Exhibit B

Environmental Documents

Findings & Justification

CEQA: Class 32 Exemption

2662-2668 S Barrington Avenue Los Angeles

Proposed Development

Demolition of two existing single family homes (SFHs) and construction, use, and maintenance of a 5-story, approximate 55'-6" in height building. The proposed residential project would include 21 units, 18 market-rate and 3 affordable housing units. The project would provide approximately 27,313.5 SQFT of new floor area, containing all two (2) bedroom units, including 20% of the base density set aside as affordable housing for very low income (VLI) households, with at-grade and subterranean parking providing 39 on-site vehicular parking spaces.

FINDINGS FOR CEQA GUIDELINES
(Pursuant to Article 19, Section 15332 of the CEQA Guidelines)

The project incorporates mitigation measures, monitoring measures when necessary, or alternatives identified in the environmental review, which would mitigate the negative environmental effects of the project, to the extent physically feasible.

CLASS 32 EXEMPTION CRITERIA

1. 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.
    a. The site has a General Plan Land Use Designation of Medium Residential. The property is classified in the R3 Zone, with lot area requirements of 1 dwelling unit per 800 square feet of surface land area per LAMC Section 12.10 C 4, and includes the use of half the adjoining alley areas per LAMC Section 12.22 C 10 for a total of 11,998.8 square feet of surface land area, so would yield 15 by-right units. Pursuant to LAMC Section 12.22 A 25 (c) (7), the City's Density Bonus program allows fractional density calculations to round units up, so the site would have 15 base units. A 35% density bonus is permitted per LAMC Section 12.22 A 25 (c) (1), in exchange for the provision of an 11% affordable set-aside of the base units reserved for VLI households. Based on the incentive, the applicant would be allowed to construct 6 additional density bonus units for up to 21 total project units. In return, the proposed project is obliged to, and will, reserve at least 11% (2 units) of the base units, and is indeed setting aside 20% (3 units) for VLI households. Therefore, the project aligns with the conditions of the City's Density Bonus Program.
    b. The proposed development abides by all relevant provisions of LAMC Section 12.22 A 25, and the development will further the housing goals and strategies of

the Palms – Mar Vista – Del Rey Community Plan by supplying a combination of market rate and affordable housing to accommodate the area's population. The proposed property is classified in the R3 Zone and in Height District No. 1. The regulations implemented by the Zoning Code restrict the potential of development allowed at the R3 Zone density to a 15-foot front yard pursuant to LAMC Section 12.10 C 1, an 8-foot side yard pursuant to LAMC Section 12.10 C 2, and a 3:1 FAR pursuant to LAMC Section 12.21.1. By setting aside at least 15% (2.25 units) of the project's base units for VLI households for 55 years, the project is eligible for up to three additional incentives, 1) increase in Floor Area Ratio to 3.54:1, 2) 20% reduced side yard setback to 6' - 5", and 3) increase in building height up to 55'-6"

2. The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses
    a. The project is well within the city limits. The total lot area of the subject property is approximately 10,998.85 sq. ft.

3. The project site has no value as habitat for endangered, rare, or threatened species.
    a. The site has existing structures and hardscaping and is surrounded on all sides by other developments . Also, there are no protected trees on site. The subject property has no value as a habitat for endangered, rare, or threatened species

4. Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality
    a. The project will be subject to Regulatory Compliance Measures including compliance relating to the City's Noise Ordinance, pollutant discharge, dewatering, and storm water mitigation

5. The site can be adequately served by all required utilities and public services
    a. The project site will be adequately served by all public utilities and services given that the project site is surrounded by urban uses, is served by existing infrastructure, and is consistent with the General Plan.

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June 2, 2023

Mr. Cory Wynn and Mr. RJ Wynn
2662 and 2668 S. Barrington Ave., LLC
865 Via de la Paz #308
Pacific Palisades, CA 90272

Subject:
Barrington Avenue Multi-Family Project – Focused Air Quality, Greenhouse Gas, and Energy Impact Study, City of Los Angeles, CA

Dear Mr. Cory Wynn and Mr. RJ Wynn:

MD Acoustics, LLC (MD) has completed a focused Air Quality, Greenhouse Gas, and Energy Impact Evaluation for the proposed 2662-2668 S. Barrington Avenue Multi-Family Project located in the City of Los Angeles, CA. The purpose of this focused study is to evaluate the air quality, greenhouse gas, and energy construction and operational emissions generated by the proposed project and to compare the project emissions to South Coast Air Quality Management District's (SCAQMD) thresholds of significance as it relates to residential and commercial uses and consistency to the City's General Plan. A list of definitions and terminology is located in Appendix A.

1.0 Project Description

The Project Site is approximately 0.28 acres and is currently occupied by existing single-family residential uses. The Project includes construction of a new five-story multifamily residential building including 21 units. The Project would include a total of 39 residential vehicular parking spaces. The proposed project site plan is in Appendix B.

Land uses and the closest existing sensitive receptors surrounding the site include multi-family residential uses adjacent to the northwest and southeast, South Barrington Avenue adjacent to the southwest, and single-family residential uses to the northeast.

2.0 AQ/GHG Thresholds of Significance

2.1 AQ Significance Thresholds

Project emissions were compared to both regional and localized SCAQMD's thresholds of significance for construction and operational emissions[1,2].

2.2 GHG Significance Thresholds

The project emissions were compared to the SCAQMD's 3,000 $MTCO_2e$ draft threshold for all land uses[3].

3.0 Evaluation Procedure/Methodology

MD utilized the latest version of CalEEMod (2022.1.1.13) to calculate both the construction and operational emissions from the project site[4]. Project construction is modeled to commence no earlier than

[1] https://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf
[2] https://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds
[3] https://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds/page/2

August 2023 and be completed by January 2024. Construction assumes demolition, site preparation, grading, building construction, paving, and architectural coating. CalEEmod defaults were utilized. Assumptions and output calculations are provided in Appendix C.

4.0 Local Ambient Conditions

The project site is located in South Coast Air Basin (SCAB) in the Northwest Los Angeles County Coastal Source Receptor Area (SRA) 2[5]. The nearest air monitoring station to the project site is the Los Angeles – North Main Street Monitoring Station. Historical air quality data for the vicinity can be found both at CARB and SCAQMD's websites[6,7]. Temperature and historical precipitation data can be found at the WRCC[8].

5.0 Findings

The following outlines the emissions for the project:

5.1 Regional Construction Emissions

The construction emissions for the project would not exceed the SCAQMD's daily emission thresholds at the regional level as indicated in Table 1, and therefore the impact would be considered less than significant.

Table 1: Regional Significance – Construction Emissions (lbs/day)

Activity	Pollutant Emissions (pounds/day)					
	VOC	NOx	CO	SO_2	PM10	PM2.5
Demolition						
On-Site[2]	0.54	4.99	5.91	0.01	0.46	0.24
Off-Site[3]	0.05	0.32	0.92	0.00	0.19	0.05
Total	**0.59**	**5.31**	**6.83**	**0.01**	**0.65**	**0.29**
Site Preparation						
On-Site[2]	0.54	5.02	5.57	0.01	0.48	0.27
Off-Site[3]	0.02	0.03	0.41	0.00	0.07	0.02
Total	**0.56**	**5.05**	**5.98**	**0.01**	**0.55**	**0.29**
Grading						
On-Site[2]	1.28	12.60	11.40	0.02	2.73	1.56
Off-Site[3]	0.52	28.94	11.51	0.14	6.31	1.88
Total	**1.80**	**41.54**	**22.91**	**0.16**	**9.04**	**3.44**
Building Construction						
On-Site[2]	0.58	5.93	7.00	0.01	0.28	0.26
Off-Site[3]	0.07	0.17	1.29	0.00	0.22	0.06
Total	**0.65**	**6.10**	**8.29**	**0.01**	**0.50**	**0.32**
Paving						
On-Site[2]	0.53	4.52	5.32	0.01	0.21	0.19
Off-Site[3]	0.08	0.30	1.22	0.00	0.27	0.06
Total	**0.61**	**4.82**	**6.54**	**0.01**	**0.48**	**0.25**
Architectural Coating						
On-Site[2]	25.44	0.91	1.15	0.00	0.03	0.03
Off-Site[3]	0.01	0.02	0.19	0.00	0.04	0.01

[4] https://www.caleemod.com/
[5] https://www.aqmd.gov/docs/default-source/default-document-library/map-of-monitoring-areas.pdf?sfvrsn=6
[6] https://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year
[7] https://www.arb.ca.gov/adam/
[8] https://www.wrcc.dri.edu/summary/Climsmsca.html

Activity	Pollutant Emissions (pounds/day)					
	VOC	NOx	CO	SO_2	PM10	PM2.5
Total	**25.45**	**0.93**	**1.34**	**0.00**	**0.07**	**0.04**
Total of overlapping phases[4]	**26.06**	**5.75**	**7.88**	**0.01**	**0.55**	**0.29**
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds	No	No	No	No	No	No

Notes:
[1] Source: CalEEMod Version 2022.1.1.13
[2] On-site emissions from equipment operated on-site that is not operated on public roads.
[3] Off-site emissions from equipment operated on public roads.
[4] Architectural coatings and paving phases may overlap.

5.2 Localized Construction Emissions

Utilizing the construction equipment list and associated acreages per 8-hour day provided in the SCAQMD "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (South Coast Air Quality Management District 2011b), the maximum number of acres disturbed in a day would be 1.5 acres during grading (as shown in Table 2 below); however, as the project is less than one acre, the project emissions have been compared to the 1-acre per day localized significance threshold.

Table 2: Maximum Number of Acres Disturbed Per Day[1]

Activity	Equipment	Number	Acres/8hr-day	Total Acres
Site Preparation	Graders	1	0.5	0.5
	Tractors/Loaders/Backhoes	1	0.5	0.5
Total Per Phase				**1.0**
Grading	Graders	1	0.5	0.5
	Rubber Tired Dozers	1	0.5	0.5
	Tractors/Loaders/Backhoes	1	0.5	0.5
Total Per Phase				**1.5**

Notes:
[1.] Source: CalEEMod output and South Coast AQMD, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2

None of the analyzed criteria pollutants would exceed the LST emission thresholds at the nearest sensitive receptors as shown in Table 3. Therefore, the impact would be less than significant from construction.

Table 3: Localized Significance – Construction Emissions (lbs/day)

Phase	On-Site Pollutant Emissions (pounds/day)[1]			
	NOx	CO	PM10	PM2.5
Demolition	4.99	5.91	0.46	0.24
Site Preparation	5.02	5.57	0.48	0.27
Grading	12.60	11.40	2.73	1.56
Building Construction	5.93	7.00	0.28	0.26
Paving	4.52	5.32	0.21	0.19
Architectural Coating	0.91	1.15	0.03	0.03
Total for overlapping construction phases	11.36	13.47	0.52	0.48
SCAQMD Threshold[2]	**103**	**562**	**4**	**3**
Exceeds Threshold?	No	No	No	No

Notes:
[1] Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for one-acre (see Table 2), to be conservative, in Northwest Los Angeles County Coastal Source Receptor Area (SRA 2).
[2] The nearest sensitive receptors are the multi-family residential uses located approximately 10 feet (~3 meters) to the northwest and southeast of the project site; therefore, the 25-meter threshold was utilized.

5.3 Regional Operational Emissions

The operating emissions were based on year 2024, which is the anticipated opening year for the project. The CalEEMod default project trips and vehicle miles traveled (VMTs) were used.

The summer and winter emissions created by the proposed project's long-term operations were calculated and the highest emissions from either summer or winter are summarized in Table 4. The data in Table 3 shows that the operational emissions for the project would not exceed the SCAQMD's regional significance thresholds.

Table 4: Regional Significance – Operational Emissions (lbs/day)

	Pollutant Emissions (pounds/day)[1]					
Activity	**VOC**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Area Sources[2]	0.58	0.01	1.19	0.00	0.00	0.00
Energy Usage[3]	0.00	0.05	0.02	0.00	0.00	0.00
Mobile Sources[4]	0.33	0.27	2.72	0.01	0.21	0.04
Total Emissions	**0.91**	**0.33**	**3.93**	**0.01**	**0.21**	**0.04**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	No	No	No	No	No	No

Notes:
[1] Source: CalEEMod Version 2022.1.1.13
[2] Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.
[3] Energy usage consists of emissions from on-site natural gas usage.
[4] Mobile sources consist of emissions from vehicles and road dust.

5.4 Localized Operational Emissions

Project-related air emissions from on-site sources such as architectural coatings, landscaping equipment, on-site usage of natural gas appliances as well as the operation of vehicles on-site may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin.

According to SCAQMD LST methodology, LSTs would apply to the operational phase of a project, if the project includes stationary sources, or attracts mobile sources (such as heavy-duty trucks) that may spend long periods queuing and idling at the site; such as industrial warehouse/transfer facilities. The proposed project is a residential project and does not include such uses. Therefore, due to the lack of stationary source emissions, no long-term localized significance threshold analysis is warranted.

5.5 GHG Emissions

Table 5 outlines the construction and operational GHG emissions for the project. The project's emissions are below (137.94 $MTCO_2e$) the SCAQMD's draft screening threshold of 3,000 $MTCO_2e$ for all land uses and; therefore, the impact is less than significant.

Table 5: Opening Year Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year)[1]					
	Bio-CO2	NonBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Area Sources[2]	0.00	0.36	0.36	0.00	0.00	0.36
Energy Usage[3]	0.00	32.70	32.70	0.00	0.00	32.80
Mobile Sources[4]	0.00	92.20	92.20	0.01	0.00	93.70
Solid Waste[6]	1.38	0.00	1.38	0.14	0.00	4.84
Water[7]	0.25	1.67	1.92	0.03	0.00	2.74
Construction[8]	0.00	3.45	3.45	0.00	0.00	3.50
Total Emissions	1.63	130.38	132.01	0.18	0.00	**137.94**
SCAQMD Draft Screening Threshold						**3,000**
Exceeds Threshold?						**No**

Notes:
[1] Source: CalEEMod Version 2022.1.1.13
[2] Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.
[3] Energy usage consist of GHG emissions from electricity and natural gas usage.
[4] Mobile sources consist of GHG emissions from vehicles.
[5] Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.
[6] Water includes GHG emissions from electricity used for transport of water and processing of wastewater.
[7] Construction GHG emissions based on a 30-year amortization rate.

5.6 Consistency with Applicable Plans

Consistency with the City's General Plan

The project site is located in the City of Los Angeles. The project site has a current land use classification of Medium Residential according to the Zone Information and Map Access Systen (ZIMAS). The proposed project is a multi-family residential building with 21 units. Therefore, the proposed project is consistent with the land use and zoning designations of the City's General Plan and Community Plan.

The project will be subject to the policies and ordinances pertaining to air quality and climate change in the City's General Plan. Although the project would generate greenhouse gas emissions, either directly or indirectly, these emissions are short-term and not considered to have a significant impact on the environment. Furthermore, project emissions have demonstrated that they will be below any significant thresholds as outlined by SCAQMD.

In addition, as shown below, the project's GHG impacts have been evaluated by assessing the project's consistency with applicable statewide, regional, and local GHG reduction plans and strategies.

Consistency with the City of Los Angeles' Sustainable City pLAn and Green New Deal

The proposed project could have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. The applicable plan for the proposed project is the L.A. Green New Deal Sustainable city pLAn 2019, which is an update to the City of Los Angeles' Sustainable City pLAn (Plan) adopted by the City in April 2015. The Green New Deal Sustainable City pLAn establishes visions for the City in thirteen topic areas including environmental justice, renewable energy, local water, clean and healthy buildings, housing and

development, mobility and public transit, zero emission vehicles, industrial emissions and air quality monitoring, waste and resource recovery, food systems, urban ecosystems and resilience, prosperity and green jobs, and lead by example.

Project consistency with all of the applicable targets within the Green New Deal Sustainable City pLAn are assessed in Table 6. As shown in Table 6, the project is consistent with the applicable targets within the Green New Deal Sustainable City Plan.

Table 6: Project Consistency with the City of Los Angeles Green New Deal[1]

Targets	Consistency Analysis
Environment	
Renewable Energy	
LADWP will supply 55% renewable energy by 2025; 80% by 2036; and 100% by 2045.	Not Applicable. This target calls for LADWP to utilize renewable energy in their supply. However, the proposed project is to follow the California Green Building Standards Code (proposed Part 11, Title 24) adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development which includes energy efficiency (in excess of the California Energy Code requirements). The project will be required to include these mandatory standards.
Increase cumulative MW by 2025; 2035; and 2050 of: -Local solar to 900-1,500 MW; 1,500-1,800 MW; and 1,950 MW -Energy storage capacity to 1,654-1,750 MW; 3,000 MW; and 4,000 MW -Demand response (DR) programs to 234 MW (2025) and 600 MW (2035)	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
Local Water	
Source 70% of L.A.'s water locally and capture 150,000 acre ft/yr of stormwater by 2035.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.

Recycle 100% of all wastewater for beneficial reuse by 2035.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
Reduce potable water use per capita by 22.5% by 2025; and 25% by 2035; and maintain or reduce 2035 per capita water use through 2050.	Consistent. The project will comply with all applicable City ordinances and CAL Green requirements.
Clean and Healthy Buildings	
All new buildings will be net zero carbon by 2030; and 100% of buildings will be net zero carbon by 2050.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
Reduce building energy use per sq.ft. for all building types 22% by 2025; 34% by 2035; and 44% by 2050.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
Mobility and Public Transit	
Increase the percentage of all trips made by walking, biking, micro-mobility / matched rides or transit to at least 35% by 2025; 50% by 2035; and maintain at least 50% by 2050	Consistent. The proposed project in close proximity to existing transit and development. The project is a residential use and is surrounded by other residential uses.
Reduce VMT per capita by at least 13% by 2025; 39% by 2035; and 45% by 2050.	Consistent. The proposed project is in close proximity to existing transit and development. The project is a residential use and is surrounded by other residential uses.

Zero Emission Vehicles	
Increase the percentage of electric and zero emission vehicles in the city to 25% by 2025; 80% by 2035; and 100% by 2050.	Consistent. The City's Building Code requires the proposed building to provide conduit for on-site electric vehicle charging stalls, which the project is to provide in the proposed parking garage.
Waste and Resource Recovery	
Increase landfill diversion rate to 90% by 2025; 95% by 2035; and 100% by 2050.	Consistent. The proposed project is required to have recycling programs that reduce waste to landfills by a minimum of 75 percent (per AB 341).
Eliminate organic waste going to landfill by 2028.	Consistent. The proposed project is required to have recycling programs that reduce waste to landfills by a minimum of 75 percent (per AB 341).
Increase proportion of waste products and recyclables productively reused and/or repurposed within L.A. County to at least 25% by 2025; and 50% by 2035.	Consistent. The proposed project is required to have recycling programs that reduce waste to landfills by a minimum of 75 percent (per AB 341).
Notes: [1] Source: City of Los Angeles Green New Deal Sustainable City pLAn, 2019.	

Additional relevant plans and polices that govern climate change include:
Executive Orders S-305 and B-30-15;
AB 32 Scoping Plan;
SCAG's Regional Transportation Plan/Sustainable Communities Strategy;
City of Los Angeles Climate LA Implementation Plan; and
City of Los Angeles Building Ordinance

Consistency with Executive Orders S-03-05 and B-30-15

Executive Orders S-3-05 and B-30-15 are orders from the State's Executive Branch for the purpose of reducing GHG emissions. These strategies call for developing more efficient land-use patterns to match population increases, workforce, and socioeconomic needs for the full spectrum of the population. The project includes elements of smart land use as it is well-served by transportation infrastructure and near public transit.

Although the project's emissions level in 2050 cannot be reliably quantified, statewide efforts are underway to facilitate the State's achievement of that goal and it is reasonable to expect the project's emissions profile to decline as the regulatory initiatives identified by ARB in the First Update are implemented, and other technological innovations occur. As such, given the reasonably anticipated decline in project emissions once fully constructed and operational, the project is consistent with the Executive Order's horizon-year goal. Therefore, the project is consistent with Executive Orders S-3-05 and B-30-15.

Consistency with AB32 Scoping Plan

The ARB Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State's strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan "proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California,

improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health" (California Air Resources Board 2008). The measures in the Scoping Plan have been in place since 2012.

This Scoping Plan calls for an "ambitious but achievable" reduction in California's greenhouse gas emissions, cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 10 percent from today's levels. In May 2014, the CARB released its *First Update to the Climate Change Scoping Plan* (CARB 2014). This *Update* identifies the next steps for California's leadership on climate change. In November 2017, the CARB released the 2017 Scoping Plan. This Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts and identifies new policies and actions to accomplish the State's climate goals, and includes a description of a suite of specific actions to meet the State's 2030 GHG limit. The 2017 Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets.

As the latest, 2017 Scoping Plan builds upon previous versions, project consistency with applicable strategies of both the 2008 and 2017 Plan are assessed in Table 7. As shown in Table 7, the project is consistent with the applicable strategies within the Scoping Plan.

Table 7: Project Consistency with CARB Scoping Plan Policies and Measures[1]

2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions	Project Compliance with Measure
California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	Consistent. The project will be compliant with the current Title 24 standards.
Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on

	planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases.	Consistent. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project that are required to comply with the measures will comply with the strategy.
Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Consistent. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
Water – Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. The project will comply with all applicable City ordinances and CAL Green requirements.

2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	Consistent. The project will be compliant with the current Title 24 standards.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	Consistent. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.

Notes:
[1] Source: CARB Scoping Plan (2008 and 2017)

Consistency with SCAG's 2020-2045 RTP/SCS

At the regional level, the 2020-2045 RTP and Sustainable Communities Strategy represent the region's Climate Action Plan that defines strategies for reducing GHGs. In order to assess the project's potential to conflict with the RTP/SCS, this section analyzes the project's land use profile for consistency with those in the Sustainable Communities Strategy. Generally, projects are considered consistent with the provisions and general policies of applicable City and regional land use plans and regulations, such as SCAG's Sustainable Communities Strategy, if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals.

Table 8 demonstrates the project's consistency with the Actions and Strategies set forth in the 2020-2045 RTP/SCS. As shown in Table 8, the project would be consistent with the GHG reduction related actions and strategies contained in the 2020-2045 RTP/SCS.

Table 8: Project Consistency with SCAG 2020-2045 RTP/SCS[1]

Actions and Strategies	Responsible Party(ies)	Consistency Analysis
Land Use Strategies		
Reflect the changing population and demands, including combating gentrification and displacement, by increasing housing supply at a variety of affordability levels.	Local Jurisdictions	Consistent. The proposed project is a residential development on a currently vacant site; therefore, it will not displace existing housing.
Focus new growth around transit.	Local Jurisdictions	Consistent. The proposed project is a residential development that would be consistent with the 2020 RTP/SCS focus on growing near transit facilities.
Plan for growth around livable corridors, including growth on the Livable Corridors network.	SCAG, Local Jurisdictions	Consistent. The proposed project is a residential development that would be consistent with the 2020 RTP/SCS focus on growing along the 2,980 miles of Livable Corridors in the region.
Provide more options for short trips through Neighborhood Mobility Areas and Complete Communities.	SCAG, Local Jurisdictions	Consistent. The proposed project would help further jobs/housing balance objectives. The proposed project is also consistent with the Complete Communities initiative that focuses on creation of mixed-use districts in growth areas.
Support local sustainability planning, including developing sustainable planning and design policies, sustainable zoning codes, and Climate Action Plans.	Local Jurisdictions	Not Applicable. This strategy calls on local governments to adopt General Plan updates, zoning codes, and Climate Action Plans to further sustainable communities. The proposed project would not interfere with such policymaking and would be consistent with those policy objectives.
Protect natural and farmlands, including developing conservation strategies.	SCAG, Local Jurisdictions	Consistent. The proposed project is a residential development in an existing residential community that would help reduce demand for growth in urbanizing areas that threaten green fields and open spaces.

Transportation Strategies		
Preserve our existing transportation system.	SCAG, County Transportation Commissions, Local Jurisdictions	Not Applicable. This strategy calls on investing in the maintenance of our existing transportation system. The proposed project would not interfere with such policymaking.
Manage congestion through programs like the Congestion Management Program, Transportation Demand Management, and Transportation Systems Management strategies.	County Transportation Commissions, Local Jurisdictions	Consistent. The proposed project is a residential development that will minimize congestion impacts on the region because of its proximity to public transit and general density of population and jobs.
Promote safety and security in the transportation system.	SCAG, County Transportation Commissions, Local Jurisdictions	Not Applicable. This strategy aims to improve the safety of the transportation system and protect users from security threats. The proposed project would not interfere with such policymaking.
Complete our transit, passenger rail, active transportation, highways and arterials, regional express lanes goods movement, and airport ground transportation systems.	SCAG, County Transportation Commissions, Local Jurisdictions	Not Applicable. This strategy calls for transportation planning partners to implement major capital and operational projects that are designed to address regional growth. The proposed project would not interfere with this larger goal of investing in the transportation system.
Technological Innovation and 21st Century Transportation		
Promote zero-emissions vehicles.	SCAG, Local Jurisdictions	Consistent. While this action/strategy is not necessarily applicable on a project-specific basis, the City's Building Code requires the proposed building to provide conduit for on-site electric vehicle charging stalls, which the project is to provide in the proposed parking garage.
Promote neighborhood electric vehicles.	SCAG, Local Jurisdictions	Consistent. While this action/strategy is not necessarily applicable on a project-specific basis, the City's Building Code requires the proposed building to provide conduit for on-site electric vehicle charging stalls, which the project is to provide in the proposed parking garage.
Implement shared mobility programs.	SCAG, Local Jurisdictions	Not Applicable. This strategy is designed to integrate new technologies for last-mile and alternative transportation programs. The proposed project would not interfere with these emerging programs.

Notes:
[1] Source: Southern California Association of Governments; 2020–2045 RTP/SCS, May 2020.

Consistency with the City of Los Angeles ClimateLA Implementation Plan

The "ClimateLA" plan focuses on transportation, energy, water use, land use, waste, open space and greening, and economic factors to achieve emissions reductions. The project is required to comply with CALGreen and the City's Green Building Code, as well as solid waste diversion policies administered by CalRecycle, and has immediate access to significant public transit, pedestrian, and bicycle facilities. Therefore, the project is consistent with the "ClimateLA" plan.

Consistency with the City of Los Angeles Green Building Ordinance

The Los Angeles Green Building Ordinance requires that all projects filed on or after January 1, 2014 comply with the current Los Angeles Green Building Code as amended to comply with the 2016 and 2019 CALGreen Codes. Mandatory measures under the Green Building Ordinance that would help reduce GHG emissions include short- and long-term bicycle parking measures; designated parking measure; and electric vehicle supply wiring. The project provides short-term and long-term bicycle parking spaces and on-site electric automobile charging stations as well as EV capable spaces in the parking garage as required per the City's Building Code. The Green Building Ordinance also includes measures that would increase energy efficiency on the project site, including installing Energy Star rated appliances and installation of water conserving fixtures, that the project is required to comply with. Therefore, the project is consistent with the Los Angeles Green Building Ordinance.

5.7 Energy Analysis

Information from the CalEEMod 2022.1.1.13 Daily and Annual Outputs contained in the air quality and greenhouse gas analyses above was utilized for this analysis. The CalEEMod outputs detail project related construction equipment, transportation energy demands, and facility energy demands.

Construction Energy Demand

Construction Equipment Electricity Usage Estimates

Electrical service will be provided by the Los Angeles Department of Water and Power (LADWP). Based on the 2017 National Construction Estimator, Richard Pray (2017)[9], the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.32. The project plans to develop the site with a 20,181 square foot building including 21 multi-family residential dwelling units over the course of approximately 6 months. Based on Table 9, the total power cost of the on-site electricity usage during the construction of the proposed project is estimated to be approximately $280.92. As shown in Table 9, the total electricity usage from Project construction related activities is estimated to be approximately 5,108 kWh.[10]

Table 9: Project Construction Power Cost and Electricity Usage

Power Cost (per 1,000 square foot of building per month of construction)	Total Building Size (1,000 Square Foot)[1]	Construction Duration (months)	Total Project Construction Power Cost
$2.32	20.181	6	$280.92

Cost per kWh	Total Project Construction Electricity Usage (kWh)
$0.06	5,108

[9] Pray, Richard. 2017 National Construction Estimator. Carlsbad : Craftsman Book Company, 2017.
[10] LADWP's Small Commercial & Multi-Family Service (A-1) is approximately $0.06 per kWh of electricity Southern California Edison (SCE). Rates & Pricing Choices: General Service/Industrial Rates. https://library.sce.com/content/dam/sce-doclib/public/regulatory/historical/electric/2020/schedules/general-service-&-industrial-rates/ELECTRIC_SCHEDULES_GS-1_2020.pdf

*Assumes the project will be under the A-1 Small Commercial & Multi-Family Service rate under LADWP. https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-financesandreports/a-fr-electricrates/a-fr-er-stcommindrates?_adf.ctrl-state=4uqberzct_4&_afrLoop=958662023680086

Construction Equipment Fuel Estimates

Using the CalEEMod data input, the project's construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2017 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal.[11] As presented in Table 10 below, project construction activities would consume an estimated 6,850 gallons of diesel fuel.

Table 10: Construction Equipment Fuel Consumption Estimates

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/day	Total Fuel Consumption (gal diesel fuel)[1]
Demolition	10	Concrete/Industrial Saws	1	8	33	0.73	193	104
	10	Rubber Tired Dozers	1	1	367	0.4	147	79
	10	Tractors/Loaders/Backhoes	2	6	84	0.37	373	202
Site Preparation	1	Graders	1	8	148	0.41	485	26
	1	Tractors/Loaders/Backhoes	1	8	84	0.37	249	13
Grading	2	Graders	1	6	148	0.41	364	39
	2	Rubber Tired Dozers	1	6	367	0.4	881	95
	2	Tractors/Loaders/Backhoes	1	7	84	0.37	218	24
Building Construction	100	Cranes	1	4	367	0.29	426	2,301
	100	Forklifts	2	6	82	0.2	197	1,064
	100	Tractors/Loaders/Backhoes	2	8	84	0.37	497	2,688
	5	Cement and Mortar Mixers	4	6	10	0.56	134	36
	5	Pavers	1	7	81	0.42	238	64
Paving	5	Rollers	1	7	36	0.38	96	26
	5	Tractors/Loaders/Backhoes	1	7	84	0.37	218	59
	5	Air Compressors	1	6	37	0.48	107	29
	10	Concrete/Industrial Saws	1	8	33	0.73	193	104
	10	Rubber Tired Dozers	1	1	367	0.4	147	79
Architectural Coating	10	Tractors/Loaders/Backhoes	2	6	84	0.37	373	202
CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)								**6,850**

Notes:
[1]Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp. (Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

Construction Worker Fuel Estimates

It is assumed that all construction worker trips are from light duty autos (LDA) along area roadways. With respect to estimated VMT, the construction worker trips would generate an estimated 32,053 VMT. Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analysis using information generated using CARB's EMFAC model (see Appendix C for

[11] Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/day (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).

details). Table 11 shows that an estimated 1,036 gallons of fuel would be consumed for construction worker trips.

Table 11: Construction Worker Fuel Consumption Estimates

Phase	Number of Days	Worker Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition	10	10.00	18.5	1,850	30.95	59.8
Site Preparation	1	5.00	18.5	93	30.95	3.0
Grading	2	7.50	18.5	278	30.95	9.0
Building Construction	100	15.10	18.5	27,935	30.95	902.6
Paving	5	17.50	18.5	1,619	30.95	52.3
Architectural Coating	5	3.02	18.5	279	30.95	9.0
Total Construction Worker Fuel Consumption						**1,035.6**

Notes:
[1]Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.13 defaults.

Construction Vendor/Hauling Fuel Estimates

Tables 12 and 13 show the estimated fuel consumption for vendor and hauling during building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 15,639 VMT. For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles.[12] Tables 12 and 13 show that an estimated 2,219 gallons of fuel would be consumed for vendor and hauling trips.

Table 12: Construction Vendor Fuel Consumption Estimates (MHD Trucks)[1]

Phase	Number of Days	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition	10	0.00	10.2	0	9.22	0
Site Preparation	1	0.00	10.2	0	9.22	0
Grading	2	0.00	10.2	0	9.22	0
Building Construction	100	2.24	10.2	2,285	9.22	248
Paving	5	5.00	10.2	255	9.22	28
Architectural Coating	5	0.00	10.2	0	9.22	0
Total Vendor Fuel Consumption						**275**

Notes:
[1] Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.13 defaults.

[12] Vendors delivering construction material or hauling debris from the site during grading would use medium to heavy duty vehicles with an average fuel consumption of 9.22 mpg for medium heavy-duty trucks and 6.74 mpg for heavy heavy-duty trucks (see Appendix C for details).

Table 13: Construction Hauling Fuel Consumption Estimates (HHD Trucks)[1]

Phase	Number of Days	Hauling Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition	10	3	20	580	6.74	86
Site Preparation	1	0	20	0	5.74	0
Grading	2	313.0	20	12,520	6.74	1,858
Building Construction	100	0	20	0	6.74	0
Paving	5	0	20	0	6.74	0
Architectural Coating	5	0	20	0	6.74	0
Total Construction Hauling Fuel Consumption						**1,944**

Notes:
[1]Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.13 defaults.

Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately 6-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. In addition, the CARB Airborne Toxic Control Measure limits idling times of construction vehicles to no more than five minutes, thereby minimizing unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Furthermore, the project has been designed in compliance with California's Energy Efficiency Standards and 2019 CALGreen Standards.

Construction of the proposed residential development would require the typical use of energy resources. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

Operational Energy Demand

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Transportation Fuel Consumption

The largest source of operational energy use would be vehicle operation of customers. The site is located in an urbanized area just in close proximity to downtown Los Angeles.

Using the defaults VMT estimates from CalEEMod, it is assumed that the average vehicle miles traveled was 8.355 miles for all vehicle categories. As the proposed project is a residential project, it was assumed that vehicles would operate 365 days per year. Table 14 shows the worst-case estimated annual fuel

consumption for all classes of vehicles from autos to heavy-heavy trucks.[13] Table 14 shows that an estimated 11,882 gallons of fuel would be consumed per year for the operation of the proposed project.

Table 14: Estimated Vehicle Operations Fuel Consumption

Vehicle Type	Vehicle Mix	Number of Vehicles	Average Trip (miles)[1]	Daily VMT	Average Fuel Economy (mpg)	Total Gallons per Day	Total Annual Fuel Consumption (gallons)
Light Auto	Automobile	47.6	8.355	397	31.82	12.49	4,558
Light Truck	Automobile	5.1	8.355	43	27.16	1.58	575
Light Truck	Automobile	16.8	8.355	140	25.6	5.49	2,002
Medium Truck	Automobile	15.9	8.355	133	20.81	6.40	2,336
Light Heavy Truck	2-Axle Truck	3.4	8.355	28	13.81	2.05	748
Light Heavy Truck 10,000 lbs +	2-Axle Truck	0.8	8.355	7	14.18	0.50	182
Medium Heavy Truck	3-Axle Truck	1.0	8.355	9	9.58	0.91	332
Heavy Heavy Truck	4-Axle Truck	2.7	8.355	22	7.14	3.14	1,148
Total		93.4	-	780	--	32.55	--
Total Annual Fuel Consumption							**11,882**

Notes:
[1]Based on the size of the site and relative location, trips were assumed to be local rather than regional.

Trip generation and VMT generated by the proposed project are consistent with other similar residential uses of similar scale and configuration. That is, the proposed project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. Therefore, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Facility Energy Demands (Electricity and Natural Gas)

The annual natural gas and electricity demands were provided per the CalEEMod output and are provided in Table 15.

Table 15: Project Mitigated Annual Operational Energy Demand Summary[1]

Natural Gas Demand	kBTU/year
Apartments High Rise	208,433
Total	208,433

Electricity Demand	kWh/year
Apartments High Rise	68,953
Total	68,953

Notes:
[1]Taken from the CalEEMod 2022.1.1.13 annual output.

As shown in Table 15, the estimated electricity demand for the proposed project is approximately 68,953 kWh per year. In 2021, the residential sector of the County of Los Angeles consumed approximately 20,937 million kWh of electricity.[14] In addition, the estimated natural gas consumption for the proposed project is approximately 208,433 kBTU per year. In 2021, the residential sector of the County of Los

[13] Average fuel economy based on aggregate mileage calculated in EMFAC 2017 for opening year (2023). See Appendix A for EMFAC output.
[14] California Energy Commission, Electricity Consumption by County. https://ecdms.energy.ca.gov/elecbycounty.aspx

Angeles consumed approximately 1,138 million therms of gas.[15] Therefore, the increase in both electricity and natural gas demand from the proposed project is insignificant compared to the County's 2021 demand.

Renewable Energy and Energy Efficiency Plan Consistency

Regarding federal transportation regulations, the project site is located in an already developed area. Access to/from the project site is from existing roads. These roads are already in place so the project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by the SCE and Southern California Gas Company.

Regarding the State's Renewable Energy Portfolio Standards, the project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CalGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

6.0 Conclusions

Construction and operational project emissions were evaluated and compared to both regional and localized SCAQMD's thresholds of significance. In addition, project GHG emissions were evaluated and compared to SCAQMD's draft threshold of 3,000 MTCO2e per year for all land uses. Project emissions are anticipated to be below SCAQMD's thresholds of significance with no mitigation. Therefore, the impact is less than significant.

Furthermore, neither construction nor operation of the project would result in wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources. The proposed project does not include any unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities and is a residential project that is not proposing any additional features that would require a larger energy demand than other residential projects of similar scale and configuration. The energy demands of the project are anticipated to be accommodated within the context of available resources and energy delivery systems. The project would therefore not cause or result in the need for additional energy producing or transmission facilities. The project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California. The Project has been designed in compliance with California's Energy Efficiency Standards and 2019 CALGreen Standards. The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency; therefore, impacts would be less than significant.

[15] California Energy Commission, Gas Consumption by County. http://ecdms.energy.ca.gov/gasbycounty.aspx

MD is pleased to provide this focused Air Quality, Greenhouse Gas, and Energy Impact Evaluation. If you have any questions regarding this analysis, please don't hesitate to call us at (805) 426-4477.

