. Shoring shall be designed for a maximum lateral deflection of 1 inch, provided there are no structures within a 1:1 plane projected up from the base of the excavation. Where a structure is within a 1:1 plane projected up from the base of the excavation, shoring shall be designed for a maximum lateral deflection of ½ inch, or to a lower deflection determined by the consultant that does not present any potential hazard to the adjacent structure.

18. A shoring monitoring program shall be implemented to the satisfaction of the soils engineer.

19. Surcharged ABC slot-cut method may be used for temporary excavations with each slot-cut not exceeding 7 feet in height and not exceeding 8 feet in width, as recommended. The surcharge load shall not exceed the value given in the report. The soils engineer shall determine the clearance between the excavation and the existing foundation. The soils engineer shall verify in the field if the existing earth materials are stable in the slot-cut excavation. Each slot shall be inspected by the soils engineer and approved in writing prior to any worker access.

20. All foundations shall derive entire support from minimum three feet of compacted fill, as recommended and shall be approved by the geologist and soils engineer by inspection.

21. Footings supported on approved compacted fill or expansive soil shall be reinforced with a minimum of four (4), ½-inch diameter (#4) deformed reinforcing bars. Two (2) bars shall be placed near the bottom and two (2) bars placed near the top of the footing.

22. The foundation/slab design shall satisfy all requirements of the Information Bulletin P/BC 2017-116 "Foundation Design for Expansive Soils" (1803.5.3).

23. Slabs placed on approved compacted fill shall be at least 5 inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way.

24. Concrete floor slabs placed on expansive soil shall be placed on a 4-inch fill of coarse aggregate or on a moisture barrier membrane.

25. The seismic design shall be based on a Site Class D, as recommended. All other seismic design parameters shall be reviewed by LADBS building plan check.

26. Retaining walls shall be designed for the lateral earth pressures specified in the section titled "Retaining Wall Design" starting on page 23 of the 12/09/2021 report. All surcharge loads shall be included into the design.

27. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted in a non-erosive device to the street in an acceptable manner (7013.11).

28. With the exception of retaining walls designed for hydrostatic pressure, all retaining walls shall be provided with a subdrain system to prevent possible hydrostatic pressure behind the wall. Prior to issuance of any permit, the retaining wall subdrain system recommended

in the soils report shall be incorporated into the foundation plan which shall be reviewed and approved by the soils engineer of record (1805.4).

29. Installation of the subdrain system shall be inspected and approved by the soils engineer of record and the City grading/building inspector (108.9).

30. Prefabricated drainage composites (Miradrain, Geotextiles) may be only used in addition to traditionally accepted methods of draining retained earth.

31. All roof, pad and deck drainage shall be conducted to the street in an acceptable manner in non-erosive devices or other approved location in a manner that is acceptable to the LADBS and the Department of Public Works (7013.10).

32. An on-site storm water infiltration system at the subject site shall not be implemented, as recommended.

33. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS (7013.10).

34. The soils engineer shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading (7008, 1705.6 & 1705.8).

35. Prior to pouring concrete, a representative of the consulting soils engineer shall inspect and approve the footing excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the work inspected meets the conditions of the report. No concrete shall be poured until the LADBS Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Grading Division of the Department upon completion of the work. (108.9 & 7008.2)

36. Prior to excavation an initial inspection shall be called with the LADBS Inspector. During the initial inspection, the sequence of construction; [shoring; ABC slot cuts; underpinning; pile installation;] protection fences; and, dust and traffic control will be scheduled (108.9.1).

37. Installation of shoring, underpinning, slot cutting and/or pile excavations shall be performed under the inspection and approval of the soils engineer and deputy grading inspector (1705.6, 1705.8).

38. Prior to the placing of compacted fill, a representative of the soils engineer shall inspect and approve the bottom excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the soil inspected meets the conditions of the report. No fill shall be placed until the LADBS Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be included in the final compaction report filed with the Grading Division of the Department. All fill shall be placed under the inspection and approval of the soils engineer. A compaction report together with the approved soil report and Department approval letter shall be submitted to the Grading Division of the Department upon completion of the compaction. In addition, an Engineer's Certificate of Compliance with the legal description as indicated in the grading permit and the permit number shall be included (7011.3).

39. No footing/slab shall be poured until the compaction report is submitted and approved by the Grading Division of the Department.

YING LIU
Geotechnical Engineer II

Log No. 122343
213-482-0480

cc: Geotechnologies, Inc., Project Consultant
LA District Office

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY
Grading Division

District LA	Log No. 122343

APPLICATION FOR REVIEW OF TECHNICAL REPORTS

INSTRUCTIONS

A. Address all communications to the Grading Division, LADBS, 221 N. Figueroa St., 12th Fl., Los Angeles, CA 90012
Telephone No. (213)482-0480.

B. Submit two copies (three for subdivisions) of reports, one "pdf" copy of the report on a CD-Rom or flash drive, and one copy of application with items "1" through "10" completed.

C. Check should be made to the City of Los Angeles.

1. LEGAL DESCRIPTION
Tract: COLEGROVE
Block: Block 12 Lots:

2. PROJECT ADDRESS:
1200 through 1218 N. Vine St., 645 and 647 W. Lexington Ave., LA

3. OWNER: Grubb Properties
Address: 4601 Park Road, Suite 450
City: Charlotte, NC Zip: 28209
Phone (Daytime):

4. APPLICANT Geotechnologies, Inc.
Address: 439 Western Avenue
City: Glendale, CA Zip: 91201
Phone (Daytime): 818-240-9600
E-mail address: aalcocer@geoteq.com

5. Report(s) Prepared by: Geotechnologies, Inc. File No. 22207

6. Report Date(s): December 9, 2021

7. Status of project: ☑ Proposed ☐ Under Construction ☐ Storm Damage

8. Previous site reports? ☐ YES if yes, give date(s) of report(s) and name of company who prepared report(s)
Geotechnologies, Inc.

9. Previous Department actions? ☐ YES if yes, provide dates and attach a copy to expedite processing.
Dates:

10. Applicant Signature: Position:

(DEPARTMENT USE ONLY)

REVIEW REQUESTED	FEES	REVIEW REQUESTED	FEES
☒ Soils Engineering	363.00	No. of Lots	
☐ Geology		No. of Acres	
☐ Combined Soils Engr. & Geol.		☐ Division of Land	
☐ Supplemental		Other	
☐ Combined Supplemental		☒ Expedite	181.50
☐ Import-Export Route		☐ Response to Correction	
Cubic Yards:		☐ Expedite ONLY	
		Sub-total	544.50
		Surcharges	29.80
		TOTAL FEE	674.30

Fee Due: 674.30
Fee Verified By: Am Date: 7/6/22
(Cashier Use Only)

Receipt #
1369352

ACTION BY:

THE REPORT IS: ☐ NOT APPROVED
☐ APPROVED WITH CONDITIONS ☐ BELOW ☐ ATTACHED

For Geology Date

For Soils Date

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request will provide reasonable accommodation to ensure equal access to its programs, services and activities.