Sincerely,
MD Acoustics, LLC

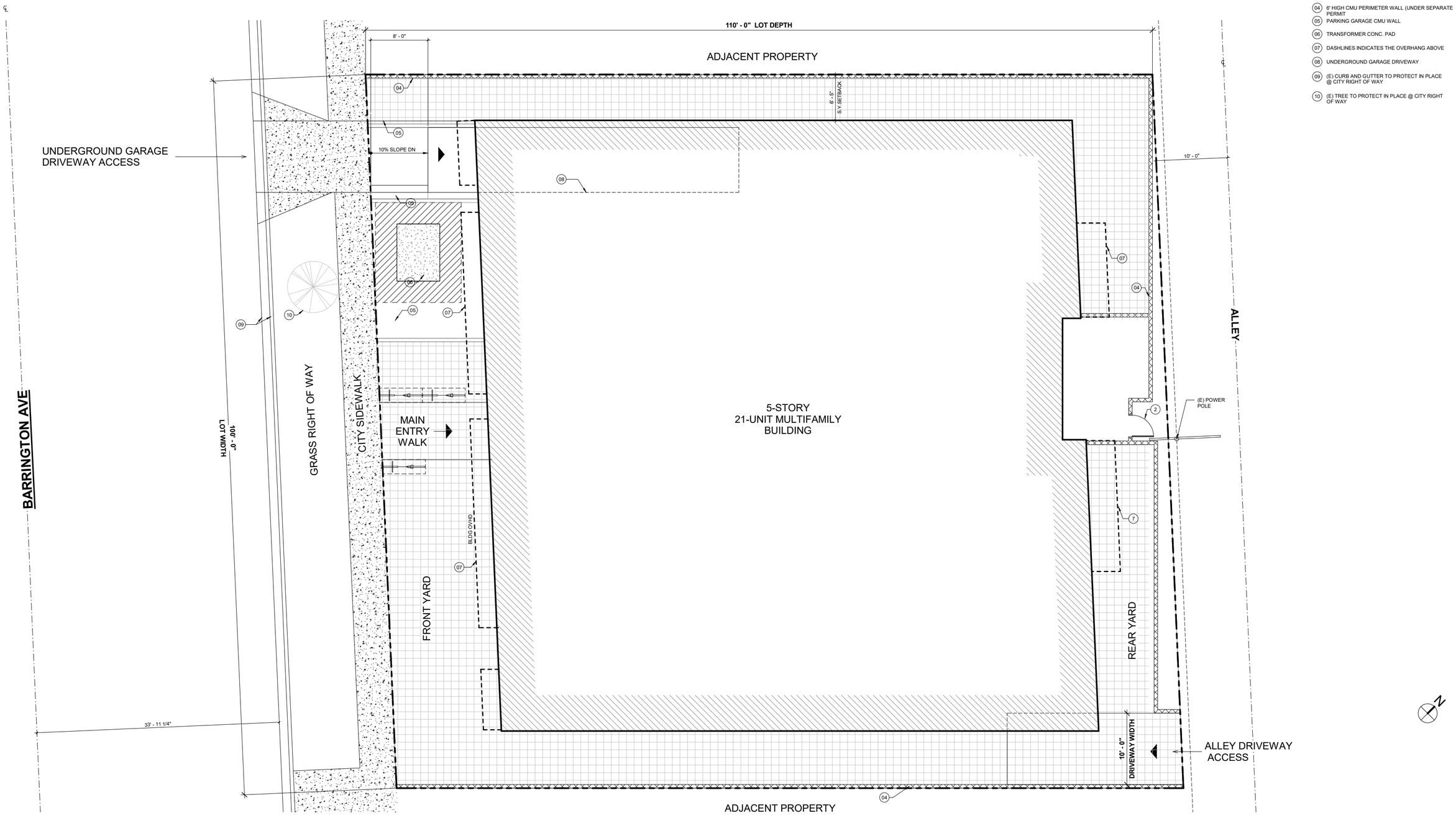
Tyler Klassen, EIT
Air Quality Specialist

Appendix A

Glossary of Terms

AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH_4	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	Diesel particulate matter
GHG	Greenhouse gas
HFCs	Hydrofluorocarbons
LST	Localized Significant Thresholds
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
NAAQS	National Ambient Air Quality Standards
NOx	Nitrogen Oxides
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
O_3	Ozone
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SOx	Sulfur Oxides
SRA	Source/Receptor Area
TAC	Toxic air contaminants
VOC	Volatile organic compounds
WRCC	Western Regional Climate Center

Appendix B
Site Plan



1 SITE PLAN
3/16" = 1'-0"

ARCHITECT:
Aaron Brumer & Assoc, Architects
10999 Riverside Drive, Suite 300
North Hollywood, CA 91602
(310) 422-9234
Email - aaron@aaronbrumer.com

PROJECT:
21-UNIT MULTI FAMILY BUILDING
2662 BARRINGTON AVE
LOS ANGELES, CA 90064

ISSUE	DATE	DESCRIPTION
1	1/18/2023	PZA SUBMITTAL#1
2	03/31/2023	PZA CORRECTIONS #1
3	04/17/2023	PZA CORRECTIONS #2

ISSUE	DATE	DESCRIPTION

STAMP
LICENSED ARCHITECT
AARON BRUMER
No. C-30005
REN. 11-30-2023
STATE OF CALIFORNIA

DRAWING TITLE
SITE PLAN
FOR REFERENCE ONLY

A1-00
2662 BARRINGTON

Appendix C

CalEEMod Output & EMFAC2017 Data

Barrington Multifamily Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Barrington Multifamily
Construction Start Date	8/1/2023
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	20.2
Location	2662 S Barrington Ave, Los Angeles, CA 90064, USA
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4458
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.13

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 High Rise	21.0	Dwelling Unit	0.28	20,181	0.00	—	62.0	—
Parking Lot	39.0	Space	0.00	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.80	41.5	22.9	0.16	0.87	11.5	12.4	0.83	4.20	5.03	—	24,208	24,208	1.40	3.55	51.3	25,353
Mit.	1.80	41.5	22.9	0.16	0.87	8.16	9.03	0.83	2.62	3.45	—	24,208	24,208	1.40	3.55	51.3	25,353
% Reduced	—	—	—	—	—	29%	27%	—	38%	31%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	25.4	6.11	8.09	0.01	0.29	0.27	0.50	0.26	0.07	0.31	—	1,585	1,585	0.07	0.04	0.04	1,595
Mit.	25.4	6.11	8.09	0.01	0.29	0.27	0.50	0.26	0.07	0.31	—	1,585	1,585	0.07	0.04	0.04	1,595
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.37	1.99	2.44	< 0.005	0.09	0.13	0.22	0.08	0.04	0.12	—	581	581	0.03	0.03	0.26	591
Mit.	0.37	1.99	2.44	< 0.005	0.09	0.11	0.20	0.08	0.03	0.11	—	581	581	0.03	0.03	0.26	591
% Reduced	—	—	—	—	—	15%	9%	—	23%	7%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.07	0.36	0.45	< 0.005	0.02	0.02	0.04	0.01	0.01	0.02	—	96.2	96.2	< 0.005	< 0.005	0.04	97.8
Mit.	0.07	0.36	0.45	< 0.005	0.02	0.02	0.04	0.01	0.01	0.02	—	96.2	96.2	< 0.005	< 0.005	0.04	97.8
% Reduced	—	—	—	—	—	15%	9%	—	23%	7%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.80	41.5	22.9	0.16	0.87	11.5	12.4	0.83	4.20	5.03	—	24,208	24,208	1.40	3.55	51.3	25,353
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.66	6.11	8.09	0.01	0.29	0.22	0.50	0.26	0.05	0.31	—	1,585	1,585	0.07	0.03	0.03	1,595
2024	25.4	5.77	7.98	0.01	0.26	0.27	0.49	0.24	0.07	0.29	—	1,580	1,580	0.07	0.04	0.04	1,590
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	1.99	2.44	< 0.005	0.09	0.13	0.22	0.08	0.04	0.12	—	581	581	0.03	0.03	0.26	591
2024	0.37	0.17	0.23	< 0.005	0.01	0.01	0.01	0.01	< 0.005	0.01	—	43.9	43.9	< 0.005	< 0.005	0.02	44.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2023	0.04	0.36	0.45	< 0.005	0.02	0.02	0.04	0.01	0.01	0.02	—	96.2	96.2	< 0.005	< 0.005	0.04	97.8
2024	0.07	0.03	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.27	7.27	< 0.005	< 0.005	< 0.005	7.33

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.80	41.5	22.9	0.16	0.87	8.16	9.03	0.83	2.62	3.45	—	24,208	24,208	1.40	3.55	51.3	25,353
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.66	6.11	8.09	0.01	0.29	0.22	0.50	0.26	0.05	0.31	—	1,585	1,585	0.07	0.03	0.03	1,595
2024	25.4	5.77	7.98	0.01	0.26	0.27	0.49	0.24	0.07	0.29	—	1,580	1,580	0.07	0.04	0.04	1,590
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	1.99	2.44	< 0.005	0.09	0.11	0.20	0.08	0.03	0.11	—	581	581	0.03	0.03	0.26	591
2024	0.37	0.17	0.23	< 0.005	0.01	0.01	0.01	0.01	< 0.005	0.01	—	43.9	43.9	< 0.005	< 0.005	0.02	44.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.04	0.36	0.45	< 0.005	0.02	0.02	0.04	0.01	0.01	0.02	—	96.2	96.2	< 0.005	< 0.005	0.04	97.8
2024	0.07	0.03	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.27	7.27	< 0.005	< 0.005	< 0.005	7.33

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.91	0.31	3.93	0.01	0.01	0.20	0.21	0.01	0.04	0.04	9.85	810	820	1.04	0.03	2.50	857
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.80	0.32	2.54	0.01	0.01	0.20	0.21	0.01	0.04	0.04	9.85	782	792	1.04	0.03	0.21	827
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.86	0.32	3.31	0.01	0.01	0.19	0.20	0.01	0.03	0.04	9.85	766	776	1.04	0.03	1.12	812
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.16	0.06	0.60	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	1.63	127	128	0.17	< 0.005	0.19	134

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.33	0.25	2.72	0.01	< 0.005	0.20	0.21	< 0.005	0.04	0.04	—	600	600	0.03	0.02	2.35	610
Area	0.58	0.01	1.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.19	3.19	< 0.005	< 0.005	—	3.20
Energy	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	197	197	0.02	< 0.005	—	198
Water	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Waste	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Total	0.91	0.31	3.93	0.01	0.01	0.20	0.21	0.01	0.04	0.04	9.85	810	820	1.04	0.03	2.50	857
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.33	0.27	2.52	0.01	< 0.005	0.20	0.21	< 0.005	0.04	0.04	—	574	574	0.03	0.03	0.06	583

Area	0.47	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	197	197	0.02	< 0.005	—	198
Water	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Waste	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Total	0.80	0.32	2.54	0.01	0.01	0.20	0.21	0.01	0.04	0.04	9.85	782	792	1.04	0.03	0.21	827
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.31	0.26	2.47	0.01	< 0.005	0.19	0.20	< 0.005	0.03	0.04	—	557	557	0.03	0.02	0.97	566
Area	0.54	0.01	0.81	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.18	2.18	< 0.005	< 0.005	—	2.19
Energy	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	197	197	0.02	< 0.005	—	198
Water	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Waste	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Total	0.86	0.32	3.31	0.01	0.01	0.19	0.20	0.01	0.03	0.04	9.85	766	776	1.04	0.03	1.12	812
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.06	0.05	0.45	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	92.2	92.2	0.01	< 0.005	0.16	93.7
Area	0.10	< 0.005	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.36	0.36	< 0.005	< 0.005	—	0.36
Energy	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.7	32.7	< 0.005	< 0.005	—	32.8
Water	—	—	—	—	—	—	—	—	—	—	0.25	1.67	1.92	0.03	< 0.005	—	2.74
Waste	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.84
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	0.16	0.06	0.60	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	1.63	127	128	0.17	< 0.005	0.19	134

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.33	0.25	2.72	0.01	< 0.005	0.20	0.21	< 0.005	0.04	0.04	—	600	600	0.03	0.02	2.35	610
Area	0.58	0.01	1.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.19	3.19	< 0.005	< 0.005	—	3.20
Energy	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	197	197	0.02	< 0.005	—	198
Water	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Waste	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Total	0.91	0.31	3.93	0.01	0.01	0.20	0.21	0.01	0.04	0.04	9.85	810	820	1.04	0.03	2.50	857
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.33	0.27	2.52	0.01	< 0.005	0.20	0.21	< 0.005	0.04	0.04	—	574	574	0.03	0.03	0.06	583
Area	0.47	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	197	197	0.02	< 0.005	—	198
Water	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Waste	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Total	0.80	0.32	2.54	0.01	0.01	0.20	0.21	0.01	0.04	0.04	9.85	782	792	1.04	0.03	0.21	827
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.31	0.26	2.47	0.01	< 0.005	0.19	0.20	< 0.005	0.03	0.04	—	557	557	0.03	0.02	0.97	566
Area	0.54	0.01	0.81	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.18	2.18	< 0.005	< 0.005	—	2.19
Energy	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	197	197	0.02	< 0.005	—	198
Water	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Waste	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Total	0.86	0.32	3.31	0.01	0.01	0.19	0.20	0.01	0.03	0.04	9.85	766	776	1.04	0.03	1.12	812

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.06	0.05	0.45	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	92.2	92.2	0.01	< 0.005	0.16	93.7
Area	0.10	< 0.005	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.36	0.36	< 0.005	< 0.005	—	0.36
Energy	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.7	32.7	< 0.005	< 0.005	—	32.8
Water	—	—	—	—	—	—	—	—	—	—	0.25	1.67	1.92	0.03	< 0.005	—	2.74
Waste	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.84
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	0.16	0.06	0.60	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	1.63	127	128	0.17	< 0.005	0.19	134

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	4.99	5.91	0.01	0.21	—	0.21	0.20	—	0.20	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	0.25	0.25	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.14	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Demolition	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.87	3.87	< 0.005	< 0.005	—	3.88
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.82	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	144	144	0.01	< 0.005	0.61	147
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.27	0.10	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.02	—	208	208	0.01	0.03	0.47	218
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.80	3.80	< 0.005	< 0.005	0.01	3.86
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.69	5.69	< 0.005	< 0.005	0.01	5.97
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.94	0.94	< 0.005	< 0.005	< 0.005	0.99

3.2. Demolition (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	4.99	5.91	0.01	0.21	—	0.21	0.20	—	0.20	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	0.25	0.25	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.14	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Demolition	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.87	3.87	< 0.005	< 0.005	—	3.88
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.82	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	144	144	0.01	< 0.005	0.61	147
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.27	0.10	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.02	—	208	208	0.01	0.03	0.47	218
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.80	3.80	< 0.005	< 0.005	0.01	3.86
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.69	5.69	< 0.005	< 0.005	0.01	5.97
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.94	0.94	< 0.005	< 0.005	< 0.005	0.99

3.3. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	5.02	5.57	0.01	0.27	—	0.27	0.25	—	0.25	—	858	858	0.03	0.01	—	861

Dust From Material Movement	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.36
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.39	0.39	< 0.005	< 0.005	—	0.39
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.41	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	72.2	72.2	< 0.005	< 0.005	0.31	73.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	5.02	5.57	0.01	0.27	—	0.27	0.25	—	0.25	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	0.21	0.21	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.36
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.39	0.39	< 0.005	< 0.005	—	0.39
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.41	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	72.2	72.2	< 0.005	< 0.005	0.31	73.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	12.6	11.4	0.02	0.60	—	0.60	0.55	—	0.55	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	5.46	5.46	—	2.59	2.59	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.39	9.39	< 0.005	< 0.005	—	9.42
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.55	1.55	< 0.005	< 0.005	—	1.56
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.61	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	108	108	< 0.005	< 0.005	0.46	110
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.48	28.9	10.9	0.14	0.28	5.93	6.21	0.28	1.59	1.86	—	22,387	22,387	1.33	3.53	50.8	23,524
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.17	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	123	123	0.01	0.02	0.12	129
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.3	20.3	< 0.005	< 0.005	0.02	21.3

3.6. Grading (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	12.6	11.4	0.02	0.60	—	0.60	0.55	—	0.55	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	2.13	2.13	—	1.01	1.01	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.39	9.39	< 0.005	< 0.005	—	9.42
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.55	1.55	< 0.005	< 0.005	—	1.56

Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.61	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	108	108	< 0.005	< 0.005	0.46	110
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.48	28.9	10.9	0.14	0.28	5.93	6.21	0.28	1.59	1.86	—	22,387	22,387	1.33	3.53	50.8	23,524
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.17	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	123	123	0.01	0.02	0.12	129
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.3	20.3	< 0.005	< 0.005	0.02	21.3

3.7. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	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	0.58	5.93	7.00	0.01	0.28	—	0.28	0.26	—	0.26	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.93	7.00	0.01	0.28	—	0.28	0.26	—	0.26	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.54	1.82	< 0.005	0.07	—	0.07	0.07	—	0.07	—	340	340	0.01	< 0.005	—	341
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.28	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	—	56.2	56.2	< 0.005	< 0.005	—	56.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.24	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	218	218	0.01	0.01	0.93	222
Vendor	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.5	73.5	< 0.005	0.01	0.20	76.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.05	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	207	207	0.01	0.01	0.02	209
Vendor	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.5	73.5	< 0.005	0.01	0.01	76.5
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.29	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.6	54.6	< 0.005	< 0.005	0.10	55.4
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	19.1	19.1	< 0.005	< 0.005	0.02	19.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.05	9.05	< 0.005	< 0.005	0.02	9.17
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.17	3.17	< 0.005	< 0.005	< 0.005	3.30
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.93	7.00	0.01	0.28	—	0.28	0.26	—	0.26	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.58	5.93	7.00	0.01	0.28	—	0.28	0.26	—	0.26	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.54	1.82	< 0.005	0.07	—	0.07	0.07	—	0.07	—	340	340	0.01	< 0.005	—	341
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.28	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	—	56.2	56.2	< 0.005	< 0.005	—	56.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.24	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	218	218	0.01	0.01	0.93	222
Vendor	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.5	73.5	< 0.005	0.01	0.20	76.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.05	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	207	207	0.01	0.01	0.02	209
Vendor	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.5	73.5	< 0.005	0.01	0.01	76.5
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.29	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.6	54.6	< 0.005	< 0.005	0.10	55.4
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	19.1	19.1	< 0.005	< 0.005	0.02	19.9

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.05	9.05	< 0.005	< 0.005	0.02	9.17
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.17	3.17	< 0.005	< 0.005	< 0.005	3.30
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.4	20.4	< 0.005	< 0.005	—	20.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.38	3.38	< 0.005	< 0.005	—	3.39
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	0.96	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	202	202	0.01	0.01	0.02	205
Vendor	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	72.5	72.5	< 0.005	0.01	0.01	75.5
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.21	3.21	< 0.005	< 0.005	0.01	3.26
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.18
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.53	0.53	< 0.005	< 0.005	< 0.005	0.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.56	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.4	20.4	< 0.005	< 0.005	—	20.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.38	3.38	< 0.005	< 0.005	—	3.39
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	0.96	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	202	202	0.01	0.01	0.02	205
Vendor	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	72.5	72.5	< 0.005	0.01	0.01	75.5
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.21	3.21	< 0.005	< 0.005	0.01	3.26
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.18
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.53	0.53	< 0.005	< 0.005	< 0.005	0.54

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	4.52	5.32	0.01	0.21	—	0.21	0.19	—	0.19	—	823	823	0.03	0.01	—	826
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.87
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.10	1.12	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	234	234	0.01	0.01	0.03	237
Vendor	< 0.005	0.20	0.10	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	161	161	0.01	0.02	0.01	168
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.26	3.26	< 0.005	< 0.005	0.01	3.30
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.21	2.21	< 0.005	< 0.005	< 0.005	2.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.55
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.38
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.53	4.52	5.32	0.01	0.21	—	0.21	0.19	—	0.19	—	823	823	0.03	0.01	—	826
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.87
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.10	1.12	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	234	234	0.01	0.01	0.03	237
Vendor	< 0.005	0.20	0.10	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	161	161	0.01	0.02	0.01	168
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.26	3.26	< 0.005	< 0.005	0.01	3.30
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.21	2.21	< 0.005	< 0.005	< 0.005	2.31

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.55
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.38
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	25.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Architectural Coatings	0.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	40.5	40.5	< 0.005	< 0.005	< 0.005	41.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.56	0.56	< 0.005	< 0.005	< 0.005	0.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	25.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Architectural Coatings	0.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	40.5	40.5	< 0.005	< 0.005	< 0.005	41.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.56	0.56	< 0.005	< 0.005	< 0.005	0.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	0.33	0.25	2.72	0.01	< 0.005	0.20	0.21	< 0.005	0.04	0.04	—	600	600	0.03	0.02	2.35	610
Parking Lot	0.00	0.00	0.00	0.00	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	0.33	0.25	2.72	0.01	< 0.005	0.20	0.21	< 0.005	0.04	0.04	—	600	600	0.03	0.02	2.35	610
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	0.33	0.27	2.52	0.01	< 0.005	0.20	0.21	< 0.005	0.04	0.04	—	574	574	0.03	0.03	0.06	583
Parking Lot	0.00	0.00	0.00	0.00	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	0.33	0.27	2.52	0.01	< 0.005	0.20	0.21	< 0.005	0.04	0.04	—	574	574	0.03	0.03	0.06	583
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	0.06	0.05	0.45	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	92.2	92.2	0.01	< 0.005	0.16	93.7
Parking Lot	0.00	0.00	0.00	0.00	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	0.05	0.45	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	92.2	92.2	0.01	< 0.005	0.16	93.7

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	0.33	0.25	2.72	0.01	< 0.005	0.20	0.21	< 0.005	0.04	0.04	—	600	600	0.03	0.02	2.35	610
Parking Lot	0.00	0.00	0.00	0.00	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	0.33	0.25	2.72	0.01	< 0.005	0.20	0.21	< 0.005	0.04	0.04	—	600	600	0.03	0.02	2.35	610
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	0.33	0.27	2.52	0.01	< 0.005	0.20	0.21	< 0.005	0.04	0.04	—	574	574	0.03	0.03	0.06	583
Parking Lot	0.00	0.00	0.00	0.00	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	0.33	0.27	2.52	0.01	< 0.005	0.20	0.21	< 0.005	0.04	0.04	—	574	574	0.03	0.03	0.06	583
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	0.06	0.05	0.45	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	92.2	92.2	0.01	< 0.005	0.16	93.7
Parking Lot	0.00	0.00	0.00	0.00	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	0.05	0.45	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	92.2	92.2	0.01	< 0.005	0.16	93.7

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	131
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	131

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	131
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	131
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	21.6	21.6	< 0.005	< 0.005	—	21.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	21.6	21.6	< 0.005	< 0.005	—	21.7

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	131
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	131
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	131
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	131
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	21.6	21.6	< 0.005	< 0.005	—	21.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	21.6	21.6	< 0.005	< 0.005	—	21.7

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	66.8	66.8	0.01	< 0.005	—	67.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	66.8	66.8	0.01	< 0.005	—	67.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	66.8	66.8	0.01	< 0.005	—	67.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	66.8	66.8	0.01	< 0.005	—	67.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	—	11.1
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	—	11.1

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	66.8	66.8	0.01	< 0.005	—	67.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	66.8	66.8	0.01	< 0.005	—	67.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	66.8	66.8	0.01	< 0.005	—	67.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	66.8	66.8	0.01	< 0.005	—	67.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	—	11.1
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	—	11.1

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.43	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.11	0.01	1.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.19	3.19	< 0.005	< 0.005	—	3.20
Total	0.58	0.01	1.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.19	3.19	< 0.005	< 0.005	—	3.20
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.43	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectu Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.47	0.00	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
Consume r Products	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectu ral Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscap e Equipme nt	0.01	< 0.005	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.36	0.36	< 0.005	< 0.005	—	0.36
Total	0.10	< 0.005	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.36	0.36	< 0.005	< 0.005	—	0.36

4.3.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	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
Consume r Products	0.43	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectu ral Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscap e Equipme nt	0.11	0.01	1.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.19	3.19	< 0.005	< 0.005	—	3.20

Total	0.58	0.01	1.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.19	3.19	< 0.005	< 0.005	—	3.20
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.43	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.47	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	< 0.005	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.36	0.36	< 0.005	< 0.005	—	0.36
Total	0.10	< 0.005	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.36	0.36	< 0.005	< 0.005	—	0.36

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	0.25	1.67	1.92	0.03	< 0.005	—	2.74
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.25	1.67	1.92	0.03	< 0.005	—	2.74

4.4.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.50	10.1	11.6	0.15	< 0.005	—	16.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	0.25	1.67	1.92	0.03	< 0.005	—	2.74
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.25	1.67	1.92	0.03	< 0.005	—	2.74

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2

Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.84

4.5.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	8.35	0.00	8.35	0.83	0.00	—	29.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.84

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	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	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	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	8/1/2023	8/15/2023	5.00	10.0	—
Site Preparation	Site Preparation	8/16/2023	8/17/2023	5.00	1.00	—
Grading	Grading	8/18/2023	8/20/2023	5.00	2.00	—

Building Construction	Building Construction	8/21/2023	1/8/2024	5.00	100	—
Paving	Paving	1/9/2024	1/16/2024	5.00	5.00	—
Architectural Coating	Architectural Coating	1/17/2024	1/24/2024	5.00	5.00	—

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
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	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
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37

Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	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
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	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
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	2.90	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	313	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	15.1	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	2.24	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	5.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	3.02	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	2.90	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	313	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	15.1	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	2.24	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	5.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	3.02	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

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	40,866	13,622	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	2,500	—
Site Preparation	—	—	0.50	0.00	—

Grading	—	5,000	1.50	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments High Rise	—	0%
Parking Lot	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
2023	0.00	690	0.05	0.01
2024	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
Apartments High Rise	93.4	95.1	75.4	33,255	716	729	578	254,780
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year

Apartments High Rise	93.4	95.1	75.4	33,255	716	729	578	254,780
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments High Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Apartments High Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0

No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
40865.715	13,622	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments High Rise	68,953	690	0.0489	0.0069	208,433

Parking Lot	0.00	690	0.0489	0.0069	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments High Rise	68,953	690	0.0489	0.0069	208,433
Parking Lot	0.00	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 High Rise	782,750	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments High Rise	782,750	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments High Rise	15.5	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments High Rise	15.5	—
Parking Lot	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 High 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 High Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments High 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 High Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.85	annual days of extreme heat
Extreme Precipitation	4.85	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 Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	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 Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	48.5
AQ-PM	67.0
AQ-DPM	95.8
Drinking Water	52.7
Lead Risk Housing	62.8
Pesticides	0.00
Toxic Releases	76.3
Traffic	98.5
Effect Indicators	—

CleanUp Sites	27.6
Groundwater	59.9
Haz Waste Facilities/Generators	86.2
Impaired Water Bodies	0.00
Solid Waste	86.5
Sensitive Population	—
Asthma	14.2
Cardio-vascular	23.9
Low Birth Weights	19.6
Socioeconomic Factor Indicators	—
Education	38.9
Housing	74.0
Linguistic	56.9
Poverty	24.4
Unemployment	0.00

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	62.41498781
Employed	78.94264083
Median HI	64.24996792
Education	—
Bachelor's or higher	83.53650712
High school enrollment	100
Preschool enrollment	67.21416656

Transportation	—
Auto Access	41.51161299
Active commuting	55.48569229
Social	—
2-parent households	79.08379315
Voting	87.21929937
Neighborhood	—
Alcohol availability	30.91235724
Park access	56.15295778
Retail density	26.7419479
Supermarket access	88.3485179
Tree canopy	63.6596946
Housing	—
Homeownership	61.5167458
Housing habitability	57.48748877
Low-inc homeowner severe housing cost burden	31.10483767
Low-inc renter severe housing cost burden	41.76825356
Uncrowded housing	73.51469267
Health Outcomes	—
Insured adults	63.91633517
Arthritis	53.0
Asthma ER Admissions	93.2
High Blood Pressure	50.4
Cancer (excluding skin)	24.3
Asthma	86.2
Coronary Heart Disease	54.4
Chronic Obstructive Pulmonary Disease	76.7

Diagnosed Diabetes	68.9
Life Expectancy at Birth	81.9
Cognitively Disabled	96.9
Physically Disabled	85.5
Heart Attack ER Admissions	85.2
Mental Health Not Good	80.9
Chronic Kidney Disease	73.0
Obesity	78.7
Pedestrian Injuries	51.7
Physical Health Not Good	74.9
Stroke	64.5
Health Risk Behaviors	—
Binge Drinking	50.7
Current Smoker	81.1
No Leisure Time for Physical Activity	79.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	47.4
Elderly	19.9
English Speaking	43.3
Foreign-born	50.6
Outdoor Workers	76.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	33.0
Traffic Density	96.8
Traffic Access	87.4

Other Indices	—
Hardship	17.5
Other Decision Support	—
2016 Voting	46.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	42.0
Healthy Places Index Score for Project Location (b)	75.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Per site plan
Operations: Hearths	No hearths

Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Y	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption	Fuel Consumption	Total Fuel Consumption	VMT	Total VMT	Miles Per Gallon	Vehicle Class
South Coas	2023	HHDT	Aggregate	Aggregate	Gasoline	75.10442936	8265.097	1502.689	1.936286145	1936.286145	1913466.474	8265.097	13656273.03	7.14	**HHD**
South Coas	2023	HHDT	Aggregate	Aggregate	Diesel	109818.6753	13648008	1133618	1911.530188	1911530.188		13648008			
South Coas	2023	LDA	Aggregate	Aggregate	Gasoline	6635002.295	2.53E+08	31352477	7971.24403	7971244.03	8020635.698	2.53E+08	255180358.3	31.82	**LDA**
South Coas	2023	LDA	Aggregate	Aggregate	Diesel	62492.97958	2469816	297086.6	49.3916685	49391.6685		2469816			
South Coas	2023	LDA	Aggregate	Aggregate	Electricity	150700.3971	6237106	751566	0	0		6237106			
South Coas	2023	LDT1	Aggregate	Aggregate	Gasoline	758467.6481	27812996	3504563	1023.913006	1023913.006	1024279.466	27812996	27821405.09	27.16	**LDT1**
South Coas	2023	LDT1	Aggregate	Aggregate	Diesel	360.7799144	8408.618	1256.88	0.366459477	366.4594769		8408.618			
South Coas	2023	LDT1	Aggregate	Aggregate	Electricity	7122.93373	303507.5	35798.19	0	0		303507.5			
South Coas	2023	LDT2	Aggregate	Aggregate	Gasoline	2285150.139	85272416	10723315	3338.798312	3338798.312	3356536.438	85272416	85922778.34	25.60	**LDT2**
South Coas	2023	LDT2	Aggregate	Aggregate	Diesel	15594.68309	650362.8	76635.83	17.73812611	17738.12611		650362.8			
South Coas	2023	LDT2	Aggregate	Aggregate	Electricity	28809.63735	917592.8	145405.4	0	0		917592.8			
South Coas	2023	LHDT1	Aggregate	Aggregate	Gasoline	174910.3847	6216643	2605904	583.3851736	583385.1736	811563.1022	6216643	11211395.79	13.81	**LHDT1**
South Coas	2023	LHDT1	Aggregate	Aggregate	Diesel	125545.0822	4994753	1579199	228.1779285	228177.9285		4994753			
South Coas	2023	LHDT2	Aggregate	Aggregate	Gasoline	30102.75324	1034569	448486.2	111.5753864	111575.3864	209423.5025	1034569	2969599.008	14.18	**LHDT2**
South Coas	2023	LHDT2	Aggregate	Aggregate	Diesel	50003.13116	1935030	628976.5	97.84811618	97848.11618		1935030			
South Coas	2023	MCY	Aggregate	Aggregate	Gasoline	305044.5141	2104624	610089	57.849018	57849.018	57849.018	2104624	2104623.657	36.38	**MCY**
South Coas	2023	MDV	Aggregate	Aggregate	Gasoline	1589862.703	55684188	7354860	2693.883526	2693883.526	2744536.341	55684188	57109879.73	20.81	**MDV**
South Coas	2023	MDV	Aggregate	Aggregate	Diesel	36128.1019	1425691	176566.9	50.65281491	50652.81491		1425691			
South Coas	2023	MDV	Aggregate	Aggregate	Electricity	16376.67653	537591.7	83475.95	0	0		537591.7			
South Coas	2023	MH	Aggregate	Aggregate	Gasoline	34679.50542	330042.9	3469.338	63.26295123	63262.95123	74893.26955	330042.9	454344.9436	6.07	**MH**
South Coas	2023	MH	Aggregate	Aggregate	Diesel	13122.69387	124302	1312.269	11.63031832	11630.31832		124302			
South Coas	2023	MHDT	Aggregate	Aggregate	Gasoline	25624.3151	1363694	512691.3	265.2060557	265206.0557	989975.6425	1363694	9484317.768	9.58	**MHDT**
South Coas	2023	MHDT	Aggregate	Aggregate	Diesel	122124.488	8120623	1221858	724.7695868	724769.5868		8120623			
South Coas	2023	OBUS	Aggregate	Aggregate	Gasoline	5955.291639	245774	119153.5	48.07750689	48077.50689	86265.88761	245774	579743.8353	6.72	**OBUS**
South Coas	2023	OBUS	Aggregate	Aggregate	Diesel	4286.940093	333969.8	41558.29	38.18838072	38188.38072		333969.8			
South Coas	2023	SBUS	Aggregate	Aggregate	Gasoline	2783.643068	112189.6	11134.57	12.19474692	12194.74692	39638.85935	112189.6	323043.5203	8.15	**SBUS**
South Coas	2023	SBUS	Aggregate	Aggregate	Diesel	6671.825716	210853.9	76991.94	27.44411242	27444.11242		210853.9			
South Coas	2023	UBUS	Aggregate	Aggregate	Gasoline	957.7686184	89782.63	3831.074	17.62416327	17624.16327	17863.66378	89782.63	91199.2533	5.11	**UBUS**
South Coas	2023	UBUS	Aggregate	Aggregate	Diesel	13.00046095	1416.622	52.00184	0.239500509	239.5005093		1416.622			
South Coas	2023	UBUS	Aggregate	Aggregate	Electricity	16.11693886	1320.163	64.46776	0			1320.163			

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June 4, 2023

Mr. Cory Wynn and Mr. RJ Wynn
2662 and 2668 S. Barrington Ave., LLC
865 Via de la Paz #308
Pacific Palisades, CA 90272

Subject: Barrington Ave. Multifamily Residential Development – Cat32 Exemption Noise Impact Assessment – Los Angeles, CA

Dear Mr. Wynn and Mr. Wynn:

MD Acoustics, LLC (MD) has completed a noise impact assessment for the proposed Multifamily Residential Development project located at 2662-2668 S. Barrington Ave. in the City of Los Angeles, CA. The Project has filed for a Categorical 32 Exemption (Cat32) in which an "Infill" Categorical Exemption (CEQA Guideline Section 15332) exempts infill development within urbanized areas if it meets certain criteria. The class consists of environmentally benign infill projects that are consistent with the local General Plan and Zoning requirements. This class is not intended for projects that would result in any significant traffic, noise, air quality, or water quality impacts. It may apply to residential, commercial, industrial, and/or mixed-use projects.

This noise assessment intends to demonstrate the Project's compliance with applicable noise regulations and lack of significant noise impacts. A list of definitions and terminology is located in Appendix A.

1.0 Project Description and Assessment Overview

The Project Site is approximately 12,000 square feet. The Project includes the construction of a new multifamily residential 5-story building containing 21 residential dwelling units. The Project would include a total of 39 parking stalls in a subterranean parking garage. The Project includes on-site amenities such as a roof deck courtyard. The proposed project site plan is in Exhibit B.

Land uses and the closest existing sensitive receptors surrounding the site include single-family residential uses to the northeast and multifamily residential uses to the northwest, southeast, and southwest. The closest airport is the Santa Monica Airport. The Project is outside of the 60 CNEL contours. The proposed project location is in Exhibit A.

2.0 Local Acoustical Requirements and CEQA Guidelines

The City of Los Angeles has outlined the following within the Los Angeles Municipal Code as it relates to noise regulation:

> Per Section 111.03, the minimum ambient level for all residential zones is 50 dBA from 7AM to 10PM and 40 dBA from 10PM to 7AM.

Per Section 112.02, air conditioning, refrigeration, and heating equipment cannot cause a noise level to exceed the ambient noise level on the premises of another occupied property by more than 5 dB.

Per Section 112.05(A), construction machinery must not exceed 75 dBA at 50 feet.

Per Section 41.40, construction must occur between the hours of 7 AM and 9 PM on Monday through Friday and 8 AM to 6 PM on Saturday. Construction may not occur on Sundays or national holidays.

According to CEQA guidelines, the Project would have a potential impact if it resulted in:

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

b) Generation of excessive groundborne vibration or groundborne noise levels?

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

3.0 Study Method and Procedure

3.1 Ambient Noise Measurements

One (1) 1-hour ambient noise measurement was conducted at the project site on May 31, 2023. The sound level meter measured the Leq, Lmin, Lmax, and other statistical data (e.g., L2, L8…). The noise measurement was taken to determine the existing ambient noise levels. Noise data indicates that traffic and residential noise are the primary sources of noise impacting the site and the adjacent uses. This assessment utilizes the ambient noise data as a basis and compares project operational levels to said data.

The results of the short-term noise data are presented in Table 1.

Table 1: Short-Term Measurement Summary, dBA

Location	Start Time	Stop Time	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)	L(90)
NM1	9:01 AM	10:01 AM	54.7	71.5	40.7	61.8	57.2	54.5	52.2	46.2

Notes:
1. Short-term noise monitoring locations are illustrated in Appendix B.

Noise data indicates the ambient noise level is 55 dBA Leq near the project site and surrounding area. Additional field notes and photographs are provided in Appendix B.

For this evaluation, MD has compared the Project's projected noise levels to the existing ambient level.

3.2 FHWA Traffic Noise Model

The traffic noise analysis utilizes the Federal Highway Administration (FHWA) Traffic Noise Model, together with several key construction parameters. Key input speed, site conditions, average daily traffic (ADT), and vehicle mix data. The modeling does not take into account any existing barriers, structures, and/or topographical features that may further reduce noise levels. Existing traffic counts were taken from the City of Los Angeles Department of Transportation.

The traffic noise model indicated that the existing noise level due to South Barrington Avenue traffic is 70 dBA CNEL at the nearest residences. See Appendix C.

3.3 FHWA Construction Noise Model

The construction noise analysis utilizes the FHWA Roadway Construction Noise Model methodology, together with several key construction parameters. Key inputs include distance to the sensitive receiver, equipment usage, % usage factor, and baseline parameters for the project site. The Project was analyzed based on the different construction phases. The FHWA has compiled data regarding the noise-generated characteristics of typical construction activities and is presented in Table 2.

Table 2: RCNM Measured Noise Emission Reference Levels[1]

Type	Typical Noise Level at 50 Feet (dBA)
Concrete Saw	90
Dozer	82
Grader	85
Tractor	84
Roller	80
Crane	81
Man Lift	75
Concrete Mixer Truck	79
Air Compressor	78

Notes:
[1] Referenced Noise Levels from the FHWA RCNM.

3.3 Construction Vibration Model

Construction activities can produce vibration that may be felt by adjacent land uses. The construction of the proposed Project would not require the use of equipment such as pile drivers, which are known to generate substantial construction vibration levels. The primary vibration source during construction may be from a bulldozer. A large bulldozer has a vibration impact of 0.089 inches per second peak particle velocity (PPV) at 25 feet which is likely perceptible but below any risk of architectural damage.

The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$$PPV_{equipment} = PPV_{ref} (25/D_{rec})^{n}$$

Where: PPV_{ref} = reference PPV at 25ft.

D_{rec} = distance from equipment to receiver in ft.
n = 1.1 (the value related to the attenuation rate through ground)

The thresholds from the Caltrans Transportation and Construction Induced Vibration Guidance Manual provide general thresholds and guidelines as to the vibration damage potential from vibratory impacts.

4.0 Traffic Noise Level Projections

Traffic noise along South Barrington Avenue will be the main source of noise impacting the project site and the surrounding area. The Project projects 95 daily trips per CalEEMod.

It takes a change of 3 dB or more to hear an audible difference which would occur with a doubling of traffic. The Project is anticipated to increase the existing noise level by less than 1 dB due to an increase in traffic, and therefore the impact is less than significant.

5.0 Project Operational Noise Level Projections

On-site operational noise includes a transformer and HVAC. All HVAC equipment is located on the rooftops of the building with one unit per household. Equipment will be at least 25 feet away from the nearest residence to the north. The maximum sound power level from a single unit is 76 dBA. At 28 feet away, the sound pressure level is estimated to be 50 dBA. Assuming the worst case of all 21 units running simultaneously, the sound level is 61 dBA. According to Section 112.02 in the City's Municipal Code, noise due to air conditioning equipment is prohibited if it exceeds the ambient noise level by 5 dBA. The estimated minimum hourly nighttime ambient noise level of the surrounding residential properties is 44 dBA. The Project must have 3' walls at least 2 lbs. per square foot between the units and the nearest residential property line, which will provide a 15 dB reduction resulting in a level of 46 dBA. The noise due to the HVAC units operating simultaneously will increase the ambient noise level by 4 dBA, thus meeting the City's code. See Appendix D.

Per ANSI and NEPA requirements for transformer noise, transformers must be no louder than 65 dBA at 6 feet. Transformers must be shielded by walls at least 2 lbs. per square foot to stay below the nighttime limit.

Operational noise complies with Section 112.02 of the Los Angeles Municipal Code. The impact is, therefore, less than significant.

6.0 Construction Noise Impact

6.1 Construction Noise Projections

The degree of construction noise may vary for different areas of the project site and also vary depending on the construction activities. Noise levels associated with the construction will vary with the different phases of construction. Table 3 presents the construction noise levels at sensitive receptors with the implementation of 15 dB mufflers on all heavy equipment. See Appendix E for calculations.

Table 3: Projected Construction Noise Levels (dBA, Lmax)[1]

Location	Phase	Construction Noise Level	Exceeds Significant Threshold?
Adjacent Residential Properties	Demo	72	No
	Site Prep	69	No
	Grade	70	No
	Build	69	No
	Pave	69	No
	Arch Coat	59	No

Assuming the implementation of 15 dB mufflers on all heavy equipment, the regulatory noise level limit of 75 dBA is never exceeded during each phase of construction at 50 feet from the source. The impact is, therefore, less than significant.

6.2 Construction Vibration Projections

Bulldozers should not get closer than 10 feet to the nearest residential buildings surrounding the project site. At a distance of 10 feet, a large bulldozer would yield a worst-case 0.244 PPV (in/sec), which will be perceptible but sustainably below any risk of damage (0.5 in/sec PPV is the threshold of old residential structures). The impact is less than significant if the noise reduction measures in Section 6.3 are taken. See Appendix E for calculations.

6.3 Construction Noise and Vibration Reduction Measures

Construction operations must follow the City's Noise Ordinance, which states that construction, repair or excavation work performed must occur within the permissible hours. To further ensure that construction activities do not disrupt the adjacent land uses, the following measures should be taken:

1. Construction shall occur during the hours of 7AM to 9PM on weekdays and 8AM to 6PM on Saturdays.
2. All construction equipment shall be equipped with mufflers.
3. The contractor shall locate equipment staging areas as far as possible, away from the sensitive receptors.
4. Heavy equipment shall not come closer than 10' to existing buildings.
5. Idling equipment shall be turned off when not in use.
6. Equipment shall be maintained so that vehicles and their loads are secured from rattling and banging.

7.0 Conclusions

The Project will be compliant with the City's noise ordinance and CEQA guidelines with the implementation of the noise reduction measures listed in Section 6.3. In addition, the Project will not generate a noise impact during operation. In addition, the Project will not generate a noise impact during operation. The Project is within 2 miles of the Santa Monica airport but does not fall within the 60 dBA CNEL contour. MD is pleased

to provide this noise assessment for the proposed Project. If you have any questions regarding this analysis, please call our office at (805) 426-4477.

Sincerely,
MD Acoustics, LLC

Rachel Edelman
Acoustical Consultant

Claire Pincock, INCE-USA
Acoustical Consultant

Exhibit A
Location Map

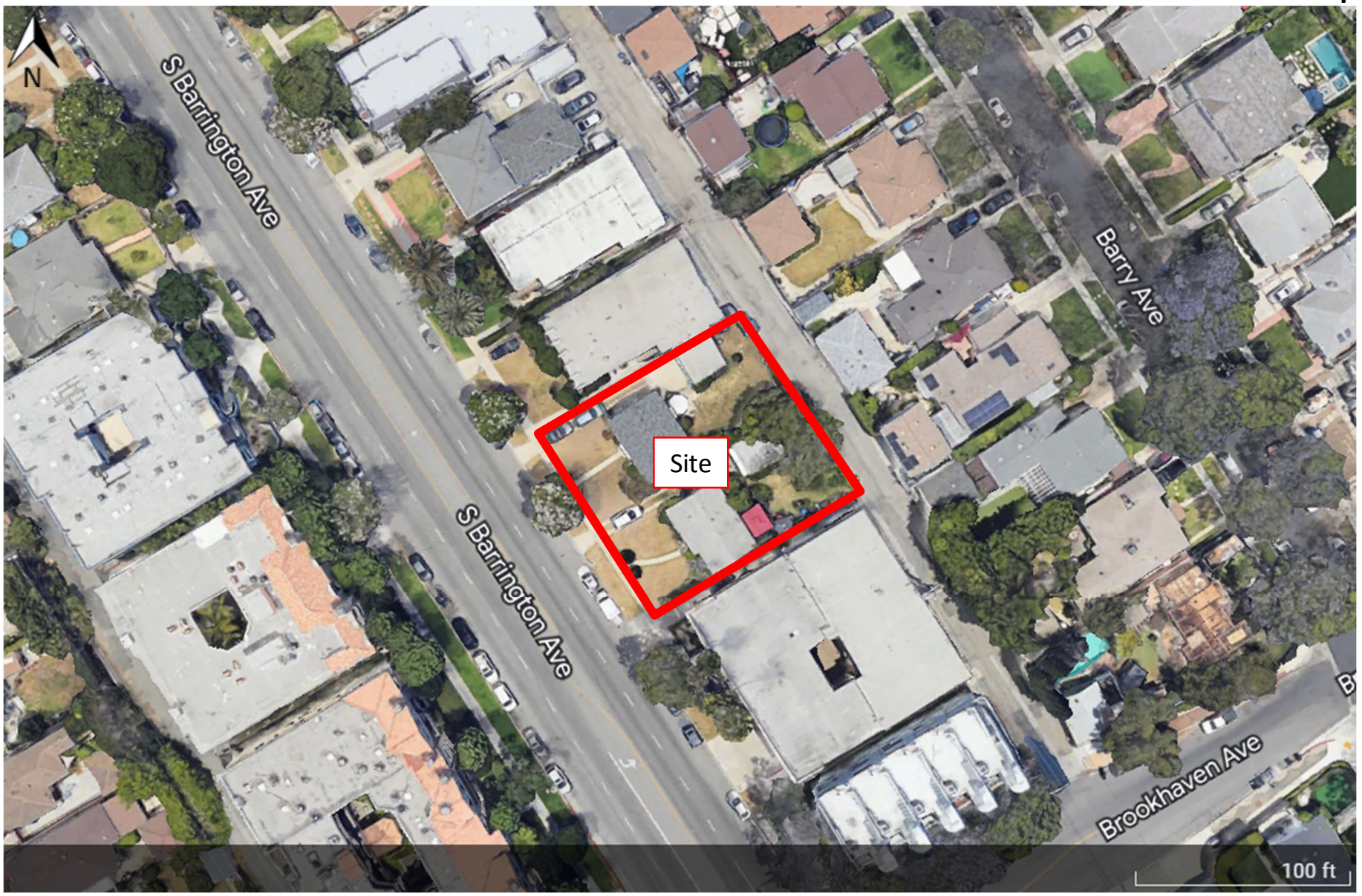
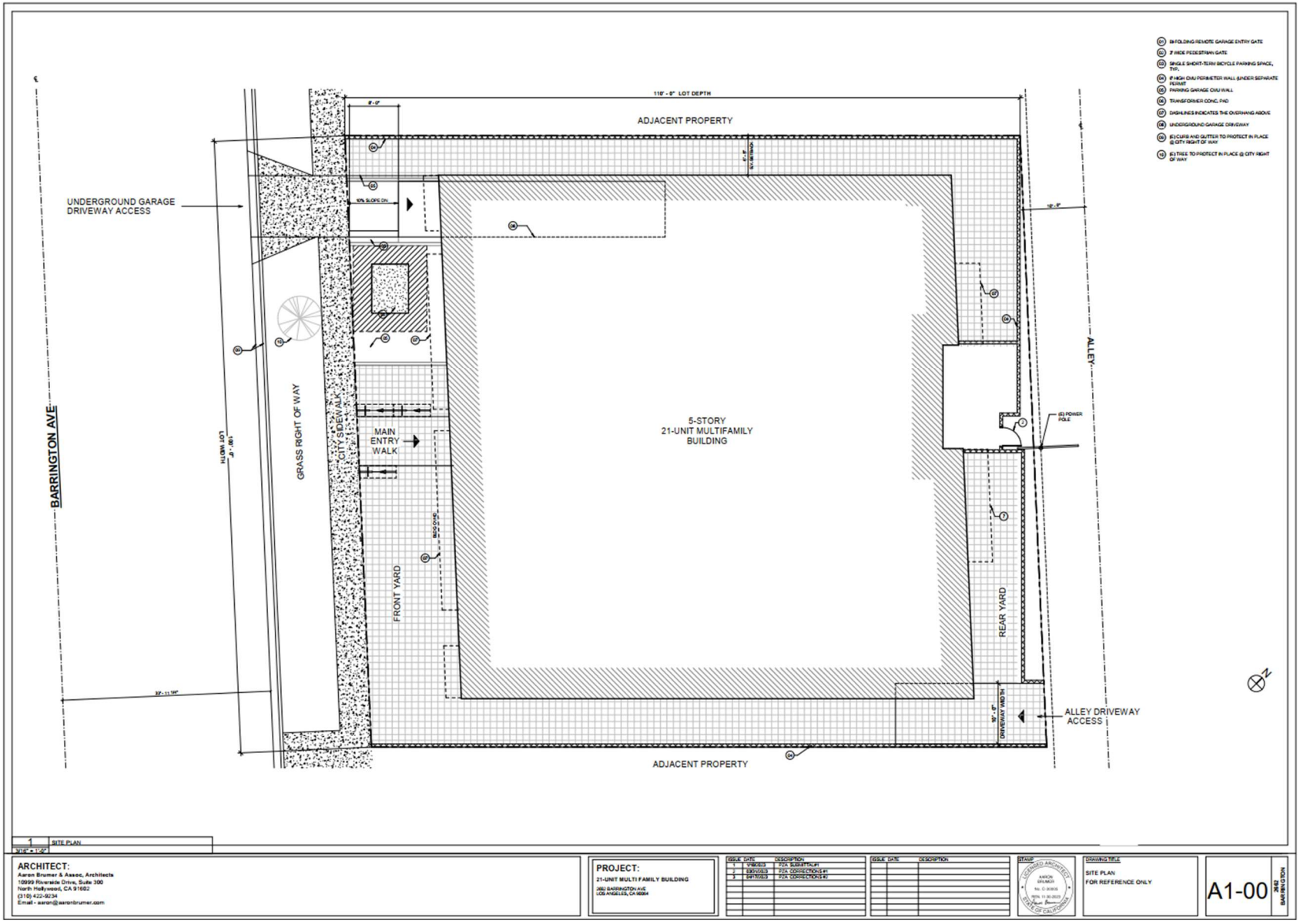


Exhibit B
Site Plan



Appendix A

Glossary of Acoustical Terms

Glossary of Terms

A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high-frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

Ambient Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Community Noise Equivalent Level (CNEL): The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after the addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

Decibel (dB): A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

dB(A): A-weighted sound level (see definition above).

Equivalent Sound Level (LEQ): The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time-varying noise level. The energy average noise level during the sample period.

Habitable Room: Any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking, or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms, and similar spaces.

L(n): The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly L50, L90, L99, etc.

Noise: *A*ny unwanted sound or sound which is undesirable because it interferes with speech and hearing or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

Noise Criteria (NC) Method: This metric plots octave band sound levels against a family of reference curves, with the number rating equal to the highest tangent line value as demonstrated in Figure 1.

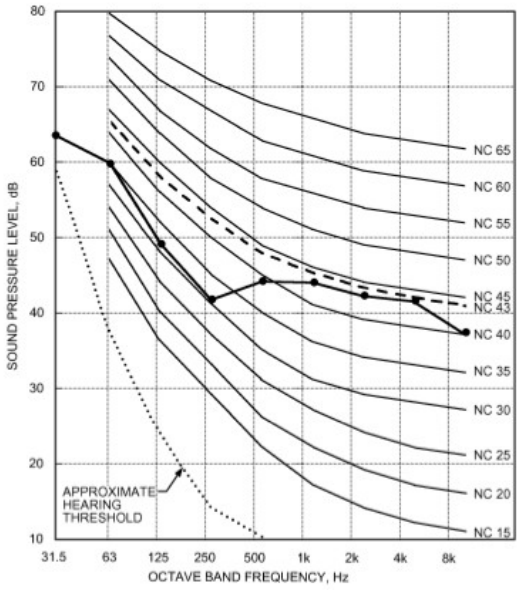
Percent Noise Levels: See L(n).

Room Criterion (RC) Method: When sound quality in the space is important, the RC metric provides a diagnostic tool to quantify both the speech interference level and spectral imbalance.

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

FIGURE 1: Sample NC Curves and Sample Spectrum Levels



***Sound Transmission Class (STC*)**: To quantify STC, a Transmission Loss (TL) measurement is performed in a laboratory over a range of 16 third-octave bands between 125 – 4,000 Hertz (Hz). The average human voice creates sound within the 125 – 4,000 Hz 1/3rd octave bands.

STC is a single-number rating given to a particular material or assembly. The STC rating measures the ability of a material or an assembly to resist airborne sound transfer over the specified frequencies (see ASTM International Classification E413 and E90). In general, a higher STC rating corresponds with a greater reduction of noise transmitting through a partition.

STC is highly dependent on the construction of the partition. The STC of a partition can be increased by: adding mass, increasing or adding air space, and adding absorptive materials within the assembly. The STC rating does not assess low-frequency sound transfer (e.g. sounds less than 125 Hz). Special consideration must be given to spaces where the noise transfer concern has lower frequencies than speech, such as mechanical equipment and or/or music. The STC rating is a lab test that does not take into consideration weak points, penetrations, or flanking paths.

Even with a high STC rating, any penetration, air-gap, or “flanking path can seriously degrade the isolation quality of a wall. Flanking paths are the means for sound to transfer from one space to another other than through the wall. Sound can flank over, under, or around a wall. Sound can also travel through common ductwork, plumbing, or corridors. Noise will travel between spaces at the weakest points. Typically, there is no reason to spend money or effort to improve the walls until all weak points are controlled first.

Outdoor Living Area: Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).

Percent Noise Levels: See L(n).

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

Single Event Noise Exposure Level (SENEL): The dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

Appendix B
Field Sheet

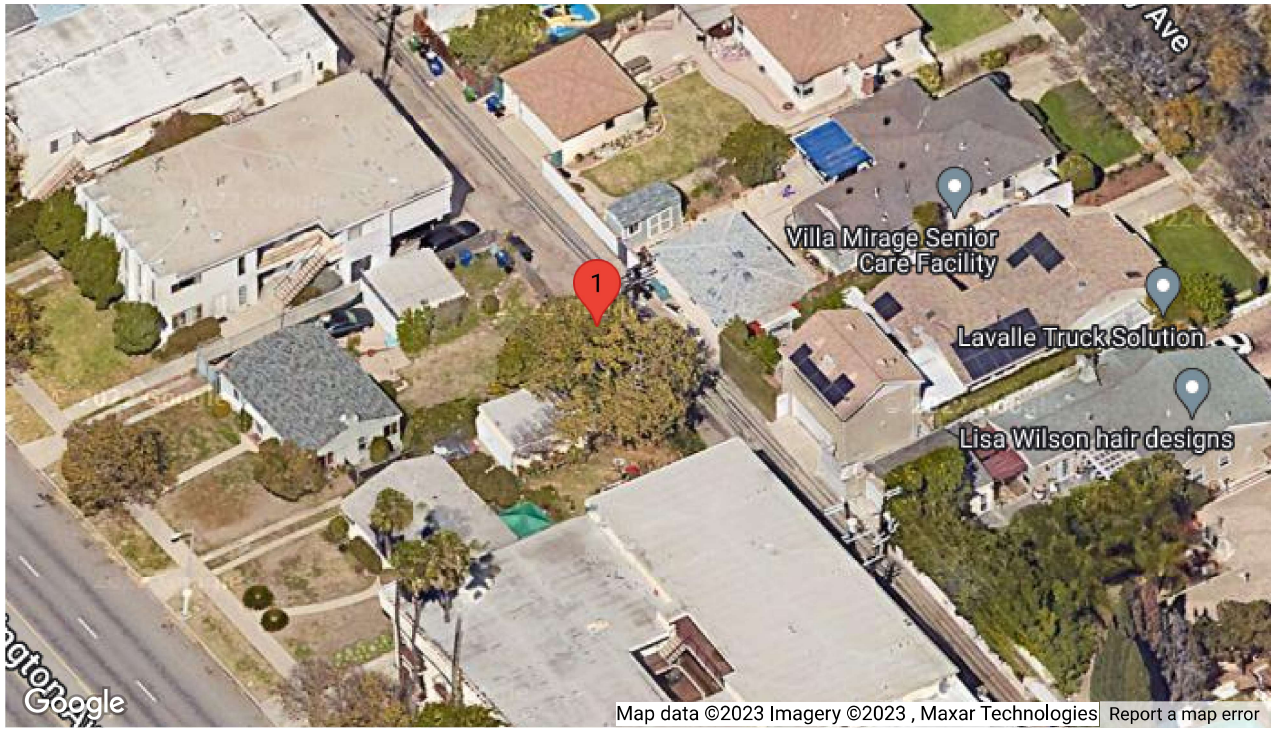
1-Hour Noise Measurement Datasheet

Project Name:	2662 Barrington Noise Cat32
Project: #/Name:	1144-2023-001
Site Address/Location:	2662 S Barrington
Date:	05/24/2023
Field Tech/Engineer:	Jason Schuyler/ Claire Pincock

Site Observations:

Overcast Temps in the mid 60°F winds 1-3MPH.

Sound Meter:	XL2, NTI	**SN:**	A2A-08562-E0
Settings:	A-weighted, slow, 1-sec, 1-hour interval		
Site Id:	NM1		



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1-Hour Noise Measurement Datasheet - Cont.

Project Name: 2662 Barrington Noise Cat32

Site Address/Location: 2662 S Barrington

Site Id: NM1

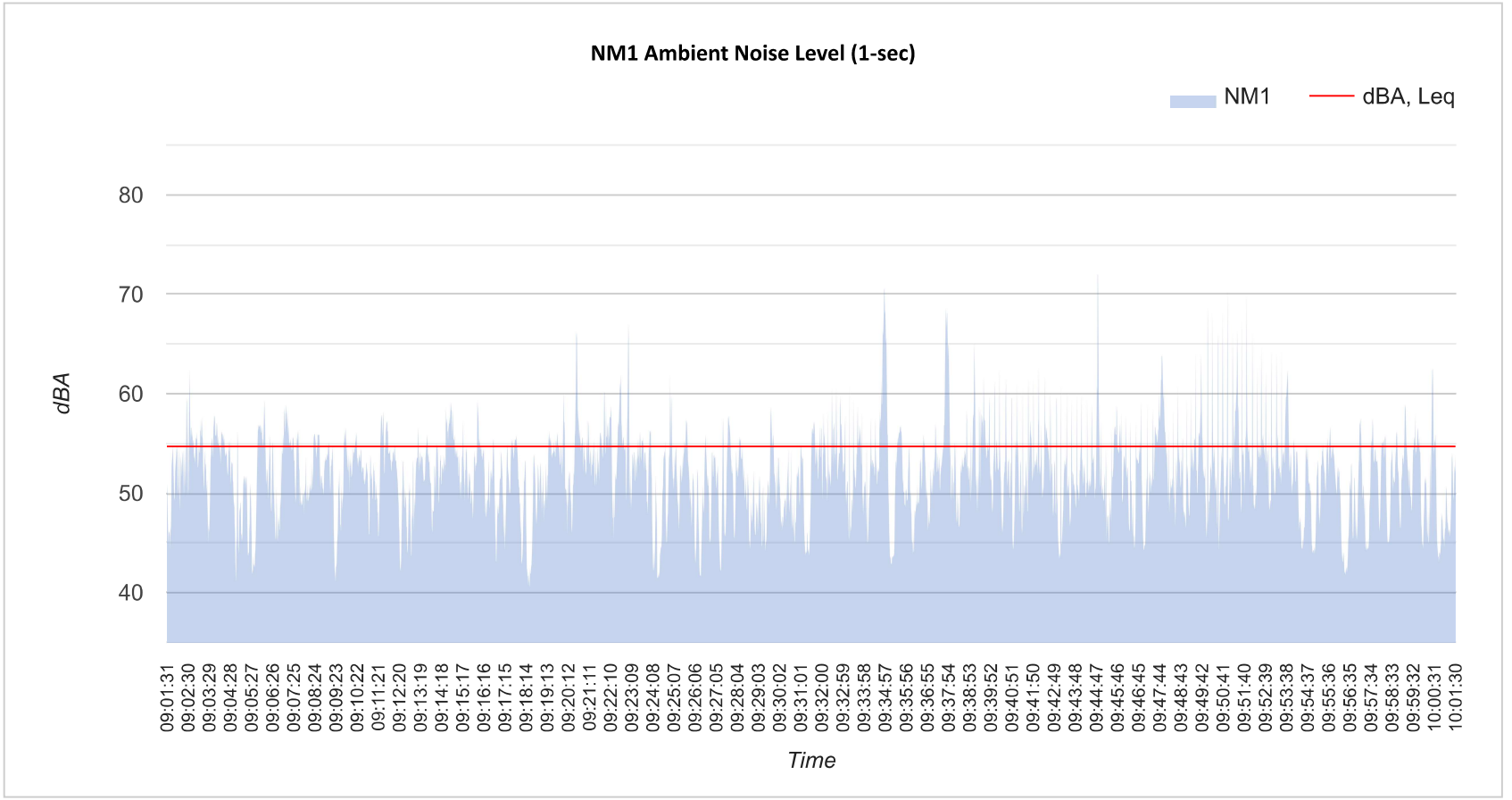
Figure 1: NM1

Table 1: Baseline Noise Measurement Summary

Location	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
NM1	9:01 AM	10:01 AM	54.7	71.5	40.7	61.8	57.2	54.5	52.2	46.2

1-Hour Noise Measurement Datasheet - Cont.

Project Name:	2662 Barrington Noise Cat32	**Site Topo:**	Buildings 1-4 stories tall	**Noise Source(s) w/ Distance:**	
Site Address/Location:	2662 S Barrington	**Meteorological Cond.:**	61F winds 1-3Mph		road noise and residential noise
Site Id:	NM1	**Ground Type:**	buildings and asphalt		



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Appendix C
Traffic

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT: BARRINGTON NOISE CAT32 JOB #: 1144-2023-00
ROADWAY: BARRINGTON AVE Existing DATE: 2-Jun-23
LOCATION: NEAREST RESIDENCES ENGINEER: R. Edelman

NOISE INPUT DATA - Existing

ROADWAY CONDITIONS

ADT =	27,400
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIS	46
ROAD ELEVATION =	0.0
GRADE =	1.0 %
PK HR VOL =	2,740

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		50
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		0
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	10	
MEDIUM TRUCKS =	10	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	10	

WALL INFORMATION

HTH WALL	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	44.53	- -
MEDIUM TRUCKS	4.0	44.42	- -
HEAVY TRUCKS	8.0	44.47	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.1	67.2	65.4	59.3	68.0	68.6
MEDIUM TRUCKS	61.6	60.0	53.7	52.1	60.6	60.8
HEAVY TRUCKS	62.8	61.4	52.4	53.6	62.0	62.1
NOISE LEVELS (dBA)	70.6	68.8	65.9	61.0	69.5	70.0

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.1	67.2	65.4	59.3	68.0	68.6
MEDIUM TRUCKS	61.6	60.0	53.7	52.1	60.6	60.8
HEAVY TRUCKS	62.8	61.4	52.4	53.6	62.0	62.1
NOISE LEVELS (dBA)	70.6	68.8	65.9	61.0	69.5	70.0

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	50	158	501	1584
LDN	45	142	449	1419

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT: BARRINGTON NOISE CAT32 JOB #: 1144-2023-00
ROADWAY: BARRINGTON AVE Existing Plus Project DATE: 2-Jun-23
LOCATION: NEAREST RESIDENCES ENGINEER: R. Edelman

NOISE INPUT DATA - Existing + Project

ROADWAY CONDITIONS

ADT =	27,495
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIS	46
ROAD ELEVATION =	0.0
GRADE =	1.0 %
PK HR VOL =	2,750

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		50
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		0
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	10	
MEDIUM TRUCKS =	10	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	10	

WALL INFORMATION

HTH WALL	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	44.53	- -
MEDIUM TRUCKS	4.0	44.42	- -
HEAVY TRUCKS	8.0	44.47	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.1	67.2	65.4	59.4	68.0	68.6
MEDIUM TRUCKS	61.6	60.1	53.7	52.2	60.6	60.8
HEAVY TRUCKS	62.8	61.4	52.4	53.6	62.0	62.1
NOISE LEVELS (dBA)	70.6	68.8	65.9	61.0	69.5	70.0

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.1	67.2	65.4	59.4	68.0	68.6
MEDIUM TRUCKS	61.6	60.1	53.7	52.2	60.6	60.8
HEAVY TRUCKS	62.8	61.4	52.4	53.6	62.0	62.1
NOISE LEVELS (dBA)	70.6	68.8	65.9	61.0	69.5	70.0

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	50	159	503	1590
LDN	45	142	450	1424

Appendix D

Noise Calculations Input/Output

Submittal Data Sheet

4.0 Ton VRV-IVS Heat Pump

RXTQ48TAVJUA

FEATURES

- Variable Refrigerant Temperature (VRT) technology allows VRV IV S series to deliver improved efficiencies and year round comfort
- Improved efficiencies with SEER values up to 18.0 and HSPF values up to 10.0
- Engineered with highly reliable Daikin Swing compressors
- All inverter compressors to increase efficiency and avoid starting current rush
- Can provide heating down to -4°F
- Added safety with optional auto changeover to auxiliary heat
- Easier installation with over 60% weight reduction compared to VRV III S

BENEFITS

- Single-phase technology enables installation in light commercial and residential applications
- Broader diversity with up to 9 indoor units connectivity
- Space saving compact design
- Design flexibility with long piping lengths up to 984ft total and 49ft vertical separation between indoor units
- Designed with reduced MOP to optimize installation costs
- Backed by best in class 10-years Parts Limited Warranty and 10-years Replacement Compressor Limited Warranty*

R-410A INVERTER

INTERTEK ETL LISTED C US

VRV IV

AHRI CERTIFIED

Not actual equipment, but similar one is likely to be used for each unit

Submittal Data Sheet

4.0 Ton VRV-IVS Heat Pump

RXTQ48TAVJUA

PERFORMANCE			
Outdoor Unit Model No.	RXTQ48TAVJUA	Outdoor Unit Name:	4.0 Ton VRV-IVS Heat Pump
Type:	Heat Pump		
Rated Cooling Conditions:	Indoor (°F DB/DB): 80 / 67 Ambient (°F DB/WB): 95 / 75	Rated Heating Conditions:	Indoor (°F DB/WB): 70 / 60 Ambient (°F DB/WB): 47 / 43
Rated Piping Length(ft):	25		
Rated Height Difference (ft):			
Rated Cooling Capacity (Btu/hr):	45,500	Rated Heating Capacity (Btu/hr):	49,500
Cooling Input Power (kW):	4.85	Heating Input Power (kW):	4.00
EER (Non-Ducted/Ducted):	10.30 / 9.40	Heating COP (Non-Ducted/Ducted):	/
SEER (Non-Ducted/Ducted):	18.00 / 16.00	HSPF (Non-Ducted/Ducted):	10.0 / 9.0
Max/Min Cooling Capacity (Btu/hr):	/	Max/Min Heating Capacity (Btu/hr):	

OUTDOOR UNIT DETAILS			
Power Supply (V/Hz/Ph):	208-230 / 60 / 1	Compressor Stage:	Inverter
Power Supply Connections:		Capacity Control Range (%):	14 - 100
Min. Circuit Amps MCA (A):	29.1	Airflow Rate (H) (CFM):	2682
Max Overcurrent Protection (MOP) (A):	35	Gas Pipe Connection (inch):	5/8
Max Starting Current MSC(A):		Liquid Pipe Connection (inch):	3/8
Rated Load Amps RLA(A):	19	Sound Pressure (H) (dBA):	58
Dimensions (HxWxD) (in):	39 x 37 x 12-5/8	Sound Power Level (dBA):	76
Net Weight (lb):	176		

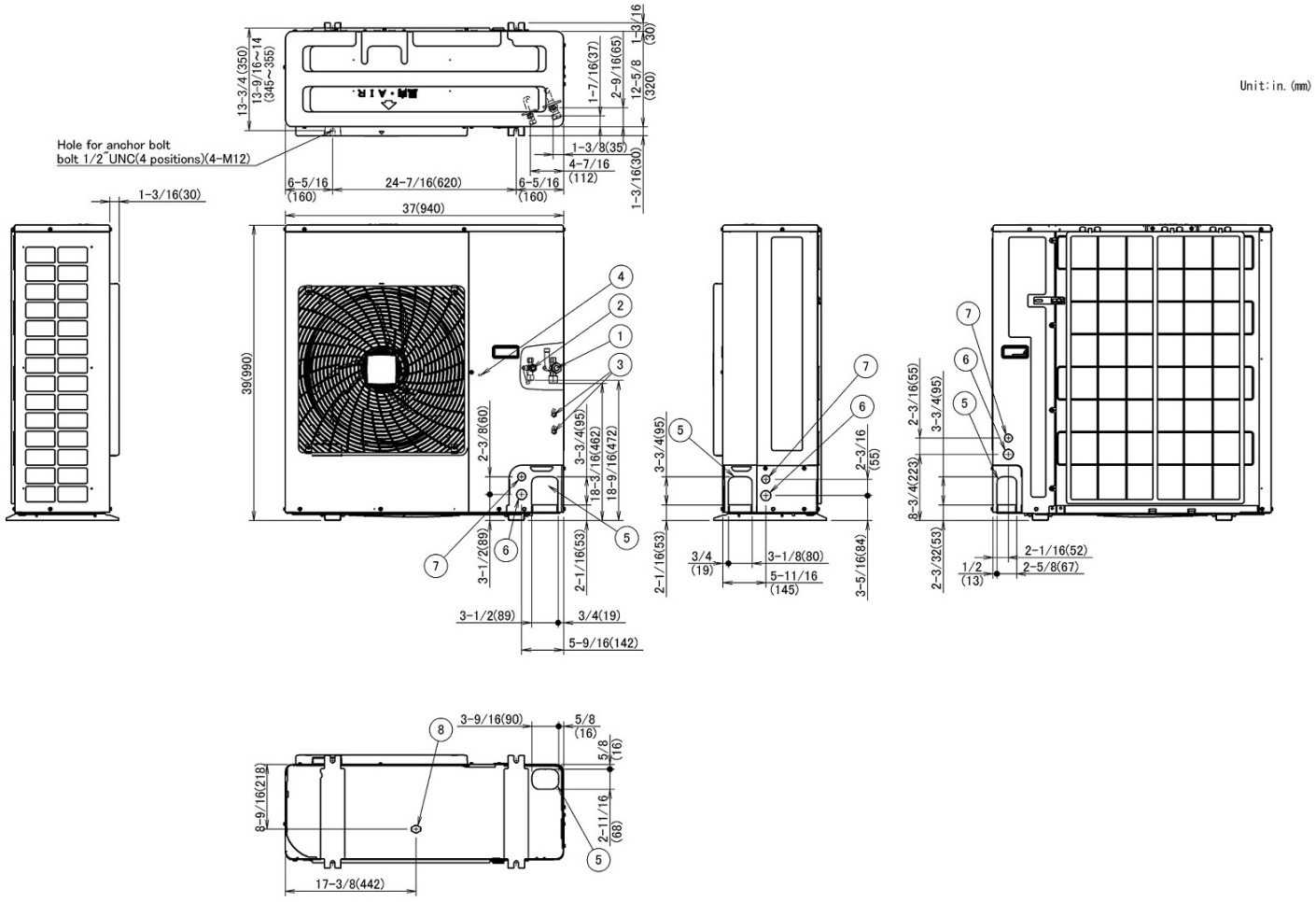
Submittal Data Sheet

4.0 Ton VRV-IVS Heat Pump

RXTQ48TAVJUA

SYSTEM DETAILS			
Refrigerant Type:	R-410A	Cooling Operation Range (°F DB):	23 - 122
Holding Refrigerant Charge (lbs):	7.5	Heating Operation Range (°F WB):	-4 - 60
Additional Charge (lb/ft):		Max. Pipe Length (Vertical) (ft):	98
Pre-charge Piping (Length) (ft):		Cooling Range w/Baffle (°F DB):	-
Max. Pipe Length (Total) (ft):	984	Heating Range w/Baffle (°F WB):	-
Max Height Separation (Ind to Ind ft):			

DIMENSIONAL DRAWING



Appendix E

Construction Noise and Vibration Calculations

Receptor - Commercial property to the north

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Edge of Site to Receptor, feet	Center of Site to Receptor, feet	Item Usage Percent[1]	Ground Factor[2]	Usage Factor	Receptor Item Lmax, dBA	Recptor. Item Leq, dBA
SITE PREP									
Tractor	1	84	10	50	40	0.66	0.40	102.6	80.0
Grader	1	85	10	50	40	0.66	0.40	103.6	81.0
							Log Sum	103.6	83.6
DEMO									
Dozer	1	82	10	50	40	0.66	0.4	100.6	78.0
Tractor	2	84	10	50	40	0.66	0.4	102.6	80.0
Concrete Saw	1	90	10	50	20	0.66	0.2	108.6	83.0
								108.6	86.7
GRADE									
Dozer	1	82	10	50	40	0.66	0.40	100.6	78.0
Grader	1	85	10	50	40	0.66	0.40	103.6	81.0
Tractor	1	84	10	50	40	0.66	0.40	102.6	80.0
								103.6	84.6
BUILD									
Crane	1	81	10	50	16	0.66	0.16	99.6	73.0
Man lift	2	75	10	50	20	0.66	0.20	93.6	68.0
Tractor	2	84	10	50	40	0.66	0.40	102.6	80.0
								102.6	83.7
PAVE									
Paver	1	77	10	50	50	0.66	0.50	95.6	74.0
Tractor	1	84	10	50	40	0.66	0.40	102.6	80.0
Concrete Mixer Truck	4	79	10	50	40	0.66	0.40	97.6	75.0
Roller	1	80	10	50	20	0.66	0.20	98.6	73.0
								102.6	84.4
ARCH COAT									
Compressor (air)	1	78	10	50	40	0.66	0.40	96.6	74.0
								96.6	74.0

[1]FHWA Construction Noise Handbook: Table 9.1 RCNM Default Noise Emission Reference Levels and Usage Factors

VIBRATION LEVEL IMPACT

Project:	Barrington Noise Cat32		Date: 6/2/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Adjacent residences		
Address:	2662-2668 S. Barrington Ave		

PPV = PPVref(25/D)^n (in/sec)

DATA INPUT

Equipment = Type	2	Large Bulldozer	INPUT SECTION IN BLUE
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	10.00	Distance from Equipment to Receiver (ft)	
n =	1.10	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

DATA OUT RESULTS

PPV =	**0.244**	IN/SEC	OUTPUT IN RED

BYER GEOTECHNICAL, INC.

March 7, 2023
BG 23694

2662 and 2668 S Barrington Ave, LLC
865 Via De La Paz, #308
Pacific Palisades, California 90272

Attention: Mr. RJ Wynn

Subject

Transmittal of Geotechnical Engineering Exploration
Proposed Five-Story Residential Building over One Subterranean Parking Level
Lots 5 and 6, Tract 7449
2662 and 2668 South Barrington Avenue
Los Angeles, California

Dear Mr. Wynn:

Byer Geotechnical has completed our report dated March 7, 2023, which describes the geotechnical engineering conditions with respect to the proposed project. The reviewing agency for this document is the City of Los Angeles, Department of Building and Safety (LADBS). The reviewing agency requires two unbound copies, one with a wet signature, a USB drive (PDF format), an application form, and a filing fee. Copies of the report have been distributed as follows:

(1) Addressee (E-mail and Mail)
(3) Aaron Brumer & Associates Architects, Attention: Aaron Brumer (E-mail and Mail)
(1) Aaron Brumer & Associates Architects, Attention: Sara Milani (E-mail)
(1) JDJ Consulting, Attention: Jake Heller (E-mail)

It is our understanding that Mr. Aaron Brumer will file the report and USB drive with the LADBS. Please review the report carefully prior to submittal to the governmental agency. Questions concerning the report should be directed to the undersigned. Byer Geotechnical appreciates the opportunity to offer our consultation and advice on this project.

Very truly yours,
BYER GEOTECHNICAL, INC.

Raffi S. Babayan
Senior Project Engineer

BYER GEOTECHNICAL, INC.

GEOTECHNICAL ENGINEERING EXPLORATION
PROPOSED FIVE-STORY RESIDENTIAL BUILDING OVER
ONE SUBTERRANEAN PARKING LEVEL
LOTS 5 AND 6, TRACT 7449
2662 AND 2668 SOUTH BARRINGTON AVENUE
LOS ANGELES, CALIFORNIA
FOR 2662 AND 2668 S. BARRINGTON AVE, LLC
BYER GEOTECHNICAL, INC., PROJECT NUMBER BG 23694
MARCH 7, 2023

1461 East Chevy Chase Drive, Suite 200 • Glendale, California 91206 • tel 818.549.9959 • fax 818.543.3747 • www.byergeo.com

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MARCH 7, 2023

INTRODUCTION

This report has been prepared per our signed Agreement and summarizes findings of Byer Geotechnical, Inc., geotechnical engineering exploration performed on the subject site. The purpose of this study is to evaluate the nature, distribution, engineering properties, and geologic hazards of the earth materials underlying the site with respect to construction of the proposed project. This report is intended to assist in the design and completion of the proposed project and to reduce geotechnical risks that may affect the project. The professional opinions and advice presented in this report are based upon commonly accepted exploration standards and are subject to the AGREEMENT with TERMS AND CONDITIONS, and the GENERAL CONDITIONS AND NOTICE section of this report. No warranty is expressed or implied by the issuing of this report.

PROPOSED PROJECT

The scope of the proposed project was determined from consultation with Mr. Jake Heller of JDJ Consulting, and the preliminary plans prepared by Aaron Brumer & Associates Architects, dated January 18, 2023. Final plans have not been prepared and await the conclusions and recommendations of this report. The project consists of the construction of a five-story residential building over one subterranean parking level. The ground floor will consist of a concrete-frame structure that will include parking spaces and building amenities. The upper four levels will consists

of wood-frame residential units. The footprint of the proposed building is planned to occupy almost the entire site. One elevator is planned within the central portion of the proposed building. Retaining walls ranging from 11 to 15 feet high are planned to support the excavation for the subterranean parking level. In addition, retaining walls up to six feet high will be required to support the excavation for the pit portion of the elevator, below the subterranean parking level. An access ramp to the subterranean parking level is planned in the northwest corner of the proposed building via Barrington Avenue. In addition, access to the ground floor parking is planned in the southeast corner of the proposed building via the northeast-bounding (rear) alley. The existing one-story residences and associated improvements are to be removed from the site.

RESEARCH

Research of agency records was conducted to locate previous geotechnical reports for the subject site. No reports were located.

EXPLORATION

The scope of the field exploration was determined from our initial site visit and consultation with Mr. Jake Heller. The preliminary plans prepared by Aaron Brumer & Associates Architects, dated January 18, 2023, were a guide to our work on this project. Exploration was conducted using techniques normally applied to this type of project in this setting. This report is limited to the area of the exploration and the proposed project as shown on the enclosed Site Plan and cross sections. The scope of this exploration did not include an assessment of general site environmental conditions for the presence of contaminants in the earth materials and groundwater. Conditions affecting portions of the property outside the area explored are beyond the scope of this report.

Exploration was conducted on February 8, 2023, with the aid of a limited-access, track-mounted hollow-stem-auger drill rig. It included drilling three borings to approximate depths of 26½ to 41½ feet below existing grade. Samples of the earth materials were obtained and delivered to our soils engineering laboratory for testing and analysis. The borings tailings were visually logged by the project soils engineer. Following drilling and sampling, the borings were backfilled and mechanically tamped.

Office tasks included laboratory testing of selected soil samples, review of published maps and photos for the area, review of our files, review of agency files, preparation of cross sections, preparation of the Site Plan, engineering analysis, and preparation of this report. Earth materials exposed in the borings are described on the enclosed Log of Borings. Appendix I contains a discussion of the laboratory testing procedures and results. The proposed project and the locations of the borings are shown on the enclosed Site Plan. Subsurface distribution of the earth materials and the proposed project are shown on Sections A and B.

SITE DESCRIPTION

The subject property consists of two contiguous, rectangular-shaped, and partially-graded lots that are located within the northwest portion of the Los Angeles Basin, in the West Los Angeles section of the city of Los Angeles, California (34.0264° N Latitude, 118.4412° W Longitude). As depicted on the enclosed Aerial Vicinity Map, the property is bounded by an alley on the northeast, Barrington Avenue on the southwest, a two-story apartment building over a partial subterranean parking level on the southeast, and a two-story at-grade apartment building on the northwest. The property is located approximately one-quarter of a mile south of the Santa Monica (10) Freeway and 0.6 miles west of the San Diego (405) Freeway. Two, one-story residences and associated detached garages (Circa 1937) currently occupy central and east portions of the site. Front and rear yards comprise the remaining portions of the site. The surrounding area has been developed generally with single- and multi-family residential buildings.

Past grading on the site has consisted of preparing minor grading to prepare level pads for the existing structures. Vegetation on the site consists of a manicured lawn and planter areas, as well as a few trees around the existing structures. Surface drainage is by sheetflow runoff down the contours of the land to the west towards the street.

GROUNDWATER

Groundwater was encountered in Borings 1 and 3 at approximate depths of 34 and 33 feet below existing grade, respectively (average elevation 99.0). In *Seismic Hazard Zone Report 023,* the California Geological Survey (CGS) has estimated the historically-highest groundwater level at the site was on the order of 40 feet below ground surface (CGS, 1998), as shown on the enclosed Historic-High Groundwater Map.

Seasonal fluctuations in groundwater levels occur due to variations in climate, irrigation, development, and other factors not evident at the time of the exploration. Groundwater levels may also differ across the site. Groundwater can saturate earth materials causing subsidence or instability of slopes.

METHANE ZONES

The City of Los Angeles Ordinance No. 175790 established methane mitigation requirements and includes construction standards to control methane intrusion into buildings. The subject property is not mapped within either a Methane Zone or Methane Buffer Zone.

EARTH MATERIALS

Fill

Fill was not encountered during the subsurface exploration. Fill may be present locally and is expected to be minor. Any fill will be removed during the excavation for the subterranean parking level.

Alluvium (Qa/Qal)

Natural alluvium, derived from the Santa Monica Mountains, underlies the subject site and was encountered in the borings. The alluvium is approximately 30 feet thick across the subject site. The alluvium consists of layers of sandy silt, silt, and clay that are generally olive- to dark olive-brown, moist to very moist, and medium stiff to stiff.

Older Alluvium (Qom/Qm)

Older alluvium deposits, also known as marine deposits of Pleistocene age, underlie the subject property and were encountered beneath the alluvium in Borings 1 and 3. The older alluvium consists of poorly- to well-graded gravelly sand that is dark olive-gray to dark gray, very moist to saturated, and medium dense to very dense, with varying amounts of fine- to coarse-grained gravel. A very stiff layer of dark olive-brown silt is present at an approximate depth of 40 feet, beneath the gravelly sand layer.

GENERAL SEISMIC CONSIDERATIONS

Regional Faulting

The subject property is located in an active seismic region. Moderate to strong earthquakes can occur on numerous local faults. The United States Geological Survey, California Geological Survey (CGS), private consultants, and universities have been studying earthquakes in southern California for several decades. Early studies were directed toward earthquake prediction and estimation of the effects of strong ground shaking. Studies indicate that earthquake prediction is not practical and not sufficiently accurate to benefit the general public. Governmental agencies now require earthquake-resistant structures. The purpose of the code seismic-design parameters is to prevent collapse during strong ground shaking. Cosmetic damage should be expected.

Southern California faults are classified as "active" or "potentially active." Faults from past geologic periods of mountain building that do not display evidence of recent offset are considered "potentially active." Faults that have historically produced earthquakes or show evidence of movement within the past 11,000 years are known as "active faults." No known active faults cross the subject property, and the property is not located within a currently-designated Alquist-Priolo Earthquake Fault Zone (CGS, 2000). Therefore, the potential for surface rupture onsite is considered very low.

The known regional local active and potentially-active faults that could produce the most significant ground shaking on the site include the Santa Monica, Newport-Inglewood, Hollywood, Malibu Coast, and Anacapa-Dume Faults. Another fault that is located near the site is the Puente Hills blind thrust; however, this fault is considered inactive (ICBO, 1998). Fifty-two faults were found within a 100-kilometer-radius search area from the site using EZ-FRISK V8.07 computer program. The results of seismic-source analysis are listed in Appendix II. The closest mapped "active" fault is the Santa Monica Fault, a Type B fault that is located 1.6 kilometers (1 mile) north of the site. The Santa Monica Fault is capable of producing a maximum moment magnitude of 7.4 and an average slip rate of 1.0 ± 0.5 millimeters per year (Cao et al., 2003). The San Andreas Fault, a Type A fault,

is located 65.6 kilometers (40.8 miles) northeast of the site. General locations of regional active faults with respect to the subject site are shown on the enclosed Regional Fault Map (Appendix II).

Seismic Design Coefficients

The following table lists the applicable City of Los Angeles Building Code seismic coefficients for the project:

SEISMIC COEFFICIENTS (2023 City of Los Angeles Building Code - Based on ASCE Standard 7-16)		
Latitude = 34.0264° N Longitude = 118.4412° W	Short Period (0.2s)	One-Second Period
Earth Materials and Site Class from Table 20.3.3, ASCE Standard 7-16	Alluvium / Older Alluvium - D	
Mapped Spectral Accelerations from Figures 22-1 and 22-2	S_s = 1.959 (g)	S_1 = 0.698 (g)
Site Coefficients from Tables 11.4-1 and 11.4-2	F_A = 1.0	F_V = 1.7 (g)
Maximum Considered Spectral Response Accelerations from Equations 11.4-1 and 11.4-2	S_{MS} = 1.959 (g)	S_{M1} = 1.187 (g)
Design Spectral Response Accelerations from Equations 11.4-3 and 11.4-4	S_{DS} = 1.306 (g)	S_{D1} = 0.791 (g)
Maximum Considered Earthquake Geometric Mean (MCE_G) Peak Ground Acceleration, adjusted for Site Class effects	PGA_M = 0.920 (g)	

Reference: American Society for Civil Engineers, **ASCE 7 Hazard Tool,** https://asce7hazardtool.online/

The mapped spectral response acceleration parameter for the site for a 1-second period (S_1) is less than 0.75g. The design spectral response acceleration parameters for the site for a 1-second period (S_{D1}) is greater than 0.20g, and/or the short period (S_{DS}) is greater than 0.50g. Therefore, the project is considered to be in Seismic Design Category D.

The principal seismic hazard to the proposed project is strong ground shaking from earthquakes produced by local faults. Modern buildings are designed to resist ground shaking through the use of shear panels, moment frames, and reinforcement. Additional precautions may be taken, including strapping water heaters and securing furniture to walls and floors. It is likely that the subject property will be shaken by future earthquakes produced in southern California.

Seismic Hazard Deaggregation Analysis

A probabilistic seismic hazard deaggregation analysis was performed on the subject site. Seismic parameters were determined using currently-available earthquake and fault information utilizing data from the United States Geological Survey (USGS) Earthquake Hazards Program (USGS, 2023). An averaging of four Next Generation Attenuation relations (Abrahamson-et. al. (2014) NGA West 2 USGS 2014, Boore-et. al. (2014) NGA West 2 USGS 2014, Campbell-Bozorgnia (2014) NGA West 2 USGS 2014, and Chiou-Youngs (2014) NGA West 2 USGS 2014) was incorporated in the analysis. An average shear-wave velocity (Vs30) of 259 meters-per-second (Site Class D) was used in the analysis. Hazard deaggregation indicates a predominant modal earthquake magnitude of 6.4 (Mw) at a modal distance of 5.8 kilometers. The Peak Horizontal Ground Acceleration (PHGA) with a 10-percent probability of exceedance in 50 years is estimated to be 0.51g on the subject site. These ground motions could occur at the site during the life of the project. Results of the analysis are graphically presented in the enclosed "Seismic Hazard Deaggregation Chart" (Appendix II).

Based on a Site Class D, the MCE_G peak ground acceleration adjusted for Site Class effects, PGA_M, is 0.92g. The pseudo-static seismic coefficient (k_h) was derived according to the guidelines of the LADBS memorandum dated July 16, 2014. The horizontal pseudo-static seismic coefficient (k_h) was taken as one-third of the PGA_M (0.31g) and was used in the seismic calculations for the cantilever and restrained retaining walls.

Liquefaction

The CGS has not mapped the site within an area where historic occurrence of liquefaction or geological, geotechnical, and groundwater conditions indicate a potential for permanent ground displacement such that mitigation as defined in Public Resources Code Section 2693 (c) would be required, as shown on the enclosed Seismic Hazard Zones Map.

Current and historic shallow groundwater levels are not present onsite. In addition, the earth materials below groundwater level consist of older alluvium deposits that are medium dense to very dense and very stiff. Therefore, the potential for liquefaction to occur at the site is considered to be very low.

Seiches and Tsunamis

Seiches are large waves generated in enclosed bodies of water, such as lakes and reservoirs, in response to ground shaking. Tsunamis are waves generated in large bodies of water by fault displacement or major ground movement. The site is not located near any lake or reservoir. Furthermore, the site is at an average elevation of 132.0 feet above mean sea level and is located approximately three miles from the Pacific Ocean shoreline. Therefore, the risk to the project from seiches or tsunamis is considered to be nil.

CONCLUSIONS AND RECOMMENDATIONS

General Findings

The conclusions and recommendations of this exploration are based upon review of the preliminary plans, review of published maps, three borings, research of available records, laboratory testing, engineering analysis, and years of experience performing similar studies on similar sites. It is the finding of Byer Geotechnical, Inc., that development of the proposed project is feasible from a

geotechnical engineering standpoint, provided the advice and recommendations contained in this report are included in the plans and are implemented during construction.

The recommended bearing material for the proposed building is firm undisturbed alluvium, which is expected at the bottom of excavation for the subterranean parking level. Conventional foundations may be used. Soils to be exposed at finished grade are expected to exhibit a low expansion potential.

Geotechnical issues affecting the project include temporary excavations ranging from 14 to 18 feet in height, including an estimate of the foundation embedment depth. Temporary shoring consisting of soldier piles and continuous lagging is recommended to facilitate the construction of the subterranean parking level and to support existing offsite improvements. Recommendations for temporary shoring are included in the "Temporary Excavations" section of this report.

Groundwater should be anticipated in the shoring pile excavations that extend below elevation 99.0. Groundwater is not anticipated in the basement and foundation excavations.

FOUNDATION DESIGN

Spread Footings

Continuous and/or pad footings may be used to support the proposed five-story building over one subterranean parking level, provided they are founded in firm undisturbed alluvium. Continuous footings should be a minimum of 12 inches in width. Pad footings should be a minimum of 24-inches square. The following chart contains the recommended design parameters.

Bearing Material	Minimum Embedment Depth of Footing (Inches)	Vertical Bearing (psf)	Coefficient of Friction	Passive Earth Pressure (pcf)	Maximum Earth Pressure (psf)
Alluvium	24	2,000	0.30	250	4,500

Increases in the bearing value are allowable at a rate of 400 pounds-per-square-foot for each additional foot of footing width or depth to a maximum of 4,500 pounds-per-square-foot. For bearing calculations, the weight of the concrete in the footing may be neglected.

The bearing value shown above is 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. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third.

Footings adjacent to retaining walls should be deepened below a 1:1 plane from the bottom of the lower retaining wall, or the footings should be designed as grade beams to bridge from the wall to the 1:1 plane.

All continuous footings should be reinforced with a minimum of four #4 steel bars: two placed near the top and two near the bottom of the footings. Footings should be cleaned of all loose soil, moistened, free of shrinkage cracks, and approved by the geotechnical engineer prior to placing forms, steel, or concrete.

Foundation Settlement

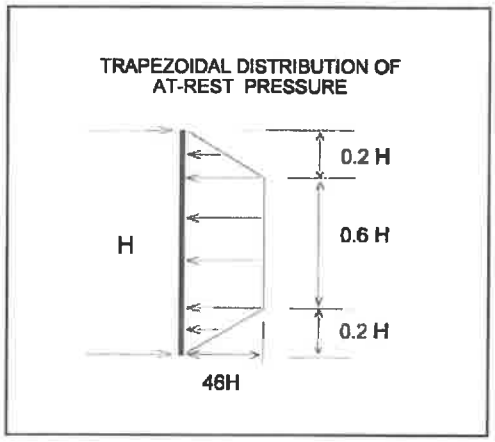
Settlement of the foundation system is expected to occur on initial application of loading. A total settlement of one-half of an inch to one inch may be anticipated. Differential settlement should not exceed one-half of an inch over a horizontal distance of 30 feet.

RETAINING WALLS

General Design

Cantilever retaining walls up to 14 feet high with a level backslope may be designed for an active equivalent fluid pressure of 43 pounds-per-cubic-foot (see Calculation Sheet #1a). Retaining walls should be provided with a subdrain or weepholes covered with a minimum of 12 inches of ¾-inch crushed gravel.

Since the elevator pit is planned below the subterranean level subgrade, covered with a concrete slab-on-grade, a subdrain system may be omitted for the elevator-pit walls. These walls should be designed for an active equivalent fluid pressure of 30 pounds-per-cubic-foot. An additional triangular pressure of 62.4 pounds-per-cubic-foot should be applied in the design of the elevator pit walls to resist hydrostatic forces.



Proposed subterranean retaining walls, which will be restrained, should be designed for the at-rest lateral earth pressure of 46H, where H is the height of the wall (see Calculation Sheet #2a). The diagram illustrates the trapezoidal distribution of earth pressure. The design earth pressures assume that the walls are free draining. Surcharge loads from vehicular traffic and adjacent buildings should be applied in the design of the restrained retaining walls. Surcharge loads may be calculated using LADBS Information Bulletin P/BC 2020-083, NAVFAC DM-7.02 Design Manual, or an equivalent method.

Subterranean retaining walls should be provided with a subdrain or weepholes covered with a minimum of 12 inches of ¾-inch crushed gravel. An alternative subdrain system, consisting of Miradrain and gravel pockets (one-cubic-foot minimum) connected to a solid pipe outlet, may be used behind the subterranean retaining walls. A sump pump will be required for basement subdrains. The gravel pockets should be excavated to penetrate the slurry backfill behind the lagging to ensure contact with the earth materials behind the lagging.

Seismic Load

Seismic analysis of the cantilever and subterranean retaining walls indicates that no additional loading due to seismic forces is required on the cantilever and restrained retaining walls, since the calculated seismic thrusts are less than the static active and at-rest design thrusts for a retained height of up to 15 feet (see Calculation Sheets #2Sa and #3Sa).

Backfill

Retaining wall backfill should be compacted to a minimum of 90 percent of the maximum dry density as determined by ASTM D 1557-12, or equivalent. Where access between the retaining wall and the temporary excavation prevents the use of compaction equipment, retaining walls should be backfilled with ¾-inch crushed gravel to within two feet of the ground surface. Where the area between the wall and the excavation exceeds 18 inches, the gravel must be vibrated or wheel-rolled, and tested for compaction. The upper two feet of backfill above the gravel should consist of a compacted-fill blanket to the surface. Restrained walls should not be backfilled until the restraining system is in place.

Foundation Design

Retaining wall footings may be sized per the "Spread Footings" section of this report.

Retaining Wall Deflection

It should be noted that non-restrained retaining walls can deflect up to one percent of their height in response to loading. This deflection is normal and results in lateral movement and settlement of the backfill toward the wall. The zone of influence is within a 1:1 plane from the bottom of the wall. Hard surfaces or footings placed on the retaining wall backfill should be designed to avoid the effects of differential settlement from this movement. Decking that caps a retaining wall should be provided with a flexible joint to allow for the normal deflection of the retaining wall. Decking that does not cap a retaining wall should not be tied to the wall. The space between the wall and the deck will require periodic caulking to prevent moisture intrusion into the retaining wall backfill.

TEMPORARY EXCAVATIONS

Temporary excavations will be required to construct the subterranean parking level of the proposed building and to support existing offsite improvements. The excavations are expected to range from 6 feet (elevator pit walls) to 18 feet in height (subterranean walls) and will expose alluvium. The alluvium is capable of maintaining unsurcharged vertical excavations up to five feet (see Calculation Sheet #4). Where vertical excavations in the alluvium exceed five feet in height, the upper portion should be trimmed to 1:1 (45 degrees).

Vertical excavations removing support from adjacent footings or adjacent to property lines will require the use of temporary shoring such as soldier piles. Design values can be found in the "Soldier Piles" section below.

The geologist should be present during grading to see temporary slopes. All excavations should be stabilized within 30 days of initial excavation. Water should not be allowed to pond on top of the excavations nor to flow toward them. No vehicular surcharge should be allowed within three feet of the top of the cut.

Soldier Piles

Drilled, cast-in-place concrete soldier piles may be utilized as temporary shoring to support excavations to construct the subterranean parking level of the proposed building and to support existing offsite improvements. The piles should be a minimum of 18 inches in diameter and a minimum of eight feet into the alluvium below the excavation. Piles may be assumed fixed at three feet into the alluvium below the excavation. The piles may be designed for a skin friction of 500 pounds-per-square-foot for that portion of pile in contact with the alluvium below the excavation. Piles should be spaced a maximum of eight feet on center. Shoring spacing may be increased up to 10 feet on center in local areas such as ramp approaches and corners of shoring. The piles may be designed for the active equivalent fluid pressures shown in the following table:

Location of Shoring	Shoring Height (feet)	Type of Surcharge	Maximum Surcharge (pounds)	Active Equivalent Fluid Pressure (pcf)	Trapezoidal Pressure Distribution	Reference
Along NE & SW Property Lines	14 - 18	Vehicle	300 (Uniform Load)	34	21H	Calculation Sheet #5
Along NW & SE Property Lines	14 - 18	Two-Story Building	2,000 (Line Load)	35	22H	Calculation Sheet #6

If rakers are incorporated in the temporary shoring system, the soldier piles should be designed for a trapezoidal distribution of the lateral earth pressures shown in the table above, where H is the shoring height.

The equivalent fluid pressure should be multiplied by the pile spacing. The piles may be included in the permanent retaining wall. Where a combination of sloped embankment and shoring is used, the pressure will be greater and must be determined for each combination.

Should groundwater be encountered in the pile excavations, it should be pumped out, or the water may be displaced by pumping concrete from the bottom with a hose. The tip of the hose shall be kept at least five feet below the concrete surface during pumping. When concrete is placed below water, the mix should be adjusted to achieve at least 1,000 pounds-per-square-inch more than the required strength.

Lateral Design

The friction value is 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. Resistance to lateral loading may be provided by passive earth pressure within the alluvium below the excavation.

Passive earth pressure may be computed as an equivalent fluid having a density of 250 pounds-per-cubic-foot. The maximum allowable earth pressure is 4,500 pounds-per-square-foot. For design of isolated piles, the allowable passive and maximum earth pressures may be increased by 100 percent. Piles spaced more than 2½-pile diameters on center may be considered isolated.

Rakers

Rakers may be used to internally brace the soldier piles. The raker bracing could be supported laterally by temporary concrete footings (deadmen) or by the permanent interior footings. For design of temporary footings or deadmen, poured with the bearing surface normal to rakers inclined at 45 degrees, a bearing value of 4,500 pounds-per-square-foot may be used, provided the shallowest point of the footing is at least one foot below the lowest adjacent grade. For design of vertical deadmen, a bearing value of 3,100 pounds-per-square-foot may be used for the bottom of the footing. The vertical wall of the footing will provide a passive earth pressure of 250 pounds-per-cubic-foot. A friction of 0.3 may be used along the base of the deadman.

Lagging

Continuous lagging is recommended between the soldier piles. The soldier piles should be designed for the full anticipated lateral pressure. However, the pressure on the lagging will be less due to arching in the soils. Lagging should be designed for the recommended earth pressure, but may be limited to a maximum value of 400 pounds-per-square-foot. The space behind lagging should be backfilled with cement slurry.

Lagging should be placed behind the front flange of the shoring steel I-beams. In some cases, the shoring is designed with the lagging behind the rear flange of the shoring steel I-beams. This is to maximize the interior area and position the walls as near the property lines as possible. During the installation of lagging behind the rear flange, the shoring is not supporting the excavation while the lagging is placed and backfilled. This can cause damage to adjacent offsite improvements, such as buildings, site walls, sidewalks, etc. If lagging is to be placed behind the rear flange of the I-beams, the lagging should be installed in slot cuts (ABC method), where lagging is installed and slurry-backfilled in the "A" slots before the "B" and "C" slots are excavated for lagging. Also, the maximum vertical height exposed should be no more than five feet.

Deflection

Some deflection of the shored embankment should be anticipated. Where shoring is planned adjacent to existing structures, it is recommended that lateral deflection not exceed one-half of an inch. For shoring not surcharged by a structure, the allowable deflection is deferred to the structural engineer. If greater deflection occurs during construction, additional bracing or anchors may be necessary to minimize deflection. If desired to reduce the deflection of the shoring, a greater active pressure could be used in the shoring design.

FLOOR SLABS

Floor slabs should be cast over firm undisturbed alluvium or approved compacted fill and reinforced with a minimum of #4 bars on 16-inch centers, each way. Slabs that will be provided with a floor covering should be protected by a polyethylene plastic vapor barrier. The barrier should be sandwiched between the layers of sand, about two inches each, to prevent punctures and aid in the concrete cure. A low-slump concrete may be used to minimize possible curling of the slab. The concrete should be allowed to cure properly before placing vinyl or other moisture-sensitive floor covering.

It should be noted that cracking of concrete slabs is common. The cracking occurs because concrete shrinks as it cures. Control joints, which are commonly used in exterior decking to control such cracking, are normally not used in interior slabs. The reinforcement recommended above is intended to reduce cracking and its proper placement is critical to the performance of the slab. The minor shrinkage cracks, which often form in interior slabs, generally do not present a problem when carpeting, linoleum, or wood floor coverings are used. The slab cracks can, however, lead to surface cracks in brittle floor coverings such as ceramic tile.

EXTERIOR CONCRETE DECKS

Decking should be cast over firm undisturbed alluvium or an approved compacted subgrade, and reinforced with a minimum of #3 bars placed 18 inches on center, each way. Decking that caps a retaining wall should be provided with a flexible joint to allow for the normal one to two percent deflection of the retaining wall. Decking that does not cap a retaining wall should not be tied to the wall. The space between the wall and the deck will require periodic caulking to prevent moisture intrusion into the retaining wall backfill. The subgrade should be moistened prior to placing concrete.

CEMENT TYPE AND CORROSION PROTECTION

A representative sample of the near-surface soil was obtained during field exploration for laboratory testing. Corrosion test results are included in Appendix I. The results indicate that concrete structures in contact with the soils onsite will have negligible exposure to water-soluble sulfates in the soil. According to Tables 19.3.1.1 and 19.3.2.1 of Section 19.3 of the ACI 318-14 Code, Type II cement may be used for concrete construction.

The results of the laboratory testing also indicate that the near-surface clayey soil onsite is considered corrosive to ferrous metals. Special mitigation measures for corrosion protection of steel and other metallic elements in contact with the soil may be required. The corrosion information presented in Appendix I of this report should be provided to the underground utility subcontractor.

DRAINAGE

Control of site drainage is important for the performance of the proposed project. Pad and roof drainage should be collected and transferred to the street or approved location in non-erosive drainage devices. Drainage should not be allowed to pond on the pad or against any foundation or retaining wall. Planters located within retaining wall backfill should be sealed to prevent moisture intrusion into the backfill. Drainage control devices require periodic cleaning, testing, and maintenance to remain effective.

Low-Impact Development (LID) Requirements

Typically, infiltration systems are utilized in areas underlain by pervious granular earth materials that have high percolation characteristics. In addition, infiltration systems are normally planned at least 10 feet from adjacent property lines or public right-of-way and 10 feet from a 1:1 plane projected from the bottom of adjacent structural foundations. The proposed building is planned to occupy the

entire site. In addition, due to the current depth of groundwater and the design depth of the foundation system, infiltration is not feasible and, therefore, is not recommended on the subject site.

As an alternative, a biofiltration system, a capture-and-reuse system, or equivalent, may be installed on the site in accordance with the City of Los Angeles Best Management Practices (City of Los Angeles, 2011). A planter box may be used to capture and treat storm-water runoff through different soil layers before discharging water to the street storm drain. The planter box should be an impermeable rigid structure that is equipped with an underdrain to prevent water infiltration to the underlying subsurface earth materials. Planter boxes may be situated aboveground and placed adjacent to buildings. Planter boxes should be designed as freestanding and for an inward equivalent fluid pressure of 43 pounds-per-cubic-foot. This fluid pressure includes possible vehicular surcharge. Byer Geotechnical, Inc., should be provided with the final plans to verify the location of the planter boxes.

Irrigation

Control of irrigation water is a necessary part of site maintenance. Soggy ground and perched water may result if irrigation water is excessively applied. Irrigation systems should be adjusted to provide the minimum water needed. Adjustments should be made for changes in climate and rainfall.

WATERPROOFING

Interior and exterior retaining walls are subject to moisture intrusion, seepage, and leakage, and should be waterproofed. Waterproofing paints, compounds, or sheeting can be effective if properly installed. Equally important is the use of a subdrain that daylights to the atmosphere. The subdrain should be covered with ¾-inch crushed gravel to help the collection of water. Landscape areas above the wall should be sealed or properly drained to prevent moisture contact with the wall or saturation of wall backfill.

PLAN REVIEW

Formal plans ready for submittal to the building department should be reviewed by Byer Geotechnical. Any change in scope of the project may require additional work.

SITE OBSERVATIONS DURING CONSTRUCTION

The building department requires that the geotechnical engineer provide site observations during grading and construction. Foundation excavations should be observed and approved by the geotechnical engineer or geologist prior to placing steel, forms, or concrete. The engineer/geologist should observe bottoms for fill, compaction of fill, temporary and soldier pile excavations, lagging installation and slurry backfill, raker footings if any, and subdrains. All fill that is placed should be approved by the geotechnical engineer and the building department prior to use for support of structural footings and floor slabs.

Please advise Byer Geotechnical, Inc., at least 24 hours prior to any required site visit. The building department stamped plans, the permits, and the geotechnical reports should be at the job site and available to our representative. The project consultant will perform the observation and post a notice at the job site with the findings. This notice should be given to the agency inspector.

FINAL REPORTS

The geotechnical engineer will prepare interim and final compaction reports upon request. The geologist will prepare reports summarizing pile excavations.

CONSTRUCTION SITE MAINTENANCE

It is the responsibility of the contractor to maintain a safe construction site. The area should be fenced and warning signs posted. All excavations must be covered and secured. Soil generated by foundation excavations should be either removed from the site or placed as compacted fill. Soil should not be spilled over any descending slope. Workers should not be allowed to enter any unshored trench excavations over five feet deep. Water shall not be allowed to saturate open footing trenches.

GENERAL CONDITIONS AND NOTICE

This report and the exploration are subject to the following conditions. Please read this section carefully; it limits our liability.

In the event of any changes in the design or location of any structure, as outlined in this report, the conclusions and recommendations contained herein may not be considered valid unless the changes are reviewed by Byer Geotechnical, Inc., and the conclusions and recommendations are modified or reaffirmed after such review.

The subsurface conditions, excavation characteristics, and geologic structure described herein have been projected from test excavations on the site and may not reflect any variations that occur between these test excavations or that may result from changes in subsurface conditions.

Fluctuations in the level of groundwater may occur due to variations in rainfall, temperature, irrigation, and other factors not evident at the time of the measurements reported herein. Fluctuations also may occur across the site. High groundwater levels can be extremely hazardous. Saturation of earth materials can cause subsidence or slippage of the site.

If conditions encountered during construction appear to differ from those disclosed herein, notify us immediately so we may consider the need for modifications. Compliance with the design concepts, specifications, and recommendations requires the review of the engineering geologist and geotechnical engineer during the course of construction.

THE EXPLORATION WAS PERFORMED ONLY ON A PORTION OF THE SITE, AND CANNOT BE CONSIDERED AS INDICATIVE OF THE PORTIONS OF THE SITE NOT EXPLORED.

This report, issued and made for the sole use and benefit of the client, is not transferable. Any liability in connection herewith shall not exceed the Phase I fee for the exploration and report or a negotiated fee per the Agreement. No warranty is expressed, implied, or intended in connection with the exploration performed or by the furnishing of this report.

THIS REPORT WAS PREPARED ON THE BASIS OF THE PRELIMINARY DEVELOPMENT PLAN FURNISHED. FINAL PLANS SHOULD BE REVIEWED BY THIS OFFICE AS ADDITIONAL GEOTECHNICAL WORK MAY BE REQUIRED.

Byer Geotechnical appreciates the opportunity to provide our service on this project. Any questions concerning the data or interpretation of this report should be directed to the undersigned.

Respectfully submitted,
BYER GEOTECHNICAL, INC.

Raffi S. Babayan
P. E. 72168

Robert I. Zweigler
G. E. 2120

RSB:RIZ:cj
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Regional Geologic Map ##1 and #2 (2 Pages)
Regional Fault Map
Seismic Hazard Zones Map
Historic-High Groundwater Map
Site Plan
Sections A and B (One Sheet)

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Software

EZ-FRISK 8.07, Fugro Consultants, Inc.

March 7, 2023
BG 23694

APPENDIX I

Laboratory Testing

March 7, 2023
BG 23694

APPENDIX I

LABORATORY TESTING

Undisturbed and bulk samples of the alluvium were obtained from the borings and transported to the laboratory for testing and analysis. The samples were obtained by driving a ring-lined, barrel sampler conforming to ASTM D 3550-01 with successive drops of the sampler. Experience has shown that sampling causes some disturbance of the sample. However, the test results remain within a reasonable range. The samples were retained in brass rings of 2.50 inches outside diameter and 1.00 inch in height. The samples were stored in close fitting, waterproof containers for transportation to the laboratory.

Moisture-Density

The dry density of the samples was determined using the procedures outlined in ASTM D 2937-10. The moisture content of the samples was determined using the procedures outlined in ASTM D 2216-10. The results are shown on the enclosed Log of Borings.

Maximum Density

The maximum dry density and optimum moisture content of the future compacted fill were determined using the procedures outlined in ASTM D 1557-12, a five-layer standard. The results are shown in the following table.

Boring	Depth (Feet)	Earth Material	USCS + Color Soil Type	Maximum Density (pcf)	Optimum Moisture %	Expansion Index
1	0 - 10	Alluvium	Sandy Silt Dark Brown	123.0	13.0	46 - Low

Expansion Test

To find the expansiveness of the soil, a swell test was performed using the procedures outlined in ASTM D 4829-11. Based upon the testing, the soil at construction grade is expected to exhibit a low expansion potential.

Shear Tests

Shear tests were performed on samples of the alluvium using the procedures outlined in ASTM D 3080-11 and a strain controlled, direct-shear machine manufactured by Soil Test, Inc. The rate of deformation was 0.025 inches-per-minute. The samples were tested in an artificially saturated condition. Following the shear test, the moisture content of the samples was determined to verify saturation. The results are plotted on the enclosed Shear Test Diagram.

APPENDIX I (Continued)

Consolidation

Consolidation tests were performed on *in situ* samples of the alluvium using the procedures outlined in ASTM D 2435-11. Results are graphed on the enclosed Consolidation Curves.

Fines Content

Sieve analysis (wash method) was performed on representative samples of the alluvium obtained from Boring 2 using the procedures outlined in ASTM D 1140-14. The tests were performed to assist in the classification of the soil and to determine the fines content (percent passing #200 sieve). The results are shown on the enclosed Log of Boring 2 and are summarized in the following table:

Results of Sieve Analysis (Wash Method) Laboratory Tests							
Boring No.	Depth (feet)	Fines Content (%)	Soil Type	Boring No.	Depth (feet)	Fines Content (%)	Soil Type
B2	15.0	68.1	Sandy Silt (ML)	B2	25.0	75.1	Silt (ML)
B2	20.0	92.5	Clay (CL)	-	-	-	-

Corrosion

A representative bulk sample of the near-surface soil was transported to Environmental Geotechnology Laboratory for chemical testing. The testing was performed in accordance with Caltrans Standards 643 (pH), 422 (Chloride Content), 417 (Sulfate Content), and 532 (Resistivity). The results of the testing are reported in the following table:

CHEMICAL TEST RESULTS TABLE

Sample	Depth (Feet)	pH	Chloride (PPM)	Sulfate (%)	Resistivity (Ohm-cm)
B2	0 - 10	7.69	180	0.022	1,400

The chloride and sulfate contents of the soil are negligible and not a factor in corrosion. The pH is near neutral and not a factor. The resistivity indicates that the soil is considered corrosive to ferrous metals.

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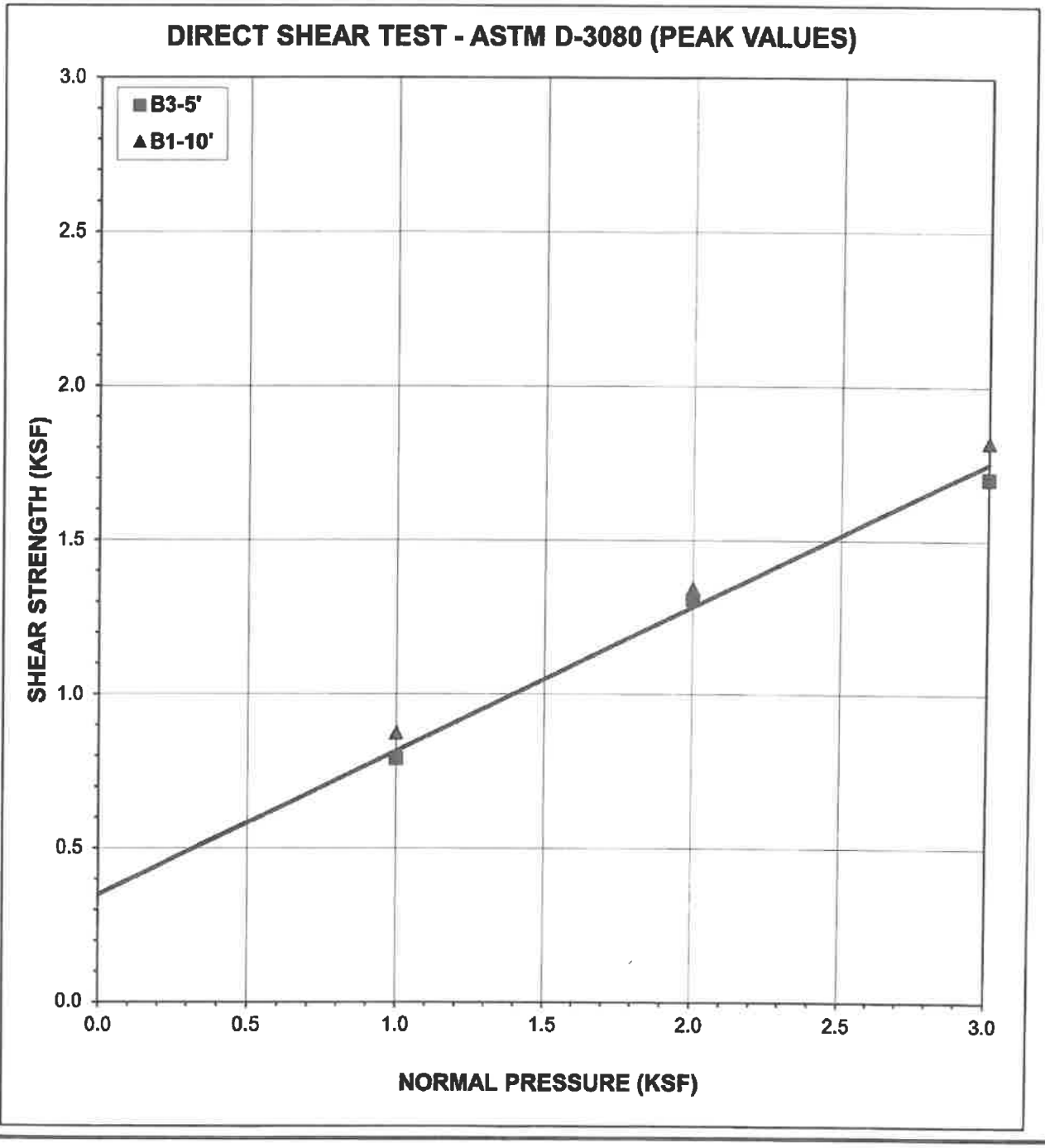
SHEAR TEST DIAGRAM #1

BG: 23694 CONSULTANT: RSB
CLIENT: 2662 and 2668 S Barrington Ave, LLC

EARTH MATERIAL: Alluvium (Saturated))

Phi Angle = 25.0 degrees
Cohesion = 350 psf

Average Moisture Content: 18.7%
Average Dry Density (pcf): 109.8
Average Saturation: 97.5%



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CONSOLIDATION CURVE #1

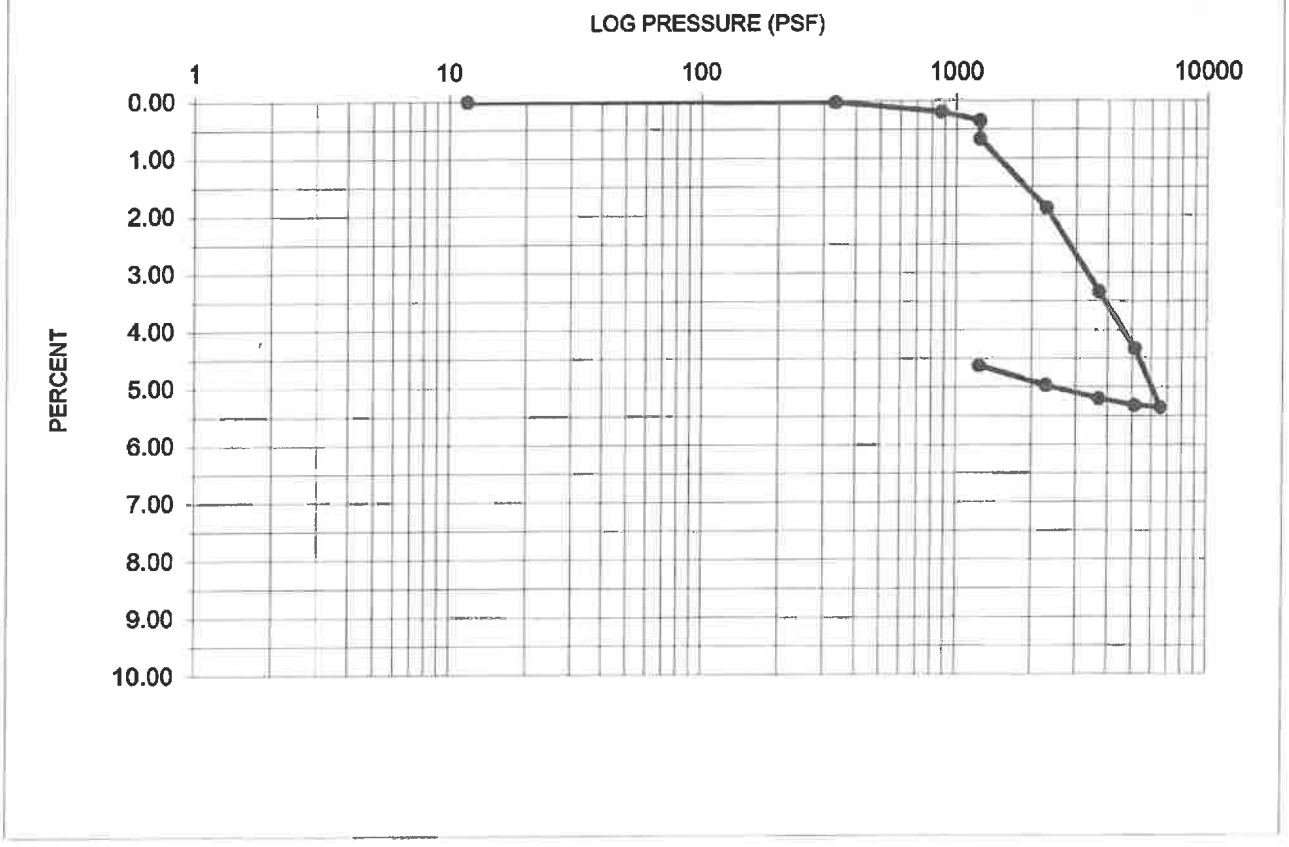
BG: **23694** ENGINEER: **RSB**

CLIENT: **2662 and 2668 S Barrington Ave, LLC**

Earth Material:	Alluvium
Sample Location:	B3-10'
Dry Weight (pcf):	108.0
Initial Moisture:	7.1%
Initial Saturation:	35.4%
Water Added at (psf)	1237

Specific Gravity:	2.65
Initial Void Ratio:	0.53
Compression Index (Cc):	0.146
Recompression Index (Cr):	0.020

CONSOLIDATION DIAGRAM (ASTM D 2435-11)



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CONSOLIDATION CURVE #2

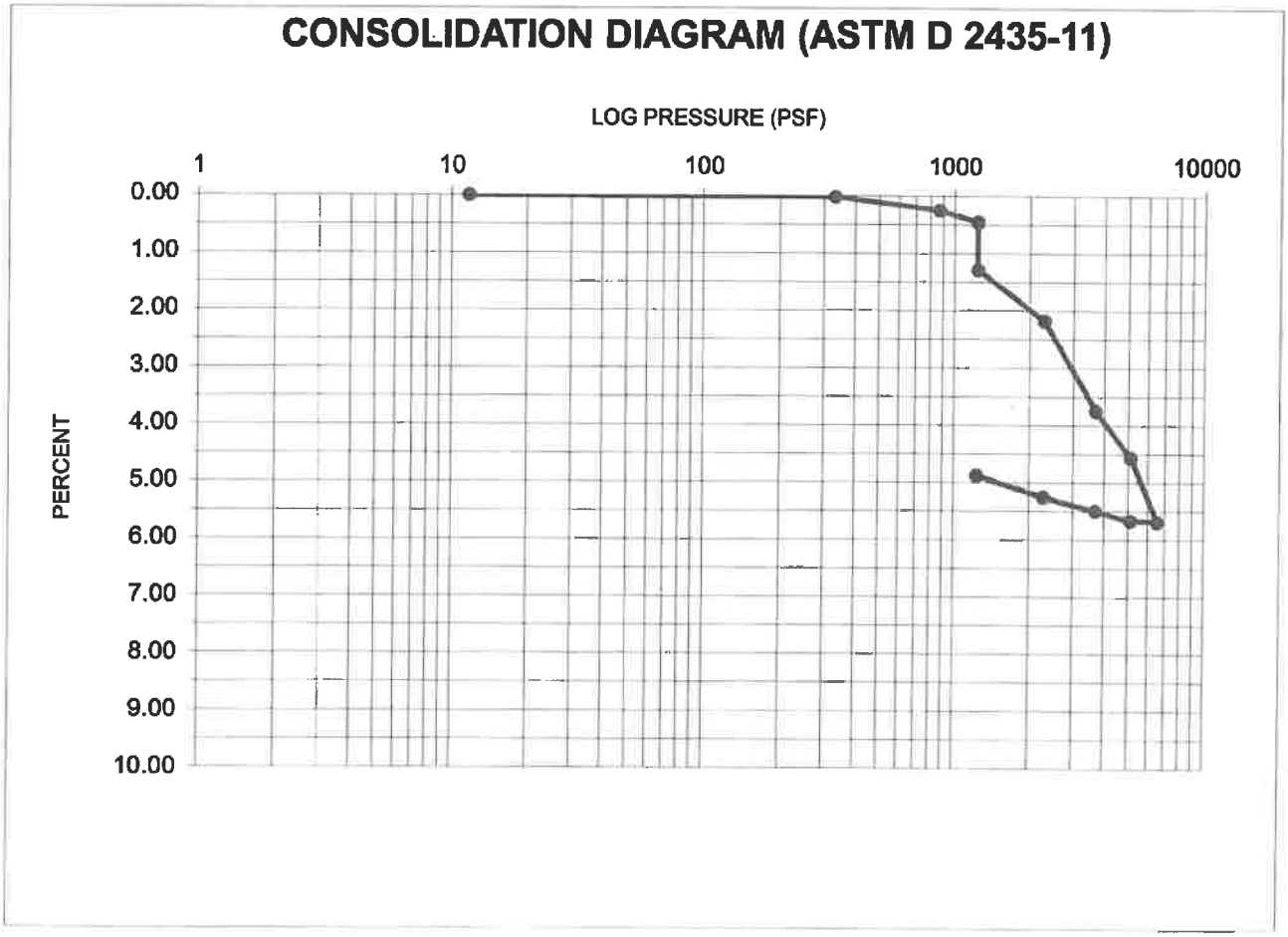
BG: **23694** ENGINEER: **RSB**

CLIENT: **2662 and 2668 S Barrington Ave, LLC**

Earth Material:	Alluvium
Sample Location:	B1-15'
Dry Weight (pcf):	108.3
Initial Moisture:	10.4%
Initial Saturation:	52.3%
Water Added at (psf)	1237

Specific Gravity:	2.65
Initial Void Ratio:	0.53
Compression Index (Cc):	0.160
Recompression Index (Cr):	0.022

CONSOLIDATION DIAGRAM (ASTM D 2435-11)



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CONSOLIDATION CURVE #3

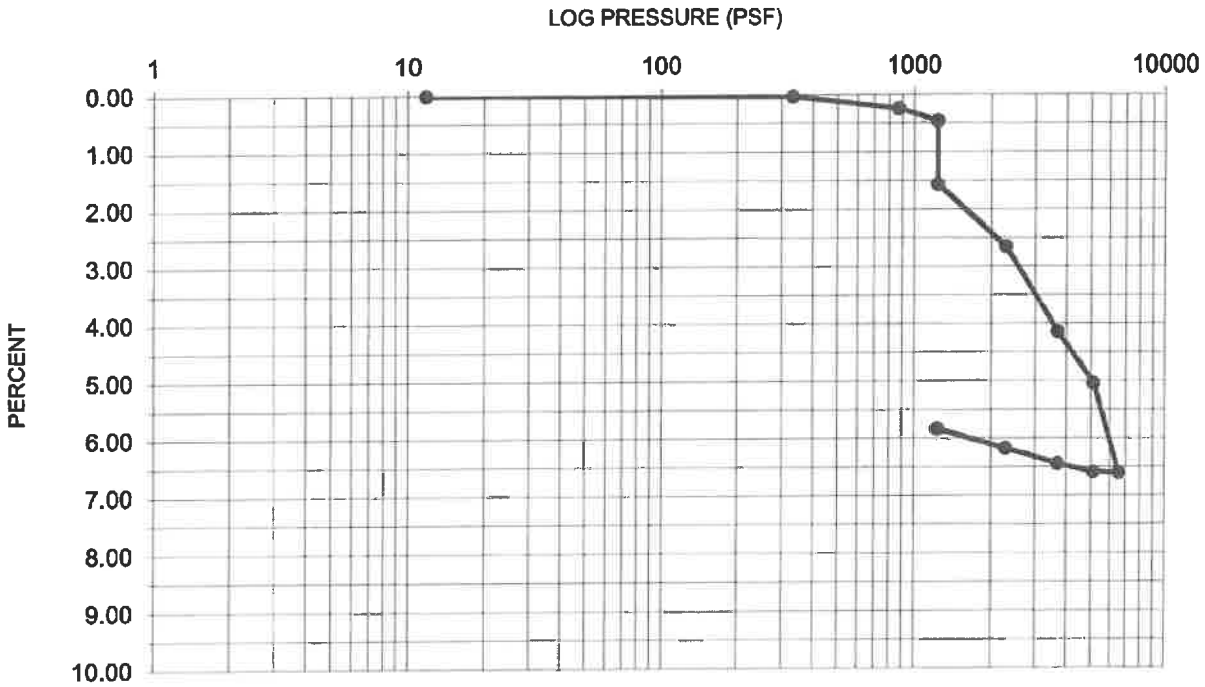
BG: **23694** ENGINEER: **RSB**

CLIENT: **2662 and 2668 S Barrington Ave, LLC**

Earth Material:	Alluvium
Sample Location:	B3-20'
Dry Weight (pcf):	99.2
Initial Moisture:	20.3%
Initial Saturation:	80.7%
Water Added at (psf)	1237

Specific Gravity:	2.65
Initial Void Ratio:	0.67
Compression Index (Cc):	0.244
Recompression Index (Cr):	0.021

CONSOLIDATION DIAGRAM (ASTM D 2435-11)



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CONSOLIDATION CURVE #4

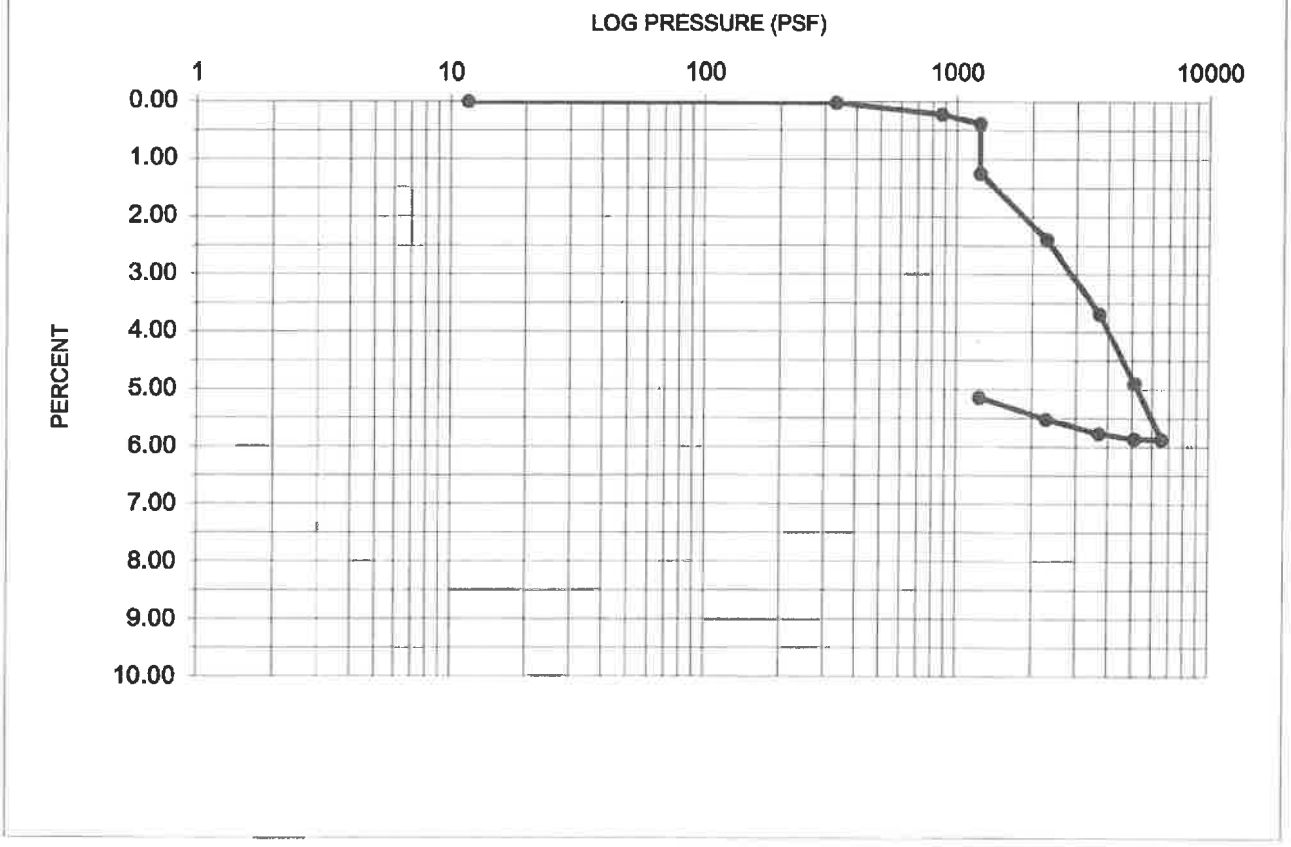
BG: **23694** ENGINEER: **RSB**

CLIENT: **2662 and 2668 S Barrington Ave, LLC**

Earth Material:	Alluvium
Sample Location:	B1-25'
Dry Weight (pcf):	105.5
Initial Moisture:	19.9%
Initial Saturation:	92.9%
Water Added at (psf)	1237

Specific Gravity:	2.65
Initial Void Ratio:	0.57
Compression Index (Cc):	0.143
Recompression Index (Cr):	0.022

CONSOLIDATION DIAGRAM (ASTM D 2435-11)



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CONSOLIDATION CURVE #5

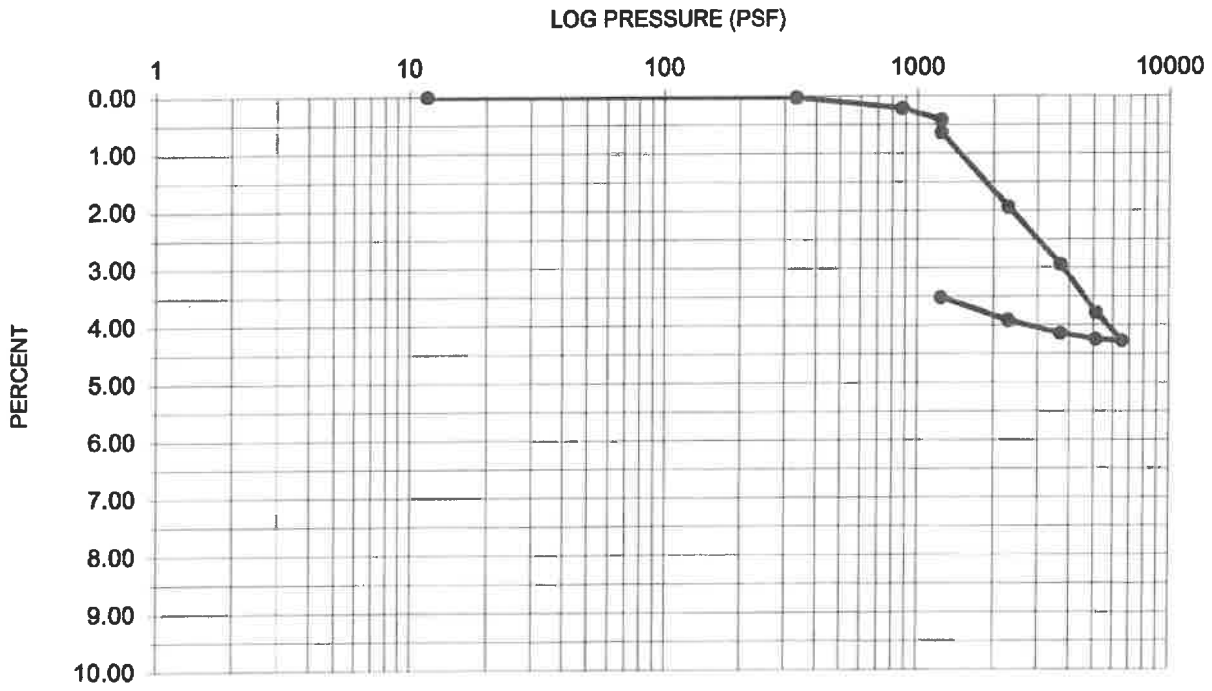
BG: **23694** ENGINEER: **RSB**

CLIENT: **2662 and 2668 S Barrington Ave, LLC**

Earth Material:	Older Alluvium
Sample Location:	B3-30'
Dry Weight (pcf):	127.9
Initial Moisture:	10.6%
Initial Saturation:	95.9%
Water Added at (psf)	1237

Specific Gravity:	2.65
Initial Void Ratio:	0.29
Compression Index (Cc):	0.078
Recompression Index (Cr):	0.020

CONSOLIDATION DIAGRAM (ASTM D 2435-11)



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1461 E. CHEVY CHASE DRIVE, #200, GLENDALE, CA 91206

tel 818.549.9959 fax 818.543.3747

CONSOLIDATION CURVE #6

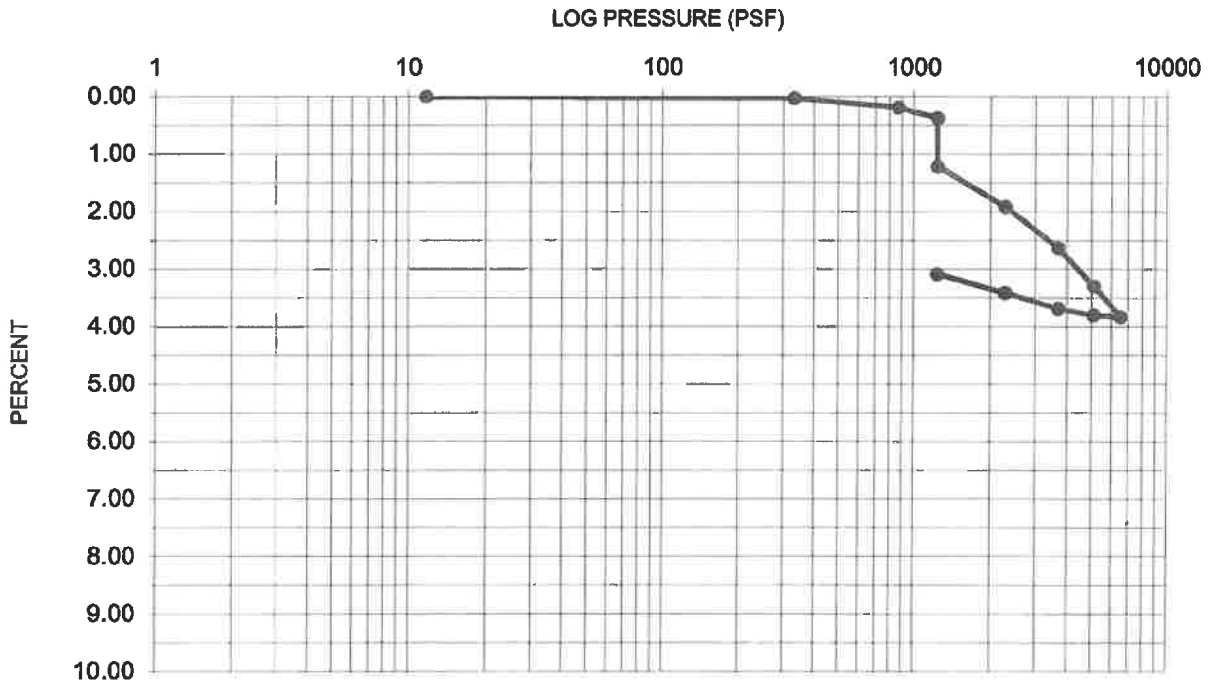
BG: **23694** ENGINEER: **RSB**

CLIENT: **2662 and 2668 S Barrington Ave, LLC**

Earth Material:	Older Alluvium
Sample Location:	B1-35'
Dry Weight (pcf):	127.3
Initial Moisture:	11.3%
Initial Saturation:	100.0%
Water Added at (psf)	1237

Specific Gravity:	2.65
Initial Void Ratio:	0.30
Compression Index (Cc):	0.065
Recompression Index (Cr):	0.017

CONSOLIDATION DIAGRAM (ASTM D 2435-11)



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LOG OF BORING B1

BG No. 23694
PAGE 1 OF 2

CLIENT 2662 and 2668 S Barrington Ave, LLC **REPORT DATE** 3/7/23 **DRILL DATE** 2/8/23
PROJECT LOCATION 2662-2668 S. Barrington Ave., Los Angeles, CA **LOGGED BY** RSB
CONTRACTOR One Way Drilling **DRILLING METHOD** Hollow-Stem Auger **HOLE SIZE** 8-inch diameter
DRIVE WEIGHT 140-Pound Automatic Hammer **HAMMER DROP** 30 Inches **ELEV. TOP OF HOLE** 132 ft

ELEVATION (ft)	DEPTH (ft)	EARTH MATERIAL DESCRIPTION	GRAPHIC SYMBOL	USCS UNIT	SAMPLE TYPE & NUMBER	BLOW COUNT (Per 18 inches)	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SATURATION (%)	TYPE OF TEST
	0	(ML) Surface: Grass (front lawn).		ML						
130		**ALLUVIUM (Qa):** 0 - 2.5': Sandy SILT, dark brown, moist, fine sand, trace medium sand.								
		(ML) 2.5': Sandy SILT, dark brown, moist, medium stiff, fine sand.		ML	R1	2 3 3	19.8	96.1	72.8	
	5				Bag1					Max, El, Corrosion Suite
		(ML) 5': SILT, dark yellowish-brown, moist, stiff, some fine sand, trace small slate fragments at tip of sample.		ML	R2	4 8 13	18.9	110.1	99.8	
125										
		(ML) 7.5': Sandy SILT, olive-brown, moist, stiff to very stiff, fine sand, some small slate fragments.		ML	R3	7 10 12	10.6	107.5	52.1	
	10									
		(ML) 10': Sandy SILT, olive-brown, moist, very stiff, fine sand, trace small slate fragments.		ML	R4	9 12 14	7.1	114.5	42.3	Direct Shear
120										
	15									
		(ML) 15': Sandy SILT, olive-brown, moist, stiff, fine sand, trace small slate fragments.		ML	R5	6 9 13	10.4	108.3	52.3	Consolidation
115										
	20									
		(CL) 20': CLAY, dark olive-brown, moist, stiff, some fine sand.		CL	R6	4 6 9	22.6	96.3	83.5	
110										
	25									

Bulk Sample Ring Sample

BORING LOG BYER BY RSB - GINT STD US BYER GDT - 3/6/23 10:36 - P:\23000 - 23999\23694 WYNN\23694 BORING LOGS GPJ

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LOG OF BORING B1

BG No. 23694
PAGE 2 OF 2

CLIENT 2662 and 2668 S Barrington Ave, LLC **REPORT DATE** 3/7/23 **DRILL DATE** 2/8/23
PROJECT LOCATION 2662-2668 S. Barrington Ave., Los Angeles, CA **LOGGED BY** RSB
CONTRACTOR One Way Drilling **DRILLING METHOD** Hollow-Stem Auger **HOLE SIZE** 8-inch diameter
DRIVE WEIGHT 140-Pound Automatic Hammer **HAMMER DROP** 30 Inches **ELEV. TOP OF HOLE** 132 ft

ELEVATION (ft)	DEPTH (ft)	EARTH MATERIAL DESCRIPTION	GRAPHIC SYMBOL	USCS UNIT	SAMPLE TYPE & NUMBER	BLOW COUNT (Per 18 Inches)	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SATURATION (%)	TYPE OF TEST
	25	(ML) 25': Sandy SILT, dark olive-brown, moist to very moist, stiff, fine sand.		ML	R7	3 6 9	19.9	105.5	92.9	Consolidation
105										
	30	(SP) OLDER ALLUVIUM (Qom): 30': Gravelly SAND with Silt, dark olive-gray, slightly moist to moist, very dense, fine to medium sand, some coarse sand, trace fine to coarse gravel to 2" subangular.		SP	R8	10 42 50/3"	10.8	128.1	98.5	
100		▼								
	35	(SW) 35': Gravelly SAND, dark gray, saturated, medium dense to dense, fine to coarse sand, fine to coarse gravel to 1" subangular to subrounded.		SW	R9	15 26 19	11.3	127.3	100	Consolidation
95										
	40	(ML) 40': SILT, dark olive-brown, very moist, very stiff, some fine sand.		ML	R10	8 11 15	25.6	98.5	100	

End at 41.5 Feet; Groundwater at 34 Feet; No Fill.

Bulk Sample Ring Sample

BYER GEOTECHNICAL, INC.

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LOG OF BORING B2

BG No. 23694

CLIENT 2662 and 2668 S Barrington Ave, LLC REPORT DATE 3/7/23 DRILL DATE 2/8/23

PROJECT LOCATION 2662-2668 S. Barrington Ave., Los Angeles, CA LOGGED BY RSB

CONTRACTOR One Way Drilling DRILLING METHOD Hollow-Stem Auger HOLE SIZE 8-inch diameter

DRIVE WEIGHT 140-Pound Automatic Hammer HAMMER DROP 30 Inches ELEV. TOP OF HOLE 132 ft

ELEVATION (ft)	DEPTH (ft)	EARTH MATERIAL DESCRIPTION	GRAPHIC SYMBOL	USCS UNIT	SAMPLE TYPE & NUMBER	BLOW COUNT (Per 18 Inches)	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SATURATION (%)	TYPE OF TEST
	0	(ML) Surface: Grass (front lawn). **ALLUVIUM (Qa):** 0 - 2.5': Sandy SILT, dark brown, moist to very moist, fine sand.		ML						
130		(ML) 2.5': Sandy SILT, dark brown, moist, medium stiff, fine sand.		ML	S1	1 2 2	20.4			
	5	(ML) 5': SILT, dark brown, moist, stiff, some fine sand.		ML	S2	3 4 5	15.1			
125										
	10	(ML) 10': Sandy SILT, olive-brown, moist, stiff, fine sand.		ML	S3	4 6 8	10.4			
120										
	15	(ML) 15': Sandy SILT, olive-brown, moist, medium stiff, fine sand, trace small slate fragments, 68.1% fines.		ML	S4	3 4 3	11.2			Sieve Wash (-#200)
115										
	20	(CL) 20': CLAY, dark olive-brown, moist to very moist, stiff, trace fine sand, 92.5% fines.		CL	S5	2 3 5	24.5			Sieve Wash (-#200)
110										
	25									

Standard Penetration Test

BYER GEOTECHNICAL, INC.

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LOG OF BORING B2

BG No. 23694
PAGE 2 OF 2

CLIENT 2662 and 2668 S Barrington Ave, LLC **REPORT DATE** 3/7/23 **DRILL DATE** 2/8/23
PROJECT LOCATION 2662-2668 S. Barrington Ave., Los Angeles, CA **LOGGED BY** RSB
CONTRACTOR One Way Drilling **DRILLING METHOD** Hollow-Stem Auger **HOLE SIZE** 8-inch diameter
DRIVE WEIGHT 140-Pound Automatic Hammer **HAMMER DROP** 30 Inches **ELEV. TOP OF HOLE** 132 ft

ELEVATION (ft)	DEPTH (ft)	EARTH MATERIAL DESCRIPTION	GRAPHIC SYMBOL	USCS UNIT	SAMPLE TYPE & NUMBER	BLOW COUNT (Per 18 Inches)	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SATURATION (%)	TYPE OF TEST
	25	(ML) 25': SILT, dark olive-brown, moist, stiff, some fine sand, 75% fines.		ML	S6	3 4 5	18.2			Sieve Wash (-#200)

End at 26.5 Feet; No Groundwater; No Fill.

Standard Penetration Test

BYER GEOTECHNICAL, INC.

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LOG OF BORING B3

BG No. 23694
PAGE 1 OF 2

CLIENT 2662 and 2668 S Barrington Ave, LLC **REPORT DATE** 3/7/23 **DRILL DATE** 2/8/23
PROJECT LOCATION 2662-2668 S. Barrington Ave., Los Angeles, CA **LOGGED BY** RSB
CONTRACTOR One Way Drilling **DRILLING METHOD** Hollow-Stem Auger **HOLE SIZE** 8-inch diameter
DRIVE WEIGHT 140-Pound Automatic Hammer **HAMMER DROP** 30 Inches **ELEV. TOP OF HOLE** 132 ft

ELEVATION (ft)	DEPTH (ft)	EARTH MATERIAL DESCRIPTION	GRAPHIC SYMBOL	USCS UNIT	SAMPLE TYPE & NUMBER	BLOW COUNT (Per 18 Inches)	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SATURATION (%)	TYPE OF TEST
	0	(ML) Surface: Grass (front yard).		ML						
130		**ALLUVIUM (Qa):** 0 - 2.5': Sandy SILT, dark brown, moist to very moist, fine sand.								
		(ML) 2.5': Sandy SILT, dark olive-brown, moist to very moist, medium stiff, fine sand.		ML	R1	2 3 4	23.8	93.7	82.5	
	5	(ML) 5': SILT, dark olive-brown, moist, stiff, some fine sand.		ML	R2	3 5 6	21.6	105.1	99.8	Direct Shear
125		(ML) 7.5': Sandy SILT, olive-brown, slightly moist to moist, stiff, fine sand.		ML	R3	4 9 13	9.5	97.1	35.8	
	10	(ML) 10': Sandy SILT, olive-brown, slightly moist to moist, stiff to very stiff, fine sand.		ML	R4	8 10 13	7.1	108.1	35.4	Consolidation
120										
	15	(ML) 15': Sandy SILT, olive-brown, moist, stiff, fine sand.		ML	R5	4 6 9	11.7	98.1	45.3	
115										
	20	(CL) 20': CLAY, dark olive-brown, moist, stiff, some fine sand.		CL	R6	5 6 10	20.3	99.3	80.7	Consolidation
110										
	25									

Ring Sample

BYER GEOTECHNICAL, INC.

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LOG OF BORING B3

BG No. 23694

CLIENT 2662 and 2668 S Barrington Ave, LLC REPORT DATE 3/7/23 DRILL DATE 2/8/23

PROJECT LOCATION 2662-2668 S. Barrington Ave., Los Angeles, CA LOGGED BY RSB

CONTRACTOR One Way Drilling DRILLING METHOD Hollow-Stem Auger HOLE SIZE 8-inch diameter

DRIVE WEIGHT 140-Pound Automatic Hammer HAMMER DROP 30 Inches ELEV. TOP OF HOLE 132 ft

ELEVATION (ft)	DEPTH (ft)	EARTH MATERIAL DESCRIPTION	GRAPHIC SYMBOL	USCS UNIT	SAMPLE TYPE & NUMBER	BLOW COUNT (Per 18 Inches)	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SATURATION (%)	TYPE OF TEST
	25	(ML) 25': SILT, dark olive-brown, moist, stiff to very stiff, some fine sand.		ML	R7	8 10 12	16.7	114.6	100	
105										
	30	(SP) OLDER ALLUVIUM (Qom): 30': Silty Gravelly SAND, dark olive-brown to dark gray, slightly moist to moist, very dense, fine to medium sand, some coarse sand, trace fine to coarse gravel to 1" subangular.		SP	R8	10 26 50/5"	10.6	127.9	95.9	Consolidation
100										
	35	(SW) 35': Gravelly SAND, dark gray, saturated, very dense, fine to coarse sand, fine to coarse gravel to 1" subangular to subrounded.		SW	R9	14 22 50	24.1	96.1	88.7	
95										
	40	(ML) 40': SILT, dark olive-brown, very moist, very stiff, some fine sand.		ML	R10	11 13 18	26.3	97.4	100	

End at 41.5 Feet; Groundwater at 33 Feet; No Fill.

Ring Sample

March 7, 2023
BG 23694

APPENDIX II

Calculations and Figures

SEISMIC SOURCES
EZ-FRISK V8.07

DETERMINISTIC CALCULATION
OF PEAK GROUND ACCELERATION BASED ON DIGITIZED FAULT DATA

BG: 23694 ANALYSIS DATE: 3/3/2023
CLIENT: 2662 and 2668 S Barrington Ave, LLC ENGINEER: RSB
PROJECT DESCRIPTION: Proposed 5-Story Building over 1 Subterranean Parking Level

SITE COORDINATES: LATITUDE: 34.0264
LONGITUDE: -118.4412

SEARCH RADIUS: 100 km

ATTENUATION RELATIONS: Abrahamson-et al (2014) NGA West 2 USGS 2014
Boore-et al (2014) NGA West 2 USGS 2014
Campbell-Bozorgnia (2014) NGA West 2 USGS 2014
Chiou-Youngs (2014) NGA West 2 USGS 2014

SEISMIC SOURCE SUMMARY
DETERMINISTIC SITE PARAMETERS

FAULT NAME	APPROXIMATE DISTANCE		MAXIMUM EATHQUAKE MAGNITUDE	PEAK GROUND ACCELERATION
	(km)	(mi)	(Mw)	(g)
Santa Monica	1.6	1.0	7.4	0.843
Newport-Inglewood	5.1	3.2	7.5	0.703
Hollywood	7.2	4.5	6.7	0.561
Malibu Coast	7.7	4.8	7.0	0.583
Puente Hills (LA)	10.0	6.2	7.0	0.540
Anacapa-Dume	10.3	6.4	7.2	0.546
Palos Verdes	12.3	7.6	7.3	0.492
Palos Verdes Connected	12.3	7.6	7.7	0.540
Puente Hills	14.6	9.1	7.1	0.483
Elysian Park (Upper)	16.7	10.4	6.7	0.373
Raymond	22.7	14.1	6.8	0.291
Verdugo	22.8	14.2	6.9	0.301
Northridge	25.8	16.0	6.9	0.361
Puente Hills (Santa Fe Springs)	27.6	17.1	6.7	0.279
Sierra Madre (San Fernando)	29.5	18.3	6.7	0.223
Sierra Madre Connected	29.5	18.3	7.3	0.295
Sierra Madre	29.8	18.5	7.2	0.281

FAULT NAME	APPROXIMATE DISTANCE		MAXIMUM EATHQUAKE MAGNITUDE	PEAK GROUND ACCELERATION
	(km)	(mi)	(Mw)	(g)
Santa Susana, alt 1	31.9	19.8	6.9	0.232
San Gabriel	35.6	22.1	7.3	0.252
Elsinore	36.4	22.6	7.9	0.319
Simi-Santa Rosa	38.8	24.1	6.9	0.196
Puente Hills (Coyote Hills)	39.6	24.6	6.9	0.205
Holser, alt 1	40.1	24.9	6.8	0.192
Oak Ridge Connected	43.3	26.9	7.4	0.244
Clamshell-Sawpit	43.6	27.1	6.7	0.157
Oak Ridge (Onshore)	46.2	28.7	7.2	0.213
San Jose	51.3	31.9	6.7	0.134
San Cayetano	54.3	33.7	7.2	0.173
Chino	58.0	36.0	6.8	0.121
San Joaquin Hills	59.7	37.1	7.1	0.154
Southern San Andreas	65.6	40.8	8.2	0.257
Cucamonga	65.6	40.8	6.7	0.103
Santa Ynez (East)	71.8	44.6	7.2	0.130
Santa Ynez Connected	72.1	44.8	7.4	0.147
Imp Extensional Gridded, Char, Normal	59.0	36.7	7.0	0.128
Imp Extensional Gridded, Char, Strike Slip	59.0	36.7	7.0	0.153
Imp Extensional Gridded, GR, Normal	59.0	36.7	7.0	0.129
Imp Extensional Gridded, GR, Strike Slip	59.0	36.7	7.0	0.153
Ventura-Pitas Point	73.4	45.6	7.0	0.116
Pitas Point Connected	73.4	45.6	7.3	0.142
Oak Ridge (Offshore)	74.4	46.2	7.0	0.111
Santa Cruz Island	75.6	47.0	7.2	0.123
Channel Islands Thrust	75.9	47.2	7.3	0.150
Mission Ridge-Arroyo Parida-Santa Ana	80.7	50.1	6.9	0.094
San Jacinto	85.9	53.4	7.9	0.170
Red Mountain	86.6	53.8	7.4	0.125
Cleghorn	95.3	59.2	6.8	0.070
Coronado Bank	96.2	59.8	7.4	0.108
North Channel	96.2	59.8	6.8	0.071
Pitas Point (Lower)-Montalvo	96.8	60.2	7.3	0.103
Garlock	97.5	60.6	7.7	0.134
Pleito	98.6	61.3	7.1	0.086

52 Faults found within a 100 km Search Radius.
Closest Fault to the Site: Santa Monica Distance = 1.57 km (0.98mi)
Largest Peak Ground Acceleration: 0.843 g
The San Andreas Fault is Located Aproximately 65.6 km (40.8 mi) from the Site.

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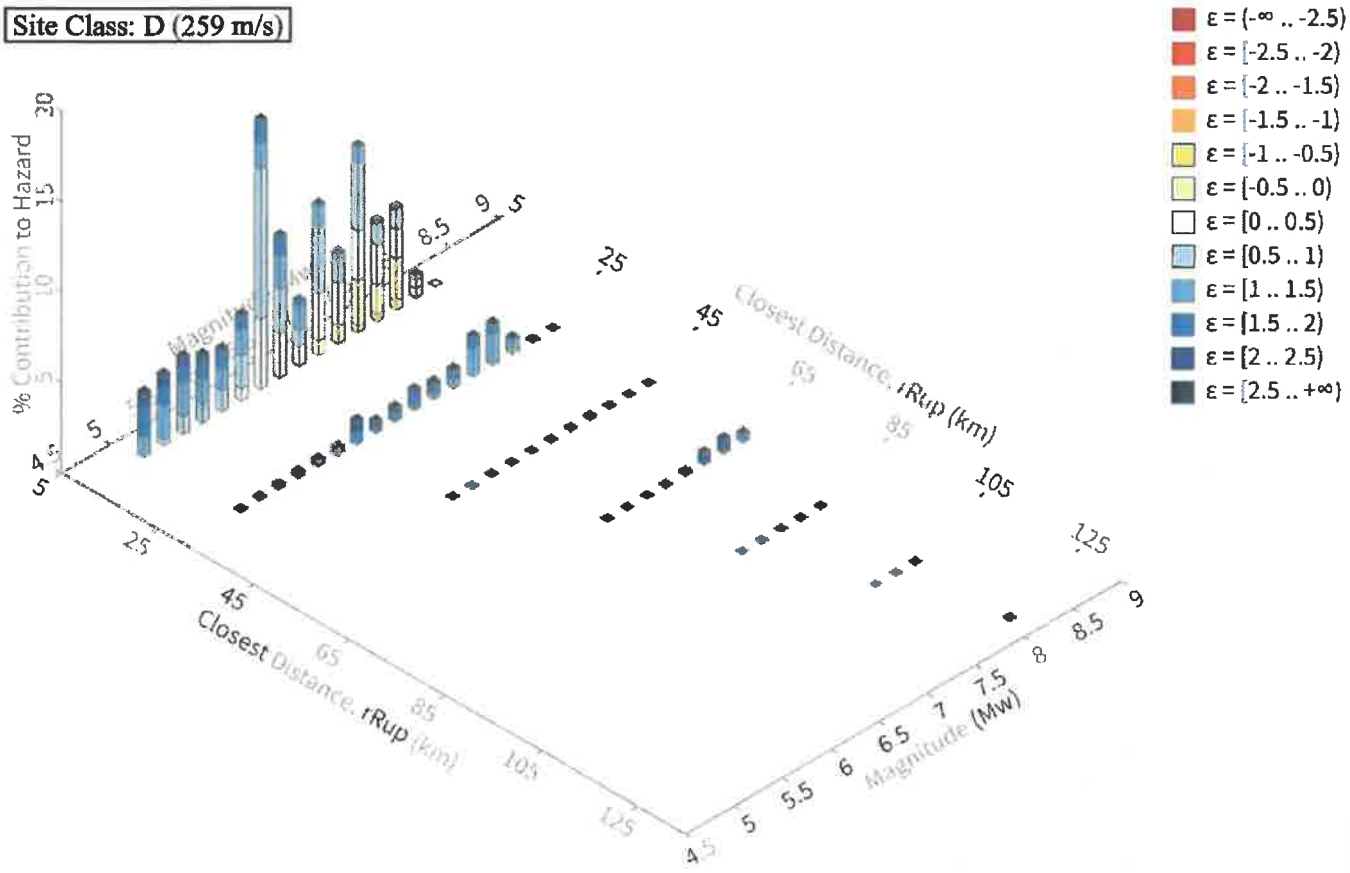
SEISMIC HAZARD DEAGGREGATION CHART
(Probability of Exceedance: 10% in 50 years)

BG: 23694 CLIENT: S2662 AND 2668 S BARRINGTON AVE, LLC

ENGINEER: RSB

REFERENCE: USGS, 2023, Earthquake Hazards Program - Unified Hazard Tool, Seismic Hazard Deaggregation, Conterminous U.S. 2014 (update) (v4.2.0) Edition, https://earthquake.usgs.gov/hazards/interactive/.

Site Class: D (259 m/s)



Summary statistics for, Deaggregation: Total

Deaggregation targets	Recovered targets	Totals
Return period: 475 yrs	**Return period:** 507.33201 yrs	**Binned:** 100 %
Exceedance rate: 0.0021052632 yr^{-1}	**Exceedance rate:** 0.0019710958 yr^{-1}	**Residual:** 0 %
PGA ground motion: 0.50710942 g		**Trace:** 0.13 %

Mode (largest m-r bin)	Mode (largest m-r-ε_0 bin)	Discretization
m: 6.34	**m:** 6.36	**r:** min = 0.0, max = 1000.0, Δ = 20.0 km
r: 6.91 km	**r:** 5.81 km	**m:** min = 4.4, max = 9.4, Δ = 0.2
ε_0: 0.77 σ	**ε_0:** 0.72 σ	**ε:** min = -3.0, max = 3.0, Δ = 0.5 σ
Contribution: 14.8 %	**Contribution:** 8.24 %	

SEISMIC HAZARD DEAGGREGATION CHART
(Probability of Exceedance: 10% in 50 years)

BG: 23694

Deaggregation Contributors

Source Set ↳ Source	Type	r	m	ε_0	lon	lat	az	%
UC33brAvg_FM32	System							34.19
Newport-Inglewood alt 2 [8]		5.34	6.62	0.52	118.390°W	34.043°N	68.43	5.69
Hollywood [2]		6.86	6.97	0.48	118.422°W	34.084°N	15.09	5.26
Santa Monica alt 2 [2]		2.75	7.10	0.05	118.460°W	34.043°N	316.51	4.60
Palos Verdes [15]		12.38	6.96	1.09	118.551°W	33.963°N	235.25	3.69
Compton [3]		10.71	7.38	-0.06	118.533°W	33.925°N	216.94	2.52
Malibu Coast alt 2 [0]		7.91	7.39	0.24	118.525°W	34.033°N	275.45	1.34
San Vicente [1]		7.27	6.76	0.57	118.402°W	34.075°N	33.73	1.34
UC33brAvg_FM31	System							33.49
Newport-Inglewood alt 1 [8]		5.38	6.57	0.56	118.389°W	34.044°N	68.23	7.38
Santa Monica alt 1 [0]		3.27	7.14	0.06	118.453°W	34.049°N	337.23	5.92
Palos Verdes [15]		12.38	6.95	1.06	118.551°W	33.963°N	235.25	3.87
Compton [3]		10.71	7.38	-0.05	118.533°W	33.925°N	216.94	3.72
Santa Susana East (connector) [1]		25.53	7.25	1.50	118.419°W	34.292°N	3.90	1.17
UC33brAvg_FM31 (opt)	Grid							16.54
PointSourceFinite: -118.441, 34.067		6.72	5.67	0.95	118.441°W	34.067°N	0.00	2.32
PointSourceFinite: -118.441, 34.067		6.72	5.67	0.95	118.441°W	34.067°N	0.00	2.32
PointSourceFinite: -118.441, 34.085		7.93	5.74	1.10	118.441°W	34.085°N	0.00	1.82
PointSourceFinite: -118.441, 34.085		7.93	5.74	1.10	118.441°W	34.085°N	0.00	1.82
PointSourceFinite: -118.441, 34.112		9.96	5.83	1.32	118.441°W	34.112°N	0.00	1.56
PointSourceFinite: -118.441, 34.112		9.96	5.83	1.32	118.441°W	34.112°N	0.00	1.56
UC33brAvg_FM32 (opt)	Grid							15.78
PointSourceFinite: -118.441, 34.067		6.71	5.68	0.94	118.441°W	34.067°N	0.00	2.07
PointSourceFinite: -118.441, 34.067		6.71	5.68	0.94	118.441°W	34.067°N	0.00	2.07
PointSourceFinite: -118.441, 34.112		10.03	5.81	1.34	118.441°W	34.112°N	0.00	1.62
PointSourceFinite: -118.441, 34.112		10.03	5.81	1.34	118.441°W	34.112°N	0.00	1.62
PointSourceFinite: -118.441, 34.085		7.90	5.76	1.09	118.441°W	34.085°N	0.00	1.56
PointSourceFinite: -118.441, 34.085		7.90	5.76	1.09	118.441°W	34.085°N	0.00	1.56

BYER
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INC.

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RETAINING WALL CALCULATION

BG 23694 CLIENT: 2662 and 2668 S Barrington Ave, LLC
CONSULTANT: RSB
SHEET: #1a
Cantilevered Retaining Wall

CALCULATE THE DESIGN PRESSURE FOR PROPOSED CANTILEVERED RETAINING WALL. USE THE GENERAL TRIAL WEDGE METHOD*. APPLY THE SAFETY FACTOR TO THE COHESION AND PHI ANGLE. THE RETAINED HEIGHT, BACKSLOPE GEOMETRY, AND SURCHARGE CONDITIONS, ARE LISTED BELOW. ASSUME THE BACKFILL IS SATURATED WITH NO EXCESS HYDROSTATIC PRESSURE.

* FIND THE WEDGE, CHARACTERIZED BY A SINGLE STRAIGHT SLIP PLANE AND A VERTICAL TENSION CRACK, THAT MAXIMIZES THE UNBALANCED PRESSURE. MAKE NO ASSUMPTION ABOUT TENSION CRACK DEPTH. ALLOW ANY BACKSLOPE GEOMETRY AND SURCHARGE CONDITION. VARY X- AND Y-COORDINATES OF BOTTOM OF TENSION CRACK. USE PRIMARY GRID AND SECONDARY SEARCH WINDOW TO FOCUS SEARCH. USE METHODOLOGY DESCRIBED IN NAVFAC DESIGN MANUAL 7.02, 1986, PP. 59-70, AND US ARMY TECHNICAL REPORT ITL-92-11 (1992), P. 78 AND APPENDIX A

CALCULATION INPUT

Earth Material	Alluvium
Shear Diagram	#1
Cohesion, Coh	350.0 psf
Phi Angle, φ	25.0 degrees
Density, γ	125.0 pcf
Anisotropic Strength Function	NO
Restraining Device	RETAINING WALL
Type	CANTILEVERED
Retained Height, H	15 feet
Wall Friction Angle, δ	0 degrees
External Surcharge	NO
General Backslope Condition*	level
Loading	STATIC
Calculation Safety Factor, FS	1.5

* Critical wedge 'sees' only portion of regional backslope

CALCULATION OUTPUT

Trial Wedges Analyzed, Initial Search Grid	1502 trials
Trial Wedges Analyzed, Secondary Search Window	441 trials
Critical Failure Angle, α	53.6 degrees
Area of Critical Wedge	73.3 square feet
Length of Critical Failure Plane, L	12.3 feet
Depth of Critical Tension Crack	5.1 feet
Horizontal Upslope Distance to Critical Tension Crack	7.3 feet
Effective Backslope on Critical Wedge, β_{eff}	0.0 degrees
Factored Phi Angle on Slip Plane, φ'	17.3 degrees
Factored Cohesion on Critical Slip Plane, C'	233.3 psf
Weight of Critical Wedge, W	9,163 pounds
External Surcharge on Critical Wedge, V	0 pounds
Static Gravitational Driving Force, W'	9,163 pounds
Mobilized Cohesive Force, C'L	2,869 pounds
Mobilized Frictional Force, R	8,509 pounds
Calculated Unbalanced Force, P	3,341 pounds
Calculated Horizontal Unbalanced Force, P_h	3,341 pounds
Calculated Equivalent Fluid Pressure	29.7 pcf

RECOMMENDED DESIGN PARAMETERS

Design Equivalent Fluid Pressure, EFP	43.0 pcf
Design Horizontal Force	4,838 pounds

BACKSLOPE GEOMETRY AND SURCHARGE CONDITIONS*

(dist., elev)	(X, Y)	H (ft)	β (deg)	surcharge
(0,0)	(0,0)	15		
(0,15)	(0,15)			
(3,15)	(3,15)			
(13,15)	(13,15)			
(14,15)	(14,15)			
(15,15)	(15,15)			
(30,15)	(30,15)			

* X is the upslope distance from the wall; Y is the vertical distance above the base of the wall; H is wall height; β is backslope. H, β, and surcharge apply to section between two coordinates. Only first 20 coordinates are shown.

CONCLUSIONS

THE CALCULATION INDICATES THAT THE PROPOSED CANTILEVERED RETAINING WALL, WITH A RETAINED HEIGHT OF UP TO 15 FEET, MAY BE DESIGNED FOR AN EQUIVALENT FLUID PRESSURE (EFP) OF 43 POUNDS PER CUBIC FOOT.

BYER
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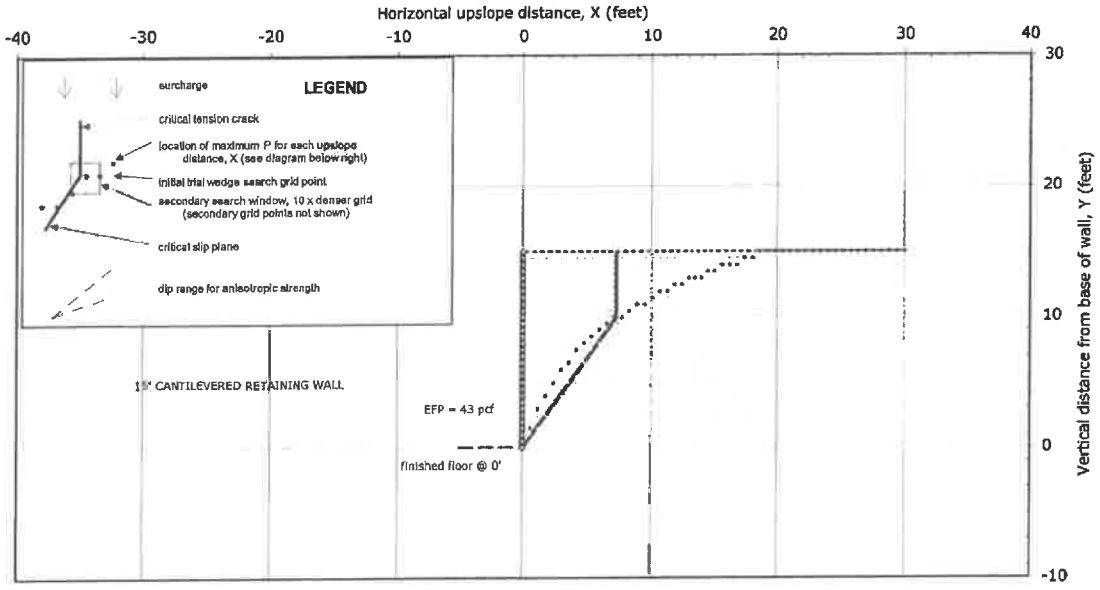
1461 East Chevy Chase Drive, Suite 200, Glendale, CA 91206
tel 818.549.9959 fax 818.543.3747

RETAINING WALL CALCULATION

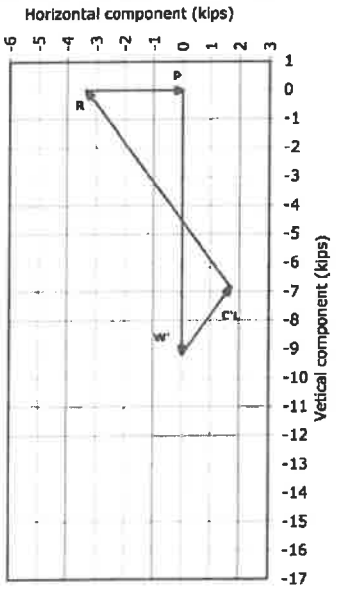
BG: 23694 CLIENT: 2662 and 2668 S Barrington Ave, LLC
CONSULTANT: RSB
SHEET: #1b
Cantilevered Retaining Wall

Cross Section and Critical Active Wedge



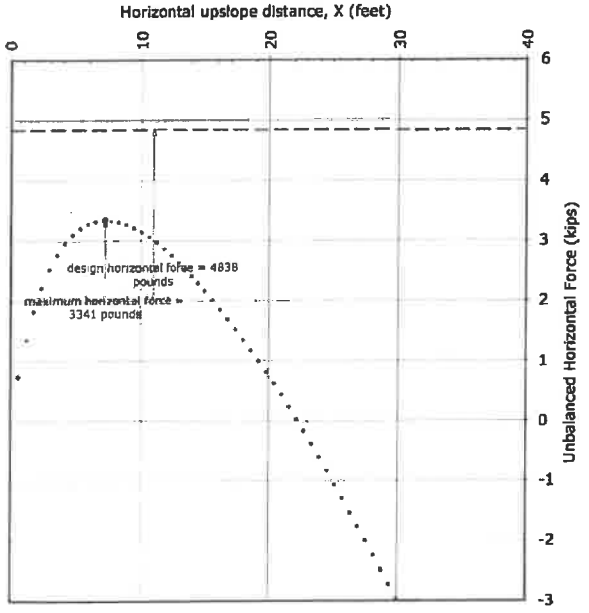
The cross section shows the surface geometry; surcharges; the range of dip for any defined anisotropic strength function; the critical trial wedge; the initial search grid; and the secondary search window. Each grid point defines the upslope coordinate of the slip plane and bottom coordinate of tension crack for a trial wedge. For each for upslope distance, X, the grid point for which the horizontal unbalanced pressure, Ph, is maximum is shown in black. The critical wedge has the maximum horizontal unbalanced pressure of all trial wedges.

Critical Wedge, Force Polygon



The polygon shows the static (gravitational) driving force, W'; the mobilized cohesive force, C'L; the mobilized frictional force, R; and the unbalanced pressure, P, for the critical wedge.

Trial Wedge, Unbalanced Horizontal Force, Ph (kips)



The maximum calculated horizontal unbalanced pressure, Ph, is plotted for each upslope distance, X. The location of the maximum Ph for each X is indicated in the cross section, above. All points from initial search grid and maximum from secondary search window are plotted.

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RETAINING WALL CALCULATION

BG **23694** CLIENT: **2662 and 2668 S Barrington Ave, LLC**
CONSULTANT: **RSB**
SHEET: **#1Sa**
Cantilevered Retaining Wall

CALCULATE THE DESIGN PRESSURE FOR PROPOSED CANTILEVERED RETAINING WALL. USE THE GENERAL TRIAL WEDGE METHOD*. APPLY THE SAFETY FACTOR TO THE COHESION AND PHI ANGLE. THE RETAINED HEIGHT, BACKSLOPE GEOMETRY, AND SURCHARGE CONDITIONS, ARE LISTED BELOW. ASSUME THE BACKFILL IS SATURATED WITH NO EXCESS HYDROSTATIC PRESSURE. USE THE PSEUDO-STATIC (MONONOBE-OKABE) METHOD FOR SEISMIC LOADING.

* FIND THE WEDGE, CHARACTERIZED BY A SINGLE STRAIGHT SLIP PLANE AND A VERTICAL TENSION CRACK, THAT MAXIMIZES THE UNBALANCED PRESSURE MAKE NO ASSUMPTION ABOUT TENSION CRACK DEPTH ALLOW ANY BACKSLOPE GEOMETRY AND SURCHARGE CONDITION VARY X- AND Y-COORDINATES OF BOTTOM OF TENSION CRACK USE PRIMARY GRID AND SECONDARY SEARCH WINDOW TO FOCUS SEARCH USE METHODOLOGY DESCRIBED IN NAVFAC DESIGN MANUAL 7.02, 1986, PP 59-70, AND US ARMY TECHNICAL REPORT ITL-92-11 (1992), P 78 AND APPENDIX A.

CALCULATION INPUT

Earth Material	Alluvium
Shear Diagram	#1
Cohesion, Coh	350.0 psf
Phi Angle, φ	25.0 degrees
Density, γ	125.0 pcf
Anisotropic Strength Function	NO
Restraining Device	RETAINING WALL
Type	CANTILEVERED
Retained Height, H	15 feet
Wall Friction Angle, δ	0 degrees
External Surcharge	NO
General Backslope Condition*	level
Loading	SEISMIC
PGA_M	0.92 g
Pseudostatic Coefficients:	
horizontal , K_h***	0.31 g
vertical, K_v****	0.00 g
Calculation Safety Factor, FS	1

* Critical wedge 'sees' only portion of regional backslope

*** Calculated using methodology of Abrahamson and Silva (1986)
**** Kv > 0 indicates downward acceleration and upward inertial force

BACKSLOPE GEOMETRY AND SURCHARGE CONDITIONS*

(dist , elev)	(X , Y)	H (ft)	β (deg)	surcharge
(0,0)	(0,0)	15		
(0,15)	(0,15)			
(3,15)	(3,15)			
(13,15)	(13,15)			
(14,15)	(14,15)			
(15,15)	(15,15)			
(30,15)	(30,15)			

* X is the upslope distance from the wall; Y is the vertical distance above the base of the wall; H is wall height; β is backslope. H, β, and surcharge apply to section between two coordinates. Only first 20 coordinates are shown.

CALCULATION OUTPUT

Trial Wedges Analyzed, Initial Search Grid	1502 trials
Trial Wedges Analyzed, Secondary Search Window	441 trials
Critical Failure Angle, α	51.0 degrees
Area of Critical Wedge	79.0 square feet
Length of Critical Failure Plane, L	12.2 feet
Depth of Critical Tension Crack	5.5 feet
Horizontal Upslope Distance to Critical Tension Crack	7.7 feet
Effective Backslope on Critical Wedge, β_{eff}	0.0 degrees
Factored Phi Angle on Slip Plane, φ'	25.0 degrees
Factored Cohesion on Critical Slip Plane, C'	350.0 psf
Weight of Critical Wedge, W	9,873 pounds
External Surcharge on Critical Wedge, V	0 pounds
Pseudo-Static (Gravitational + Dynamic) Driving Force, Wd	10,327 pounds
Mobilized Cohesive Force, C'L	4,281 pounds
Mobilized Frictional Force, R	7,283 pounds
Calculated Unbalanced Force, P	3,518 pounds
Calculated Horizontal Unbalanced Force, P_h	3,518 pounds

RECOMMENDED DESIGN PARAMETERS

Calculated Pseudo-Static Horizontal Force	3,518 pounds
Recommended Static Horizontal Force from sheet 1a	4,838 pounds

CONCLUSIONS

THE CALCULATED STATIC FORCE EXCEEDS THE CALCULATED PSEUDO-STATIC FORCE. THEREFORE, THE RECOMMENDED DESIGN PARAMETERS ON SHEET 1A ARE SUFFICIENT.

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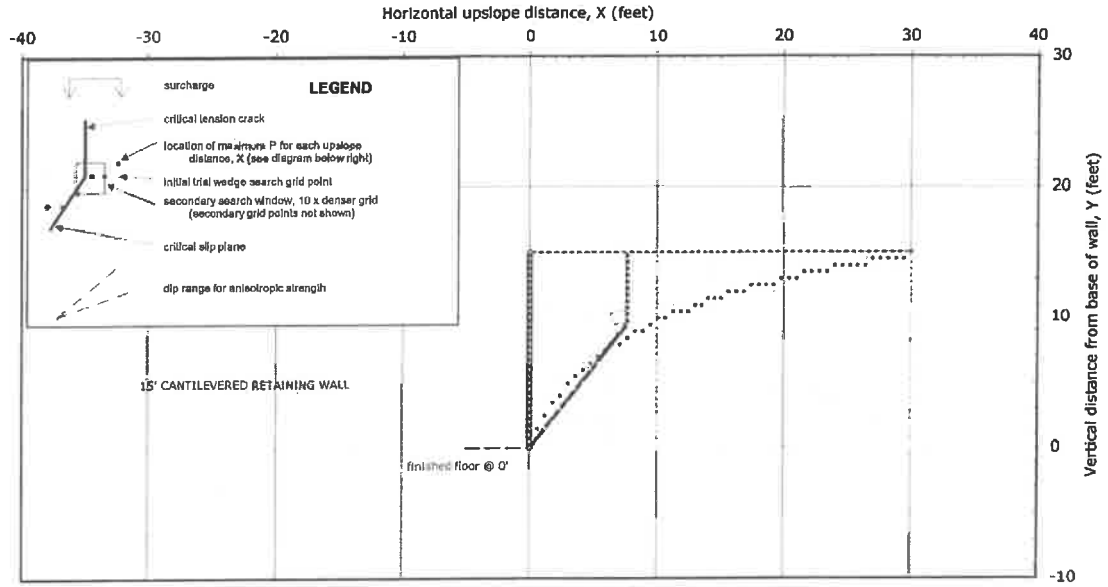
RETAINING WALL CALCULATION

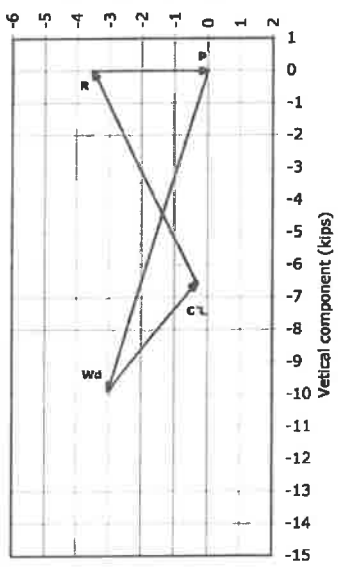
BG: 23694 CLIENT: 2662 and 2668 S Barrington Ave, LLC
CONSULTANT: RSB
SHEET: #1Sb
Cantilevered Retaining Wall

Cross Section and Critical Active Wedge



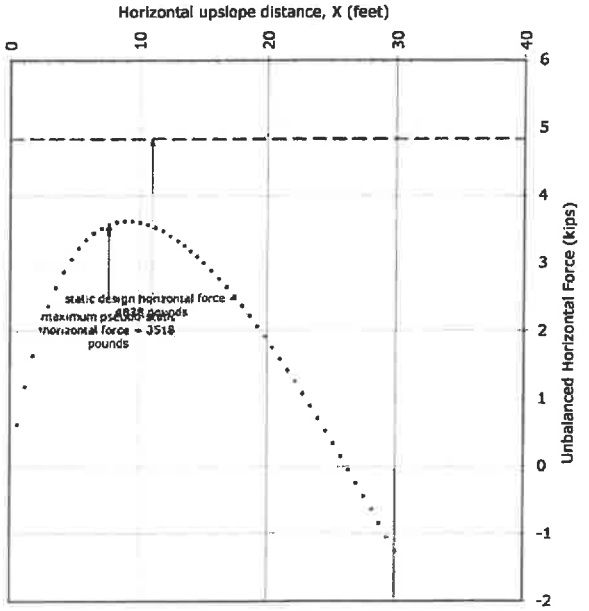
The cross section shows the surface geometry; surcharges; the range of dip for any defined anisotropic strength function; the critical trial wedge; the initial search grid; and the secondary search window. Each grid point defines the upslope coordinate of the slip plane and bottom coordinate of tension crack for a trial wedge. For each for upslope distance, X, the grid point for which the horizontal unbalanced pressure, Ph, is maximum is shown in black. The critical wedge has the maximum horizontal unbalanced pressure of all trial wedges.

Critical Wedge, Force Polygon



The polygon shows the pseudo-static (gravitational and dynamic) driving force, Wd; the mobilized cohesive force, C'L; the mobilized frictional force, R; and the unbalanced pressure, P, for the critical wedge.

Trial Wedge, Unbalanced Horizontal Force, Ph (kips)



The maximum calculated horizontal unbalanced pressure, Ph, is plotted for each upslope distance, X. The location of the maximum Ph for each X is indicated in the cross section, above. All points from initial search grid and maximum from secondary search window are plotted.

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RETAINING WALL CALCULATION

BG 23694 CLIENT: 2662 and 2668 S Barrington Ave, LLC
CONSULTANT: RSB
SHEET: #2a
Restrained Retaining Wall

CALCULATE THE DESIGN PRESSURE FOR PROPOSED RESTRAINED RETAINING WALL. USE THE GENERAL TRIAL WEDGE METHOD*. APPLY THE SAFETY FACTOR TO THE COHESION AND PHI ANGLE. THE RETAINED HEIGHT, BACKSLOPE GEOMETRY, AND SURCHARGE CONDITIONS, ARE LISTED BELOW. ASSUME THE BACKFILL IS SATURATED WITH NO EXCESS HYDROSTATIC PRESSURE.

* FIND THE WEDGE, CHARACTERIZED BY A SINGLE STRAIGHT SLIP PLANE AND A VERTICAL TENSION CRACK, THAT MAXIMIZES THE UNBALANCED PRESSURE. MAKE NO ASSUMPTION ABOUT TENSION CRACK DEPTH. ALLOW ANY BACKSLOPE GEOMETRY AND SURCHARGE CONDITION. VARY X- AND Y-COORDINATES OF BOTTOM OF TENSION CRACK. USE PRIMARY GRID AND SECONDARY SEARCH WINDOW TO FOCUS SEARCH. USE METHODOLOGY DESCRIBED IN NAVFAC DESIGN MANUAL 7.02, 1986, PP. 59-70, AND US ARMY TECHNICAL REPORT ITL-92-11 (1992), P. 76 AND APPENDIX A.

CALCULATION INPUT

Earth Material	Alluvium
Shear Diagram	#1
Cohesion, Coh	350.0 psf
Phi Angle, φ	25.0 degrees
Density, γ	125.0 pcf
Anisotropic Strength Function	NO
Restraining Device	RETAINING WALL
Type	RESTRAINED
Retained Height, H	15 feet
Wall Friction Angle, δ	0 degrees
External Surcharge	NO
General Backslope Condition*	level
Loading	STATIC
Calculation Safety Factor, FS	1.5

* Critical wedge 'sees' only portion of regional backslope

CALCULATION OUTPUT

Trial Wedges Analyzed, Initial Search Grid	1502 trials
Trial Wedges Analyzed, Secondary Search Window	441 trials
Critical Failure Angle, α	53.6 degrees
Area of Critical Wedge	73.3 square feet
Length of Critical Failure Plane, L	12.3 feet
Depth of Critical Tension Crack	5.1 feet
Horizontal Upslope Distance to Critical Tension Crack	7.3 feet
Effective Backslope on Critical Wedge, β_{eff}	0.0 degrees
Factored Phi Angle on Slip Plane, φ'	17.3 degrees
Factored Cohesion on Critical Slip Plane, C'	233.3 psf
Weight of Critical Wedge, W	9,163 pounds
External Surcharge on Critical Wedge, V	0 pounds
Static Gravitational Driving Force, W'	9,163 pounds
Mobilized Cohesive Force, C'L	2,869 pounds
Mobilized Frictional Force, R	8,509 pounds
Calculated Unbalanced Force, P	3,341 pounds
Calculated Horizontal Unbalanced Force, P_h	3,341 pounds
Calculated Trapezoidal Design Pressure *	18.6 H psf
Calculated At-Rest Equivalent Fluid Pressure **	72.2 pcf
Calculated At-Rest Trapezoidal Earth Pressure *	45.1 H psf

RECOMMENDED DESIGN PARAMETERS

Trapezoidal Design Pressure, TDP*	46 H psf
Design Horizontal Force	8,280 pounds

* H is restrained height, see report for diagram of trapezoidal pressure distribution
** at-rest equivalent fluid pressure is calculated as: γ (1- sin(φ))

BACKSLOPE GEOMETRY AND SURCHARGE CONDITIONS*

(dist., elev)	(X, Y)	H (ft)	β (deg)	surcharge
(0,0)	(0,0)	15		
(0,15)	(0,15)			
(3,15)	(3,15)			
(13,15)	(13,15)			
(14,15)	(14,15)			
(15,15)	(15,15)			
(30,15)	(30,15)			

* X is the upslope distance from the wall; Y is the vertical distance above the base of the wall; H is wall height; β is backslope. H, β, and surcharge apply to section between two coordinates. Only first 20 coordinates are shown.

CONCLUSIONS

THE CALCULATION INDICATES THAT THE PROPOSED RESTRAINED RETAINING WALL, WITH A RETAINED HEIGHT OF UP TO 15 FEET, MAY BE DESIGNED FOR A TRAPEZOIDAL DESIGN PRESSURE (TDP) OF 46 H POUNDS PER SQUARE FOOT, WHERE H IS THE RETAINED HEIGHT. SEE REPORT FOR DIAGRAM OF TRAPEZOIDAL PRESSURE DISTRIBUTION.

THE STATIC DESIGN IS GOVERNED BY THE AT-REST CONDITION.

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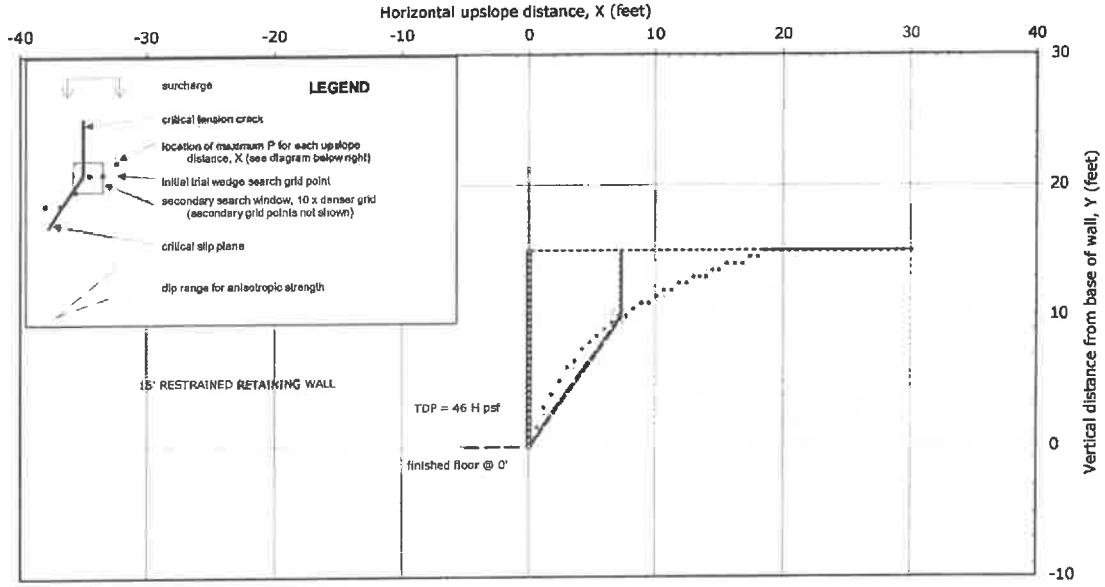
RETAINING WALL CALCULATION

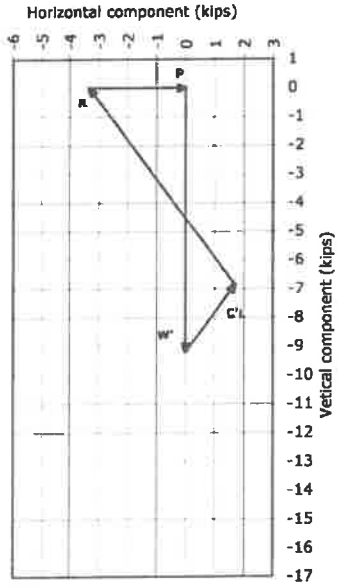
BG: **23694** CLIENT: **2662 and 2668 S Barrington Ave, LLC**
CONSULTANT: **RSB**
SHEET: **#2b**
Restrained Retaining Wall

Cross Section and Critical Active Wedge



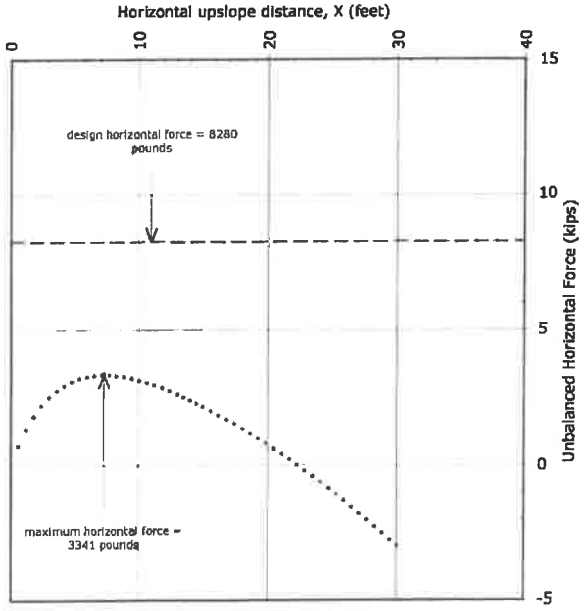
The cross section shows the surface geometry; surcharges; the range of dip for any defined anisotropic strength function; the critical trial wedge; the initial search grid; and the secondary search window. Each grid point defines the upslope coordinate of the slip plane and bottom coordinate of tension crack for a trial wedge. For each for upslope distance, X, the grid point for which the horizontal unbalanced pressure, Ph, is maximum is shown in black. The critical wedge has the maximum horizontal unbalanced pressure of all trial wedges.

Critical Wedge, Force Polygon



The polygon shows the static (gravitational) driving force, W'; the mobilized cohesive force, C'L; the mobilized frictional force, R; and the unbalanced pressure, P, for the critical wedge.

Trial Wedge, Unbalanced Horizontal Force, Ph (kips)



The maximum calculated horizontal unbalanced pressure, Ph, is plotted for each upslope distance, X. The location of the maximum Ph for each X is indicated in the cross section, above. All points from initial search grid and maximum from secondary search window are plotted.

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RETAINING WALL CALCULATION

BG 23694 CLIENT: 2662 and 2668 S Barrington Ave, LLC
CONSULTANT: RSB
SHEET: #2Sa
Restrained Retaining Wall

CALCULATE THE DESIGN PRESSURE FOR PROPOSED RESTRAINED RETAINING WALL. USE THE GENERAL TRIAL WEDGE METHOD*. APPLY THE SAFETY FACTOR TO THE COHESION AND PHI ANGLE. THE RETAINED HEIGHT, BACKSLOPE GEOMETRY, AND SURCHARGE CONDITIONS, ARE LISTED BELOW. ASSUME THE BACKFILL IS SATURATED WITH NO EXCESS HYDROSTATIC PRESSURE. USE THE PSEUDO-STATIC (MONONOBE-OKABE) METHOD FOR SEISMIC LOADING.

* FIND THE WEDGE, CHARACTERIZED BY A SINGLE STRAIGHT SLIP PLANE AND A VERTICAL TENSION CRACK, THAT MAXIMIZES THE UNBALANCED PRESSURE. MAKE NO ASSUMPTION ABOUT TENSION CRACK DEPTH. ALLOW ANY BACKSLOPE GEOMETRY AND SURCHARGE CONDITION. VARY X- AND Y-COORDINATES OF BOTTOM OF TENSION CRACK. USE PRIMARY GRID AND SECONDARY SEARCH WINDOW TO FOCUS SEARCH. USE METHODOLOGY DESCRIBED IN NAVFAC DESIGN MANUAL 7.02, 1986, PP. 59-70, AND US ARMY TECHNICAL REPORT ITL-92-11 (1992), P. 79 AND APPENDIX A

CALCULATION INPUT

Earth Material	Alluvium
Shear Diagram	#1
Cohesion, Coh	350.0 psf
Phi Angle, φ	25.0 degrees
Density, γ	125.0 pcf
Anisotropic Strength Function	NO
Restraining Device	RETAINING WALL
Type	RESTRAINED
Retained Height, H	15 feet
Wall Friction Angle, δ	0 degrees
External Surcharge	see below
General Backslope Condition*	level
Loading	SEISMIC
PGA_M	0.92 g
Pseudostatic Coefficients:	
horizontal , K_h***	0.31 g
vertical, K_v****	0.00 g
Calculation Safety Factor, FS	1

* Critical wedge 'sees' only portion of regional backslope

*** Calculated using methodology of Abrahamson and Silva (1986)

**** Kv > 0 indicates downward acceleration and upward inertial force

CALCULATION OUTPUT

Trial Wedges Analyzed, Initial Search Grid	1502 trials
Trial Wedges Analyzed, Secondary Search Window	441 trials
Critical Failure Angle, α	48.8 degrees
Area of Critical Wedge	93.0 square feet
Length of Critical Failure Plane, L	15.3 feet
Depth of Critical Tension Crack	3.5 feet
Horizontal Upslope Distance to Critical Tension Crack	10.1 feet
Effective Backslope on Critical Wedge, β_{eff}	0.0 degrees
Factored Phi Angle on Slip Plane, φ'	25.0 degrees
Factored Cohesion on Critical Slip Plane, C'	350.0 psf
Weight of Critical Wedge, W	11,631 pounds
External Surcharge on Critical Wedge, V	2,298 pounds
Pseudo-Static (Gravitational + Dynamic) Driving Force, Wd	14,568 pounds
Mobilized Cohesive Force, C'L	5,347 pounds
Mobilized Frictional Force, R	10,826 pounds
Calculated Unbalanced Force, P	5,124 pounds
Calculated Horizontal Unbalanced Force, P_h	5,124 pounds

RECOMMENDED DESIGN PARAMETERS

Calculated Pseudo-Static Horizontal Force	5,124 pounds
Recommended Static Horizontal Force from sheet 2a	8,280 pounds

BACKSLOPE GEOMETRY AND SURCHARGE CONDITIONS*

(dist , elev)	(X , Y)	H (ft)	β (deg)	surcharge
(0,0)	(0,0)	15		
(0,15)	(0,15)			
(3,15)	(3,15)			Uniform Load: 300 psf
(13,15)	(13,15)			
(14,15)	(14,15)			
(15,15)	(15,15)			
(30,15)	(30,15)			

* X is the upslope distance from the wall; Y is the vertical distance above the base of the wall; H is wall height; β is backslope. H, β, and surcharge apply to section between two coordinates. Only first 20 coordinates are shown.

CONCLUSIONS

THE CALCULATED STATIC FORCE EXCEEDS THE CALCULATED PSEUDO-STATIC FORCE. THEREFORE, THE RECOMMENDED DESIGN PARAMETERS ON SHEET 2A ARE SUFFICIENT.

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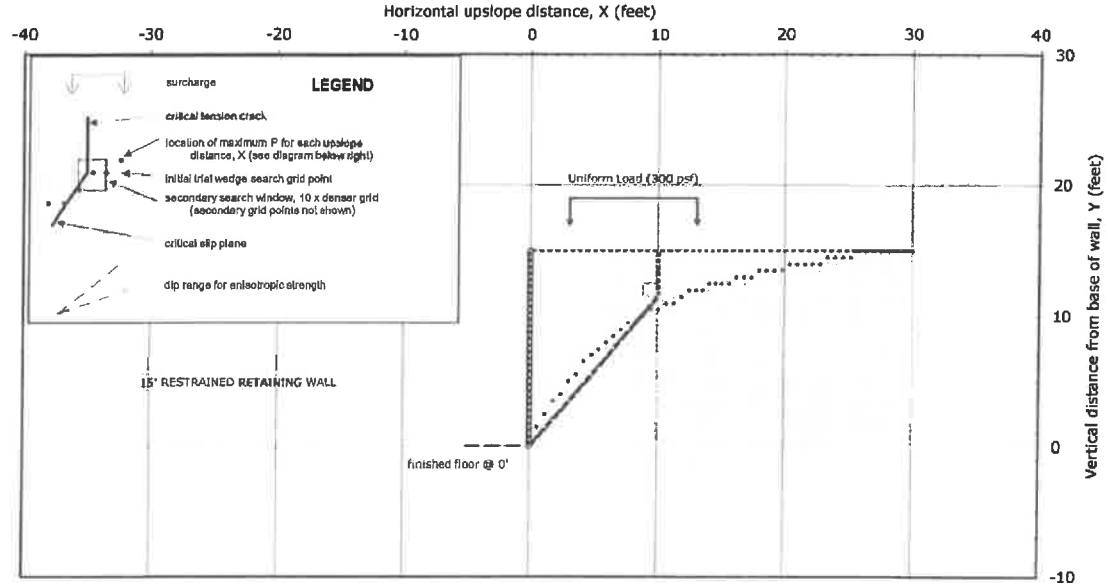
RETAINING WALL CALCULATION

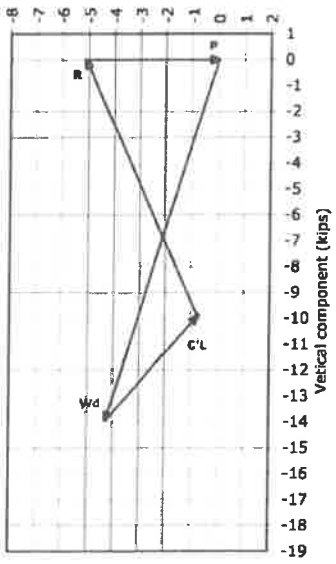
BG: 23694 CLIENT: 2662 and 2668 S Barrington Ave, LLC
CONSULTANT: RSB
SHEET: #2Sb
Restrained Retaining Wall

Cross Section and Critical Active Wedge



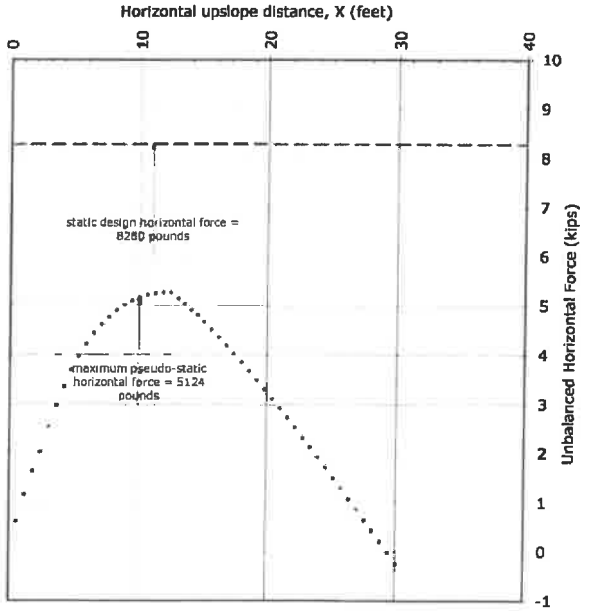
The cross section shows the surface geometry; surcharges; the range of dip for any defined anisotropic strength function; the critical trial wedge; the initial search grid; and the secondary search window. Each grid point defines the upslope coordinate of the slip plane and bottom coordinate of tension crack for a trial wedge. For each for upslope distance, X, the grid point for which the horizontal unbalanced pressure, Ph, is maximum is shown in black. The critical wedge has the maximum horizontal unbalanced pressure of all trial wedges.

Critical Wedge, Force Polygon



The polygon shows the pseudo-static (gravitational and dynamic) driving force, Wd; the mobilized cohesive force, C'L; the mobilized frictional force, R; and the unbalanced pressure, P, for the critical wedge.

Trial Wedge, Unbalanced Horizontal Force, Ph (kips)



The maximum calculated horizontal unbalanced pressure, Ph, is plotted for each upslope distance, X. The location of the maximum Ph for each X is indicated in the cross section, above. All points from initial search grid and maximum from secondary search window are plotted.

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RETAINING WALL CALCULATION

BG 23694 CLIENT: 2662 and 2668 S Barrington Ave, LLC
CONSULTANT: RSB
SHEET: #3Sa
Restrained Retaining Wall

CALCULATE THE DESIGN PRESSURE FOR PROPOSED RESTRAINED RETAINING WALL. USE THE GENERAL TRIAL WEDGE METHOD*. APPLY THE SAFETY FACTOR TO THE COHESION AND PHI ANGLE. THE RETAINED HEIGHT, BACKSLOPE GEOMETRY, AND SURCHARGE CONDITIONS, ARE LISTED BELOW. ASSUME THE BACKFILL IS SATURATED WITH NO EXCESS HYDROSTATIC PRESSURE. USE THE PSEUDO-STATIC (MONONOBE-OKABE) METHOD FOR SEISMIC LOADING.

* FIND THE WEDGE, CHARACTERIZED BY A SINGLE STRAIGHT SLIP PLANE AND A VERTICAL TENSION CRACK, THAT MAXIMIZES THE UNBALANCED PRESSURE. MAKE NO ASSUMPTION ABOUT TENSION CRACK DEPTH. ALLOW ANY BACKSLOPE GEOMETRY AND SURCHARGE CONDITION. VARY X- AND Y-COORDINATES OF BOTTOM OF TENSION CRACK. USE PRIMARY GRID AND SECONDARY SEARCH WINDOW TO FOCUS SEARCH. USE METHODOLOGY DESCRIBED IN NAVFAC DESIGN MANUAL 7.02, 1986, PP. 59-70, AND US ARMY TECHNICAL REPORT ITL-92-11 (1992) P. 79 AND APPENDIX A

CALCULATION INPUT

Earth Material	Alluvium
Shear Diagram	#1
Cohesion, Coh	350.0 psf
Phi Angle, φ	25.0 degrees
Density, γ	125.0 pcf
Anisotropic Strength Function	NO
Restraining Device	RETAINING WALL
Type	RESTRAINED
Retained Height, H	15 feet
Wall Friction Angle, δ	0 degrees
External Surcharge	see below
General Backslope Condition*	level
Loading	SEISMIC
PGA_M	0.92 g
Pseudostatic Coefficients:	
horizontal, K_h***	0.31 g
vertical, K_v****	0.00 g
Calculation Safety Factor, FS	1

* Critical wedge 'sees' only portion of regional backslope

*** Calculated using methodology of Abrahamson and Silva (1986)
**** Kv > 0 indicates downward acceleration and upward inertial force

BACKSLOPE GEOMETRY AND SURCHARGE CONDITIONS*

(dist., elev)	(X , Y)	H (ft)	β (deg)	surcharge
(0,0)	(0,0)	15		
(0,15)	(0,15)			
(5,15)	(5,15)			Line Load: 2000 psf
(6,15)	(6,15)			
(14,15)	(14,15)			
(15,15)	(15,15)			
(30,15)	(30,15)			

* X is the upslope distance from the wall; Y is the vertical distance above the base of the wall; H is wall height; β is backslope. H, β, and surcharge apply to section between two coordinates. Only first 20 coordinates are shown.

CALCULATION OUTPUT

Trial Wedges Analyzed, Initial Search Grid	1531 trials
Trial Wedges Analyzed, Secondary Search Window	441 trials
Critical Failure Angle, α	57.7 degrees
Area of Critical Wedge	61.5 square feet
Length of Critical Failure Plane, L	11.2 feet
Depth of Critical Tension Crack	5.5 feet
Horizontal Upslope Distance to Critical Tension Crack	6.0 feet
Effective Backslope on Critical Wedge, β_{eff}	0.0 degrees
Factored Phi Angle on Slip Plane, φ'	25.0 degrees
Factored Cohesion on Critical Slip Plane, C'	350.0 psf
Weight of Critical Wedge, W	7,688 pounds
External Surcharge on Critical Wedge, V	2,111 pounds
Pseudo-Static (Gravitational + Dynamic) Driving Force, Wd	10,249 pounds
Mobilized Cohesive Force, C'L	3,933 pounds
Mobilized Frictional Force, R	7,695 pounds
Calculated Unbalanced Force, P	5,065 pounds
Calculated Horizontal Unbalanced Force, P_h	5,065 pounds

RECOMMENDED DESIGN PARAMETERS

Calculated Pseudo-Static Horizontal Force	5,065 pounds
Recommended Static Horizontal Force from sheet 3a	8,280 pounds

CONCLUSIONS

THE CALCULATED STATIC FORCE EXCEEDS THE CALCULATED PSEUDO-STATIC FORCE. THEREFORE, THE RECOMMENDED DESIGN PARAMETERS ON SHEET 3A ARE SUFFICIENT.

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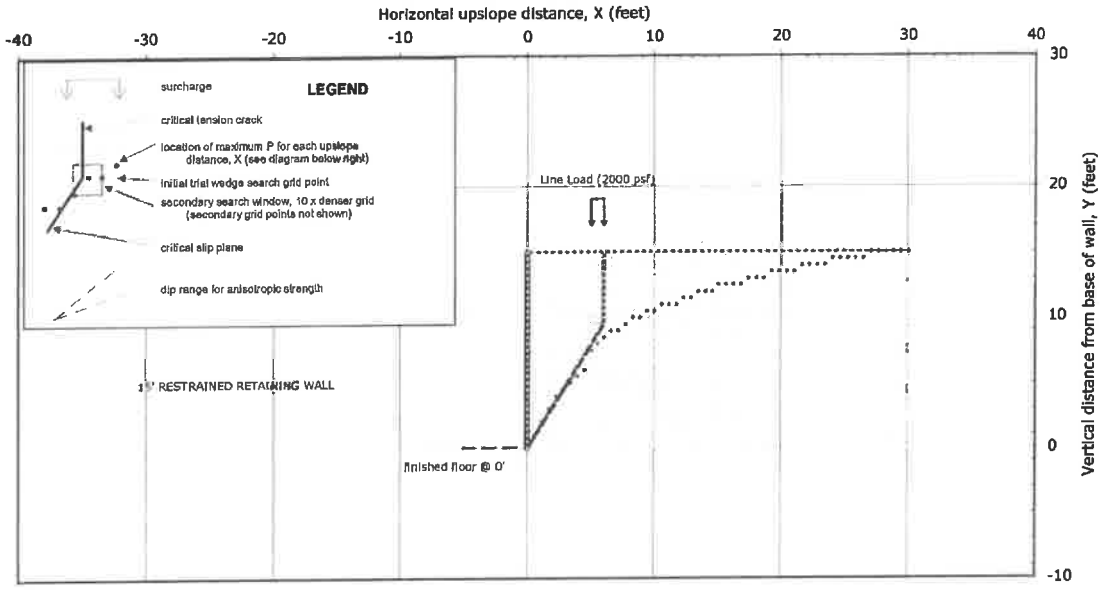
RETAINING WALL CALCULATION

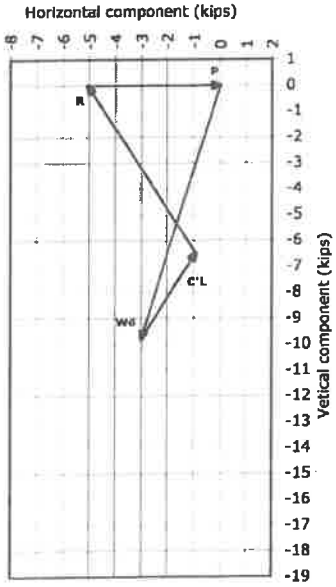
BG: **23694** CLIENT: **2662 and 2668 S Barrington Ave, LLC**
CONSULTANT: **RSB**
SHEET: **#3Sb**
Restrained Retaining Wall

Cross Section and Critical Active Wedge



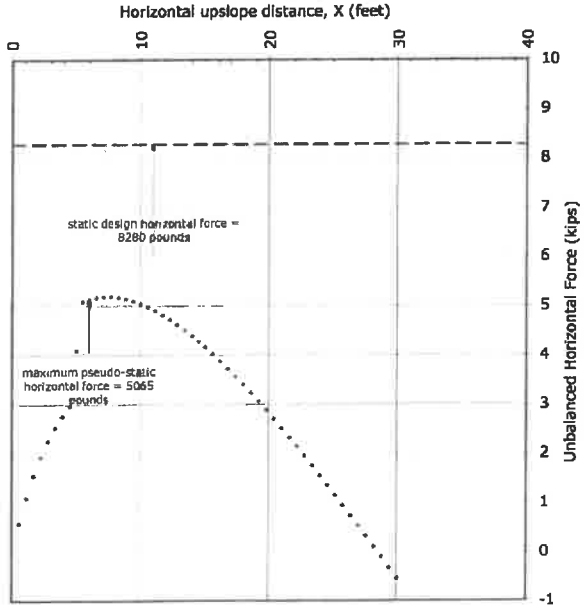
The cross section shows the surface geometry; surcharges; the range of dip for any defined anisotropic strength function; the critical trial wedge; the initial search grid; and the secondary search window. Each grid point defines the upslope coordinate of the slip plane and bottom coordinate of tension crack for a trial wedge. For each for upslope distance, X, the grid point for which the horizontal unbalanced pressure, Ph, is maximum is shown in black. The critical wedge has the maximum horizontal unbalanced pressure of all trial wedges.

Critical Wedge, Force Polygon



The polygon shows the pseudo-static (gravitational and dynamic) driving force, Wd; the mobilized cohesive force, C'L; the mobilized frictional force, R; and the unbalanced pressure, P, for the critical wedge.

Trial Wedge, Unbalanced Horizontal Force, Ph (kips)



The maximum calculated horizontal unbalanced pressure, Ph, is plotted for each upslope distance, X. The location of the maximum Ph for each X is indicated in the cross section, above. All points from initial search grid and maximum from secondary search window are plotted.

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TEMPORARY EXCAVATION HEIGHT

BG: **23694** ENGINEER: **RSB**
CLIENT: **2662 and 2668 S Barrington Ave, LLC**
CALCULATION SHEET # **4**

CALCULATE THE HEIGHT TO WHICH TEMPORARY EXCAVATIONS ARE STABLE (NEGATIVE THRUST). THE EXCAVATION HEIGHT AND BACKSLOPE AND SURCHARGE CONDITIONS ARE LISTED BELOW. ASSUME THE EARTH MATERIAL IS SATURATED WITH NO EXCESS HYDROSTATIC PRESSURE.

CALCULATION PARAMETERS

EARTH MATERIAL:	Alluvium	WALL HEIGHT:	5 feet
SHEAR DIAGRAM:	1	BACKSLOPE ANGLE:	0 degrees
COHESION:	350 psf	SURCHARGE:	0 pounds
PHI ANGLE:	25 degrees	SURCHARGE TYPE:	u Uniform
DENSITY:	125 pcf	INITIAL FAILURE ANGLE:	20 degrees
SAFETY FACTOR:	1.25	FINAL FAILURE ANGLE:	70 degrees
WALL FRICTION:	0 degrees	INITIAL TENSION CRACK:	1 feet
CD (C/FS):	280.0 psf	FINAL TENSION CRACK:	20 feet
PHID = ATAN(TAN(PHI)/FS) =	20.5 degrees		

CALCULATED RESULTS

CRITICAL FAILURE ANGLE	46 degrees
AREA OF TRIAL FAILURE WEDGE	4.5 square feet
TOTAL EXTERNAL SURCHARGE	0.0 pounds
WEIGHT OF TRIAL FAILURE WEDGE	560.3 pounds
NUMBER OF TRIAL WEDGES ANALYZED	1020 trials
LENGTH OF FAILURE PLANE	1.4 feet
DEPTH OF TENSION CRACK	4.0 feet
HORIZONTAL DISTANCE TO UPSLOPE TENSION CRACK	1.0 feet
CALCULATED HORIZONTAL THRUST	**-150.8 pounds**
CALCULATED EQUIVALENT FLUID PRESSURE	**-12.1 pcf**
MAXIMUM HEIGHT OF TEMPORARY EXCAVATION	**5.0 feet**

CONCLUSIONS:

THE CALCULATION INDICATES THAT TEMPORARY VERTICAL EXCAVATIONS UP TO FIVE FEET HIGH IN ALLUVIUM, WITH LEVEL BACKSLOPE, HAVE A NEGATIVE THRUST AND ARE TEMPORARILY STABLE.

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SHORING PILE CALCULATION

BG 23694 CLIENT: 2662 and 2668 S Barrington Ave, LLC
CONSULTANT: RSB
SHEET: #5a
Cantilevered Shoring Pile

CALCULATE THE DESIGN PRESSURE FOR PROPOSED CANTILEVERED SHORING PILE. USE THE GENERAL TRIAL WEDGE METHOD*. APPLY THE SAFETY FACTOR TO THE COHESION AND PHI ANGLE. THE RETAINED HEIGHT, BACKSLOPE GEOMETRY, AND SURCHARGE CONDITIONS, ARE LISTED BELOW. ASSUME THE BACKFILL IS SATURATED WITH NO EXCESS HYDROSTATIC PRESSURE.

* FIND THE WEDGE, CHARACTERIZED BY A SINGLE STRAIGHT SLIP PLANE AND A VERTICAL TENSION CRACK, THAT MAXIMIZES THE UNBALANCED PRESSURE MAKE NO ASSUMPTION ABOUT TENSION CRACK DEPTH. ALLOW ANY BACKSLOPE GEOMETRY AND SURCHARGE CONDITION VARY X- AND Y-COORDINATES OF BOTTOM OF TENSION CRACK USE PRIMARY GRID AND SECONDARY SEARCH WINDOW TO FOCUS SEARCH USE METHODOLOGY DESCRIBED IN NAVFAC DESIGN MANUAL 7.02, 1986, PP. 59-70, AND US ARMY TECHNICAL REPORT ITL-92-11 (1992), P. 79 AND APPENDIX A

CALCULATION INPUT

Earth Material	Alluvium
Shear Diagram	#1
Cohesion, Coh	350.0 psf
Phi Angle, φ	25.0 degrees
Density, γ	125.0 pcf
Anisotropic Strength Function	NO
Restraining Device Type	SHORING PILE CANTILEVERED
Retained Height, H	18 feet
Wall Friction Angle, δ	0 degrees
External Surcharge	see below
General Backslope Condition*	level
Loading	STATIC
Calculation Safety Factor, FS	1.25

* Critical wedge 'sees' only portion of regional backslope

CALCULATION OUTPUT

Trial Wedges Analyzed, Initial Search Grid	1814 trials
Trial Wedges Analyzed, Secondary Search Window	441 trials
Critical Failure Angle, α	54.0 degrees
Area of Critical Wedge	111.5 square feet
Length of Critical Failure Plane, L	17.2 feet
Depth of Critical Tension Crack	4.1 feet
Horizontal Upslope Distance to Critical Tension Crack	10.1 feet
Effective Backslope on Critical Wedge, β_{eff}	0.0 degrees
Factored Phi Angle on Slip Plane, φ'	20.5 degrees
Factored Cohesion on Critical Slip Plane, C'	280.0 psf
Weight of Critical Wedge, W	13,943 pounds
External Surcharge on Critical Wedge, V	2,315 pounds
Static Gravitational Driving Force, W'	16,259 pounds
Mobilized Cohesive Force, C'L	4,825 pounds
Mobilized Frictional Force, R	14,829 pounds
Calculated Unbalanced Force, P	5,371 pounds
Calculated Horizontal Unbalanced Force, P_h	5,371 pounds
Calculated Equivalent Fluid Pressure	33.2 pcf

RECOMMENDED DESIGN PARAMETERS

Design Equivalent Fluid Pressure, EFP	34.0 pcf
Design Horizontal Force	5,508 pounds

BACKSLOPE GEOMETRY AND SURCHARGE CONDITIONS*

(dist , elev)	(X , Y)	H (ft)	β (deg)	surcharge
(0,0)	(0,0)	18		
(0,18)	(0,18)			
(3,18)	(3,18)			Uniform Load: 300 psf
(13,18)	(13,18)			
(14,18)	(14,18)			
(15,18)	(15,18)			
(30,18)	(30,18)			

* X is the upslope distance from the wall; Y is the vertical distance above the base of the wall; H is wall height; β is backslope. H, β, and surcharge apply to section between two coordinates. Only first 20 coordinates are shown.

CONCLUSIONS

THE CALCULATION INDICATES THAT THE PROPOSED CANTILEVERED SHORING PILE, WITH A RETAINED HEIGHT OF UP TO 18 FEET, MAY BE DESIGNED FOR AN EQUIVALENT FLUID PRESSURE (EFP) OF 34 POUNDS PER CUBIC FOOT. FOR PILES, THE PRESSURE SHOULD BE MULTIPLIED BY THE PILE SPACING.

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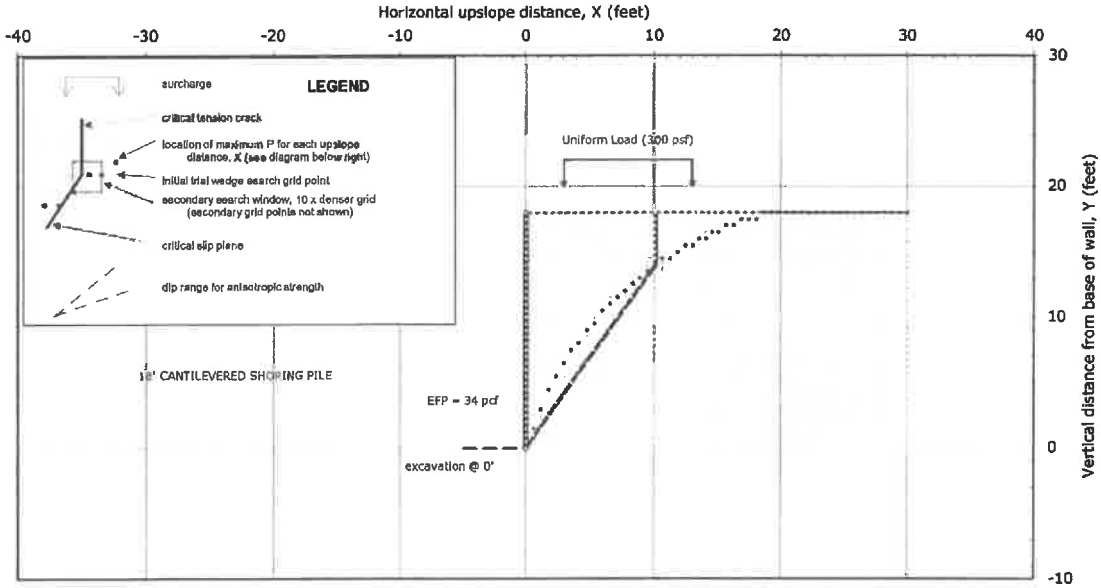
SHORING PILE CALCULATION

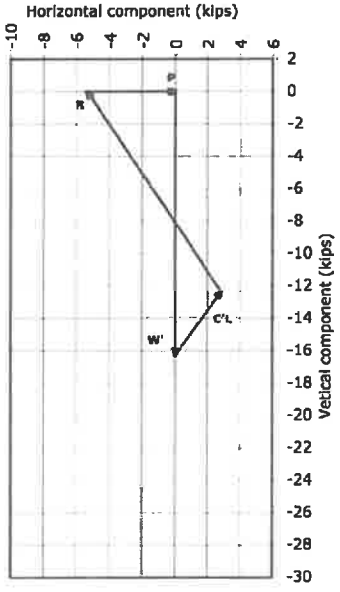
BG: 23694 CLIENT: 2662 and 2668 S Barrington Ave, LLC
CONSULTANT: RSB
SHEET: #5b
Cantilevered Shoring Pile

Cross Section and Critical Active Wedge



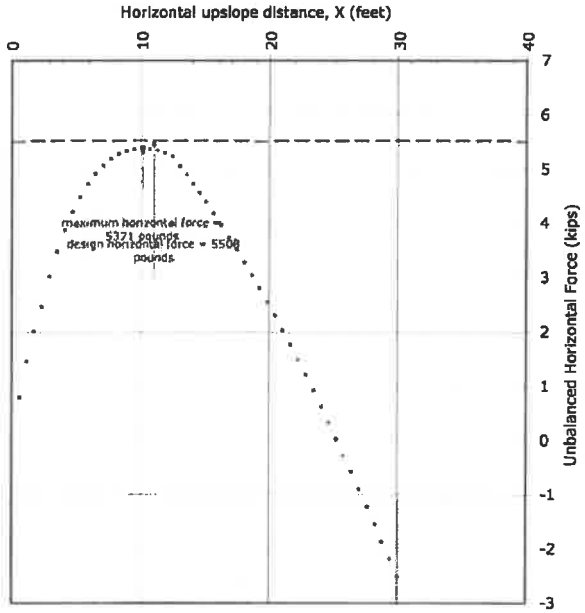
The cross section shows the surface geometry; surcharges; the range of dip for any defined anisotropic strength function; the critical trial wedge; the initial search grid; and the secondary search window. Each grid point defines the upslope coordinate of the slip plane and bottom coordinate of tension crack for a trial wedge. For each for upslope distance, X, the grid point for which the horizontal unbalanced pressure, Ph, is maximum is shown in black. The critical wedge has the maximum horizontal unbalanced pressure of all trial wedges.

Critical Wedge, Force Polygon



The polygon shows the static (gravitational) driving force, W'; the mobilized cohesive force, C'L; the mobilized frictional force, R; and the unbalanced pressure, P, for the critical wedge.

Trial Wedge, Unbalanced Horizontal Force, Ph (kips)



The maximum calculated horizontal unbalanced pressure, Ph, is plotted for each upslope distance, X. The location of the maximum Ph for each X is indicated in the cross section, above. All points from initial search grid and maximum from secondary search window are plotted.

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SHORING PILE CALCULATION

BG 23694 CLIENT: 2662 and 2668 S Barrington Ave, LLC
CONSULTANT: RSB
SHEET: #6a
Cantilevered Shoring Pile

CALCULATE THE DESIGN PRESSURE FOR PROPOSED CANTILEVERED SHORING PILE. USE THE GENERAL TRIAL WEDGE METHOD*. APPLY THE SAFETY FACTOR TO THE COHESION AND PHI ANGLE. THE RETAINED HEIGHT, BACKSLOPE GEOMETRY, AND SURCHARGE CONDITIONS, ARE LISTED BELOW. ASSUME THE BACKFILL IS SATURATED WITH NO EXCESS HYDROSTATIC PRESSURE.

* FIND THE WEDGE, CHARACTERIZED BY A SINGLE STRAIGHT SLIP PLANE AND A VERTICAL TENSION CRACK, THAT MAXIMIZES THE UNBALANCED PRESSURE. MAKE NO ASSUMPTION ABOUT TENSION CRACK DEPTH. ALLOW ANY BACKSLOPE GEOMETRY AND SURCHARGE CONDITION. VARY X- AND Y-COORDINATES OF BOTTOM OF TENSION CRACK. USE PRIMARY GRID AND SECONDARY SEARCH WINDOW TO FOCUS SEARCH. USE METHODOLOGY DESCRIBED IN NAVFAC DESIGN MANUAL 7.02, 1986, PP. 66-70, AND US ARMY TECHNICAL REPORT ITL-92-11 (1992), P. 79 AND APPENDIX A

CALCULATION INPUT

Earth Material	Alluvium
Shear Diagram	#1
Cohesion, Coh	350.0 psf
Phi Angle, φ	25.0 degrees
Density, γ	125.0 pcf
Anisotropic Strength Function	NO
Restraining Device	SHORING PILE
Type	CANTILEVERED
Retained Height, H	18 feet
Wall Friction Angle, δ	0 degrees
External Surcharge	see below
General Backslope Condition*	level
Loading	STATIC
Calculation Safety Factor, FS	1.25

* Critical wedge 'sees' only portion of regional backslope

CALCULATION OUTPUT

Trial Wedges Analyzed, Initial Search Grid	1849 trials
Trial Wedges Analyzed, Secondary Search Window	441 trials
Critical Failure Angle, α	60.3 degrees
Area of Critical Wedge	80.1 square feet
Length of Critical Failure Plane, L	13.1 feet
Depth of Critical Tension Crack	6.6 feet
Horizontal Upslope Distance to Critical Tension Crack	6.5 feet
Effective Backslope on Critical Wedge, β_{eff}	0.0 degrees
Factored Phi Angle on Slip Plane, φ'	20.5 degrees
Factored Cohesion on Critical Slip Plane, C'	280.0 psf
Weight of Critical Wedge, W	10,016 pounds
External Surcharge on Critical Wedge, V	2,111 pounds
Static Gravitational Driving Force, W'	12,127 pounds
Mobilized Cohesive Force, C'L	3,676 pounds
Mobilized Frictional Force, R	11,629 pounds
Calculated Unbalanced Force, P	5,619 pounds
Calculated Horizontal Unbalanced Force, P_h	5,619 pounds
Calculated Equivalent Fluid Pressure	34.7 pcf

RECOMMENDED DESIGN PARAMETERS

Design Equivalent Fluid Pressure, EFP	35.0 pcf
Design Horizontal Force	5,670 pounds

BACKSLOPE GEOMETRY AND SURCHARGE CONDITIONS*

(dist , elev)	(X , Y)	H (ft)	β (deg)	surcharge
(0,0)	(0,0)	18		
(0,18)	(0,18)			
(5,18)	(5,18)			Line Load: 2000 psf
(6,18)	(6,18)			
(14,18)	(14,18)			
(15,18)	(15,18)			
(30,18)	(30,18)			

* X is the upslope distance from the wall; Y is the vertical distance above the base of the wall; H is wall height; β is backslope. H, β, and surcharge apply to section between two coordinates. Only first 20 coordinates are shown.

CONCLUSIONS

THE CALCULATION INDICATES THAT THE PROPOSED CANTILEVERED SHORING PILE, WITH A RETAINED HEIGHT OF UP TO 18 FEET, MAY BE DESIGNED FOR AN EQUIVALENT FLUID PRESSURE (EFP) OF 35 POUNDS PER CUBIC FOOT. FOR PILES, THE PRESSURE SHOULD BE MULTIPLIED BY THE PILE SPACING.

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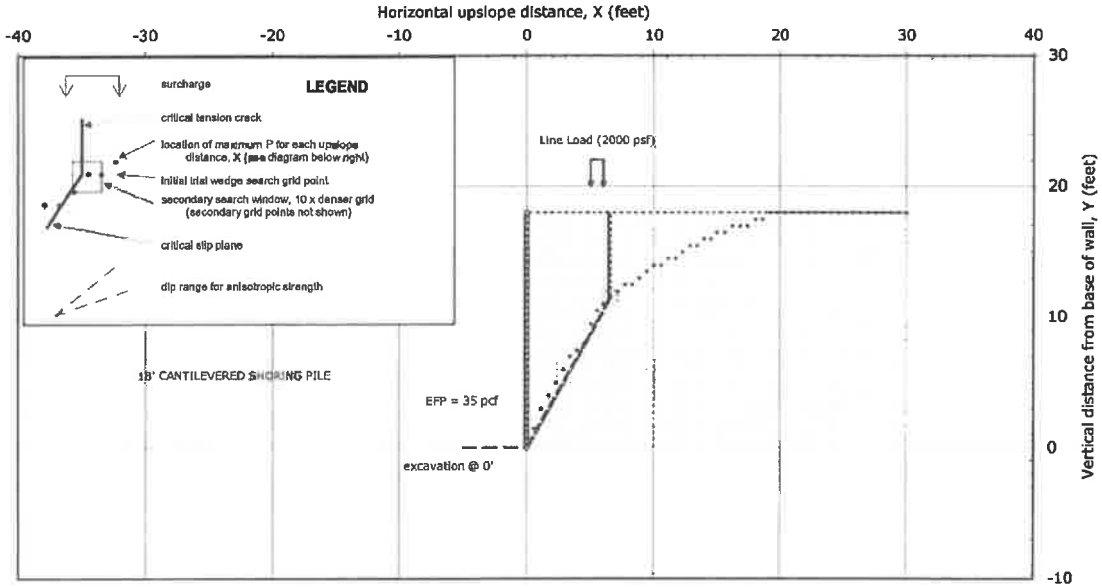
SHORING PILE CALCULATION

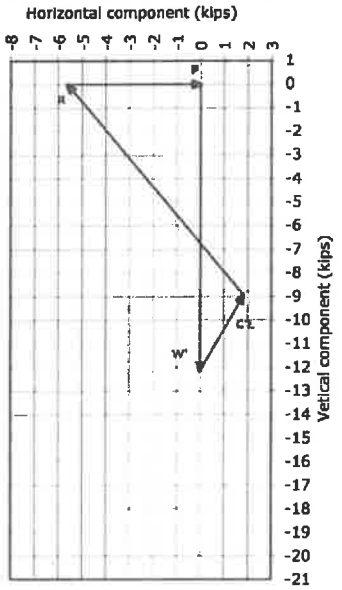
BG: 23694 CLIENT: 2682 and 2688 S Barrington Ave, LLC
CONSULTANT: RSB
SHEET: #6b
Cantilevered Shoring Pile

Cross Section and Critical Active Wedge



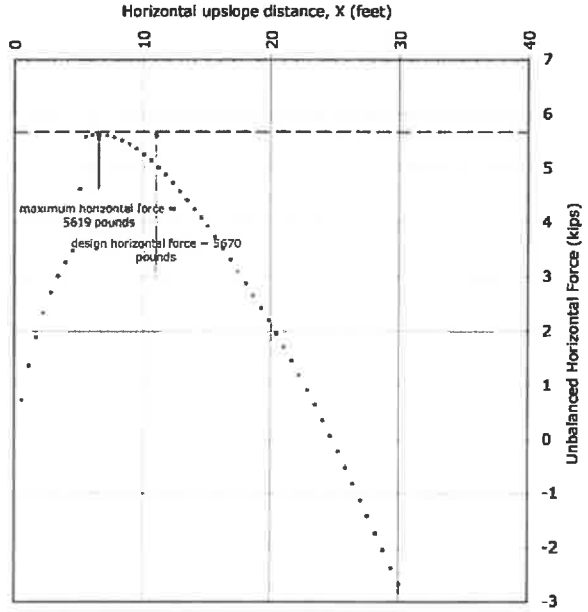
The cross section shows the surface geometry; surcharges; the range of dip for any defined anisotropic strength function; the critical trial wedge; the initial search grid; and the secondary search window. Each grid point defines the upslope coordinate of the slip plane and bottom coordinate of tension crack for a trial wedge. For each for upslope distance, X, the grid point for which the horizontal unbalanced pressure, Ph, is maximum is shown in black. The critical wedge has the maximum horizontal unbalanced pressure of all trial wedges.

Critical Wedge, Force Polygon



The polygon shows the static (gravitational) driving force, W'; the mobilized cohesive force, C'L; the mobilized frictional force, R; and the unbalanced pressure, P, for the critical wedge.

Trial Wedge, Unbalanced Horizontal Force, Ph (kips)



The maximum calculated horizontal unbalanced pressure, Ph, is plotted for each upslope distance, X. The location of the maximum Ph for each X is indicated in the cross section, above. All points from initial search grid and maximum from secondary search window are plotted.

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AERIAL VICINITY MAP

BG: 23694 2662 & 2668 S BARRINGTON AVE, LLC

CONSULTANT: RSB

DRAWN BY: AM

SCALE: 1" = 100'

REFERENCE: LOS ANGELES COUNTY DEPARTMENT OF REGIONAL PLANNING, GIS-NET, 2013, http://gis.planning.lacounty.gov/GIS-NET_Public/Viewer.html

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REGIONAL TOPOGRAPHIC MAP

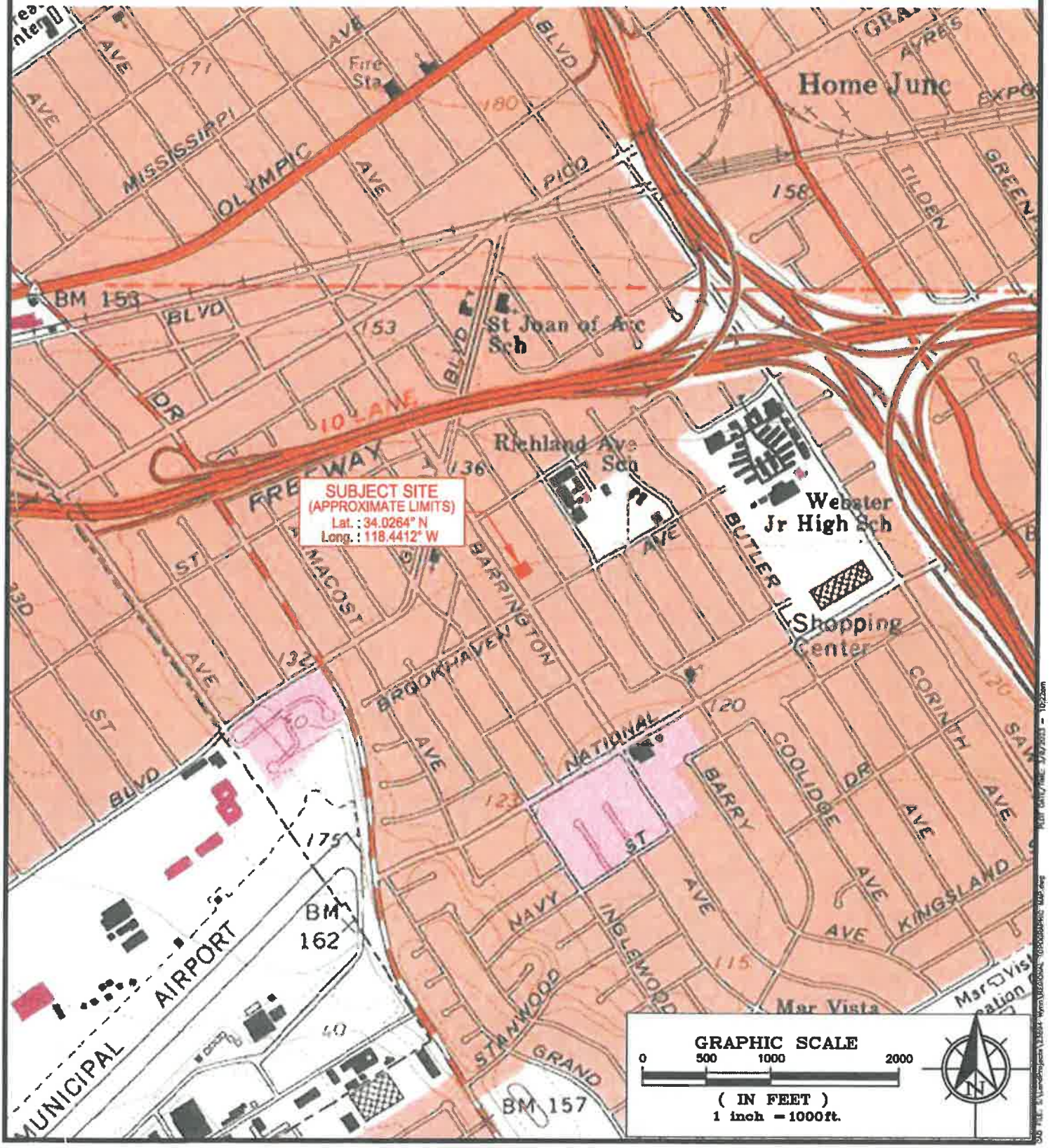
BG: 23694 2662 & 2668 S BARRINGTON AVE, LLC

CONSULTANT: RSB

DRAWN BY: AM

SCALE: 1" = 1000'

REFERENCE: USGS TOPOGRAPHIC MAP, BEVERLY HILLS 7.5-MINUTE SERIES QUADRANGLE, LOS ANGELES COUNTY, CALIFORNIA CREATED 1981.



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HISTORIC TOPOGRAPHIC MAP

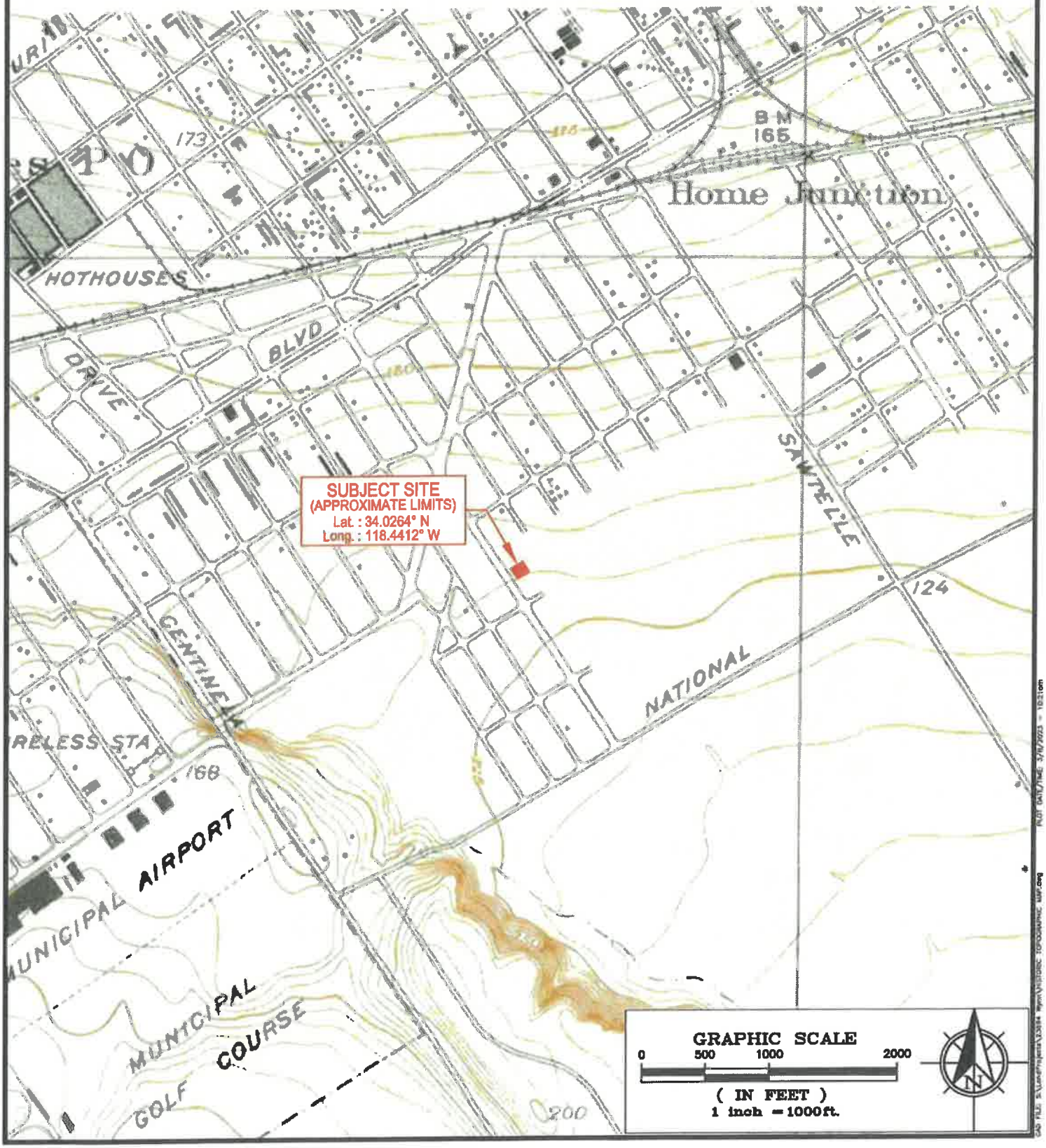
BG: 23694 2662 & 2668 S BARRINGTON AVE, LLC

CONSULTANT : RSB

DRAWN BY : AM

SCALE: 1" = 1000'

REFERENCE: USGS TOPOGRAPHIC MAP, SAWTELLE 6-MINUTE SERIES QUADRANGLE, LOS ANGELES COUNTY, CALIFORNIA CREATED 1942.



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REGIONAL GEOLOGIC MAP #1

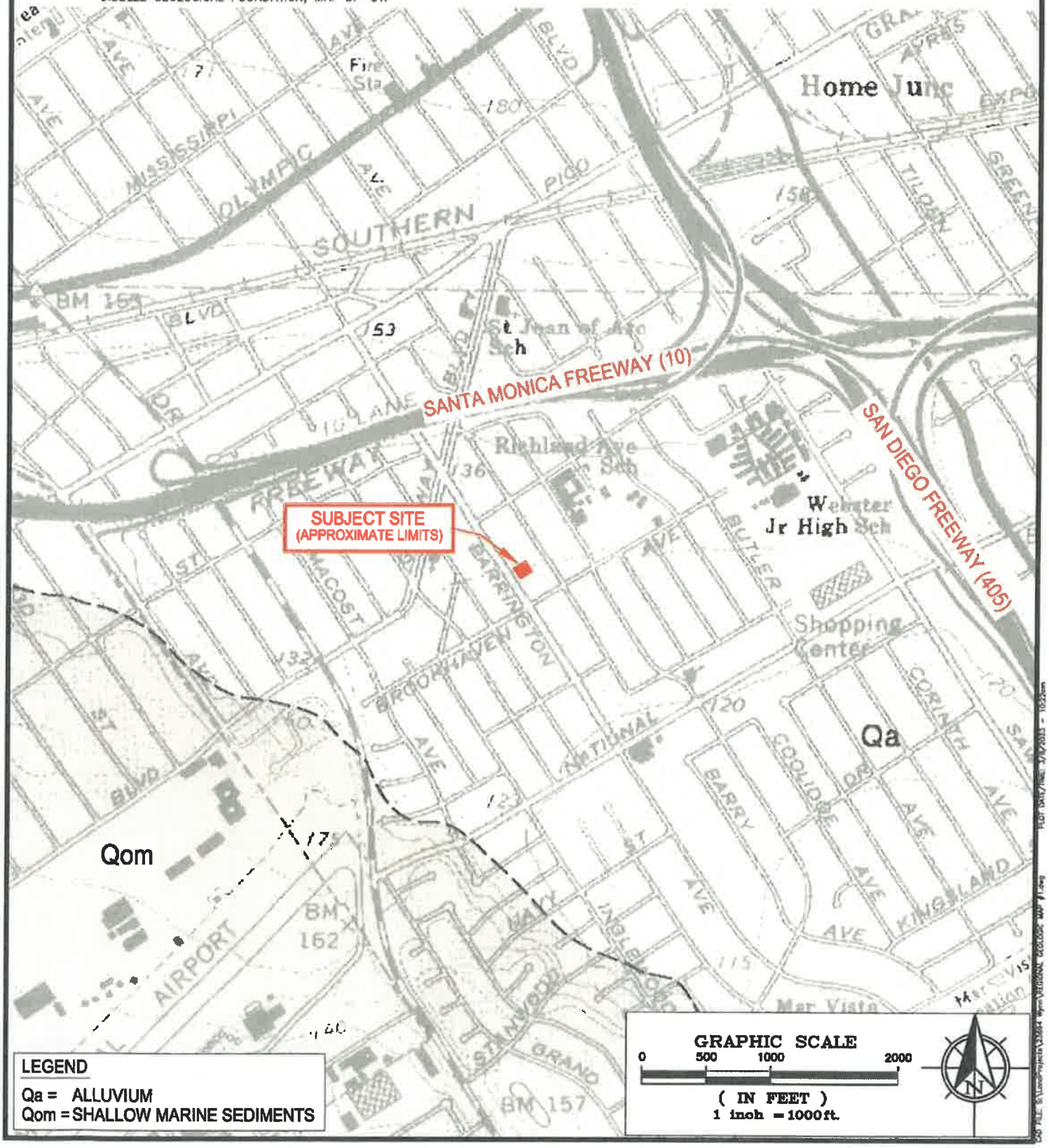
BG: 23694 2662 & 2668 S BARRINGTON AVE, LLC

CONSULTANT : RSB

DRAWN BY : AM

SCALE: 1" = 1000'

REFERENCE: DIBBLEE, T.W. (1991), GEOLOGIC MAP OF THE BEVERLY HILLS AND VAN NUYS (SOUTH 1/2) QUADRANGLES, LOS ANGELES, CALIFORNIA DIBBLEE GEOLOGICAL FOUNDATION, MAP DF-31.



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REGIONAL GEOLOGIC MAP #2

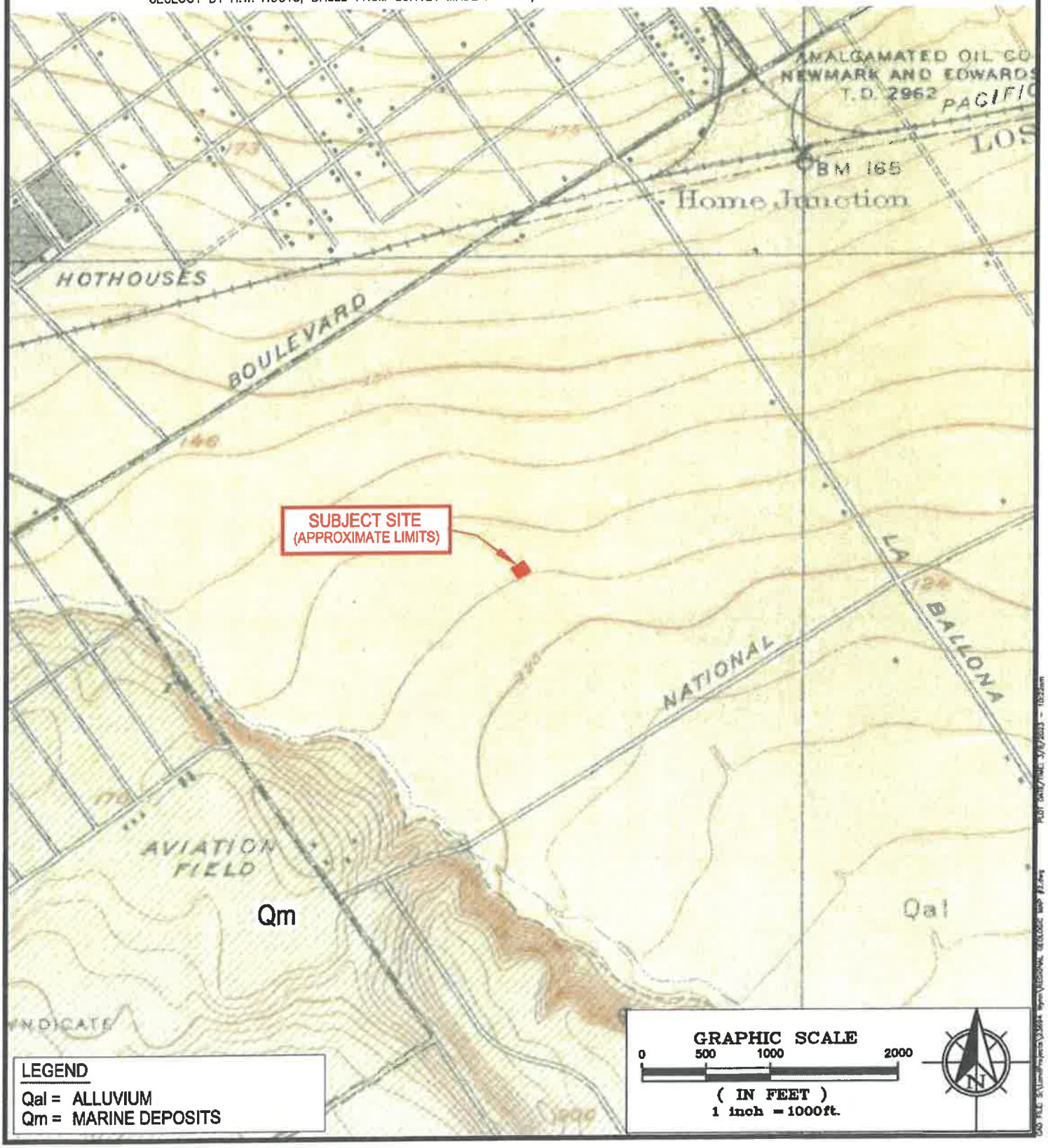
BG: 23694 2662 & 2668 S BARRINGTON AVE, LLC

CONSULTANT : RSB

DRAWN BY : AM

SCALE: 1" = 1000'

REFERENCE: GEOLOGIC MAP OF THE EASTERN PART OF THE SANTA MONICA MOUNTAINS AND ADJACENT AREAS, LOS ANGELES COUNTY, CALIFORNIA., GEOLOGY BY H.W. HOOTS, BASED FROM SURVEY MADE IN 1931, PROFESSIONAL PAPER 165-C.



LEGEND

Qal = ALLUVIUM

Qm = MARINE DEPOSITS

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REGIONAL FAULT MAP

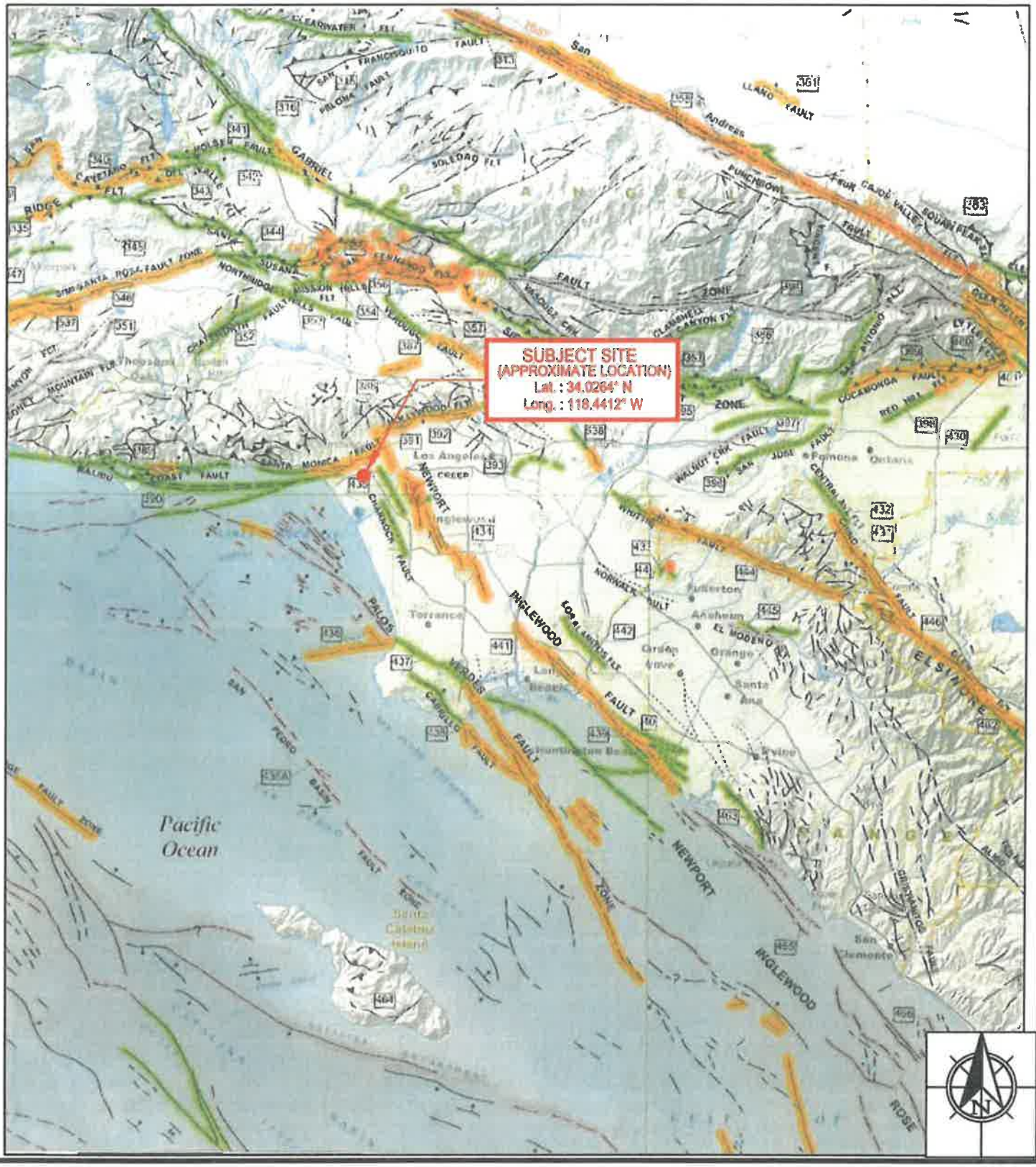
BG: 23694 2662 & 2668 S BARRINGTON AVE, LLC

CONSULTANT : RSB

DRAWN BY : AM

SCALE: 1" = 12 MILES

REFERENCE: JENNINGS, C.W., AND BRYANT, W.A.,2010, FAULT ACTIVITY MAP OF CALIFORNIA GEOLOGICAL SURVEY, 150th ANNIVERSARY, MAP No 6.



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SEISMIC HAZARD ZONES MAP

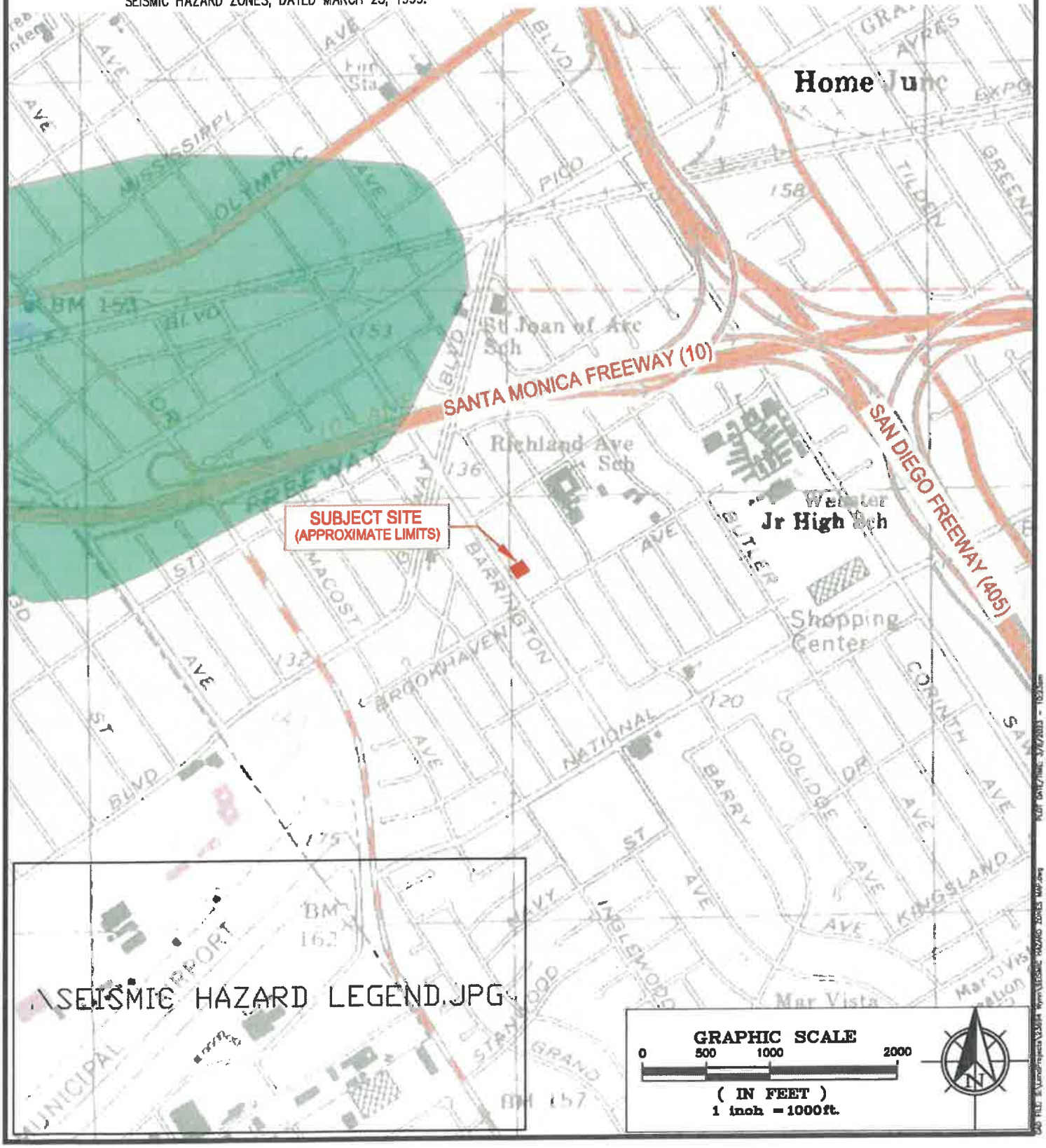
BG: 23694 2662 & 2668 S BARRINGTON AVE, LLC

CONSULTANT : RSB

DRAWN BY : AM

SCALE: 1" = 1000'

REFERENCE: EARTHQUAKE ZONES OF REQUIRED INVESTIGATION BEVERLY HILLS QUADRANGLE; EARTHQUAKE FAULT ZONES, REVISED JANUARY 11, 2018 AND SEISMIC HAZARD ZONES, DATED MARCH 25, 1999.



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HISTORIC-HIGH GROUNDWATER MAP

BG: 23694 2662 & 2668 S BARRINGTON AVE, LLC

CONSULTANT : RSB

DRAWN BY : AM

SCALE: 1" = 4000'

REFERENCE: CGS, 1998, Seismic Hazard Zone Report for the Beverly Hills 7.5-Minute Quadrangle, Los Angeles County, California, Seismic Hazard Zone Report 023, and CGS, 1998, Seismic Hazard Zone Report for the Venice 7.5-Minute Quadrangle, Los Angeles County, California, Seismic Hazard Zone Report 036.

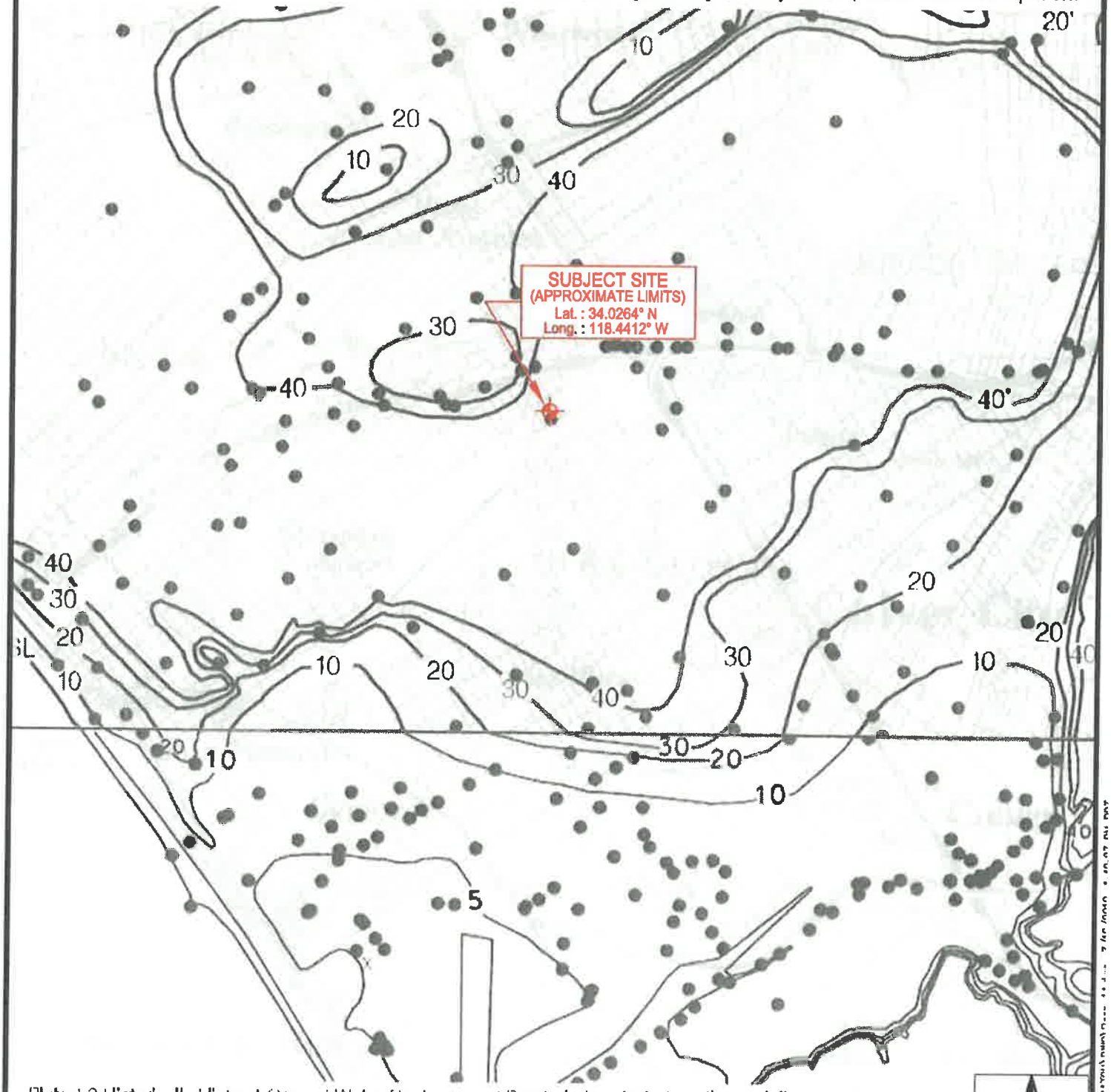
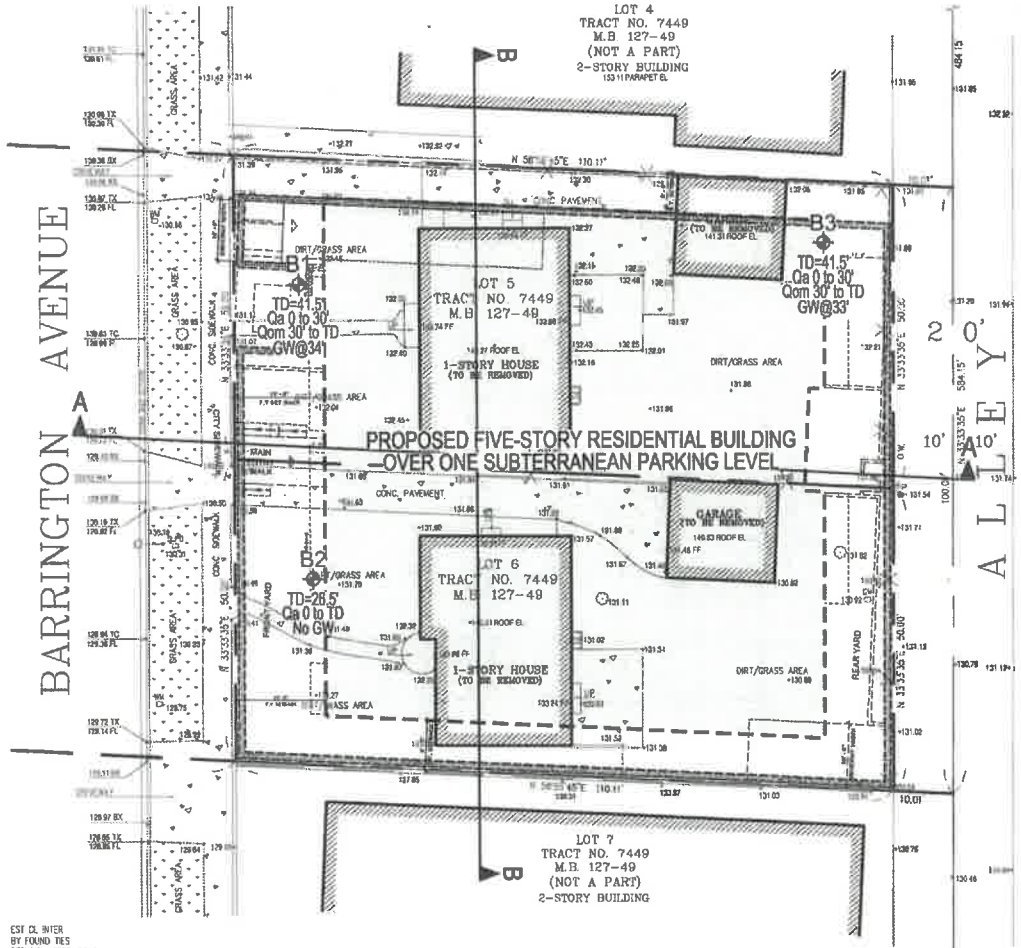


Plate 1.2 Historically Highest Ground Water Contours and Borehole Log Data Locations, Hollywood Quadrangle.

● Borehole Site

30 Depth to ground water in feet



LEGEND

B3	LOCATION AND NUMBER OF HOLLOW-STEM AUGER BORING
TD=41.5'	TOTAL DEPTH (FEET)
Qa 0 to 30'	DEPTH OF ALLUVIUM (FEET)
Qom 30' to TD	DEPTH OF OLDER ALLUVIUM (FEET)
GW @ 33'	DEPTH TO GROUNDWATER (FEET)
B B	LINE OF CROSS SECTION

GRAPHIC SCALE

20 15 10 5 0 10 20 40

(IN FEET)

1 inch = 20 ft.

MARCH 07, 2023

REFERENCE: TOPOGRAPHIC SURVEY PREPARED BY M&G CIVIL ENGINEERING & LAND SURVEYING, DATED 09/26/2022 AND PROPOSED SITE PLAN BY AARON BRUMMER & ASSOCIATES, DATED 01/18/2023.

BYER GEOTECHNICAL INC.
1461 E. CHEVY CHASE DR., SUITE 200
GLENDALE, CA 91206
818.549.9959 TEL
818.543.3747 FAX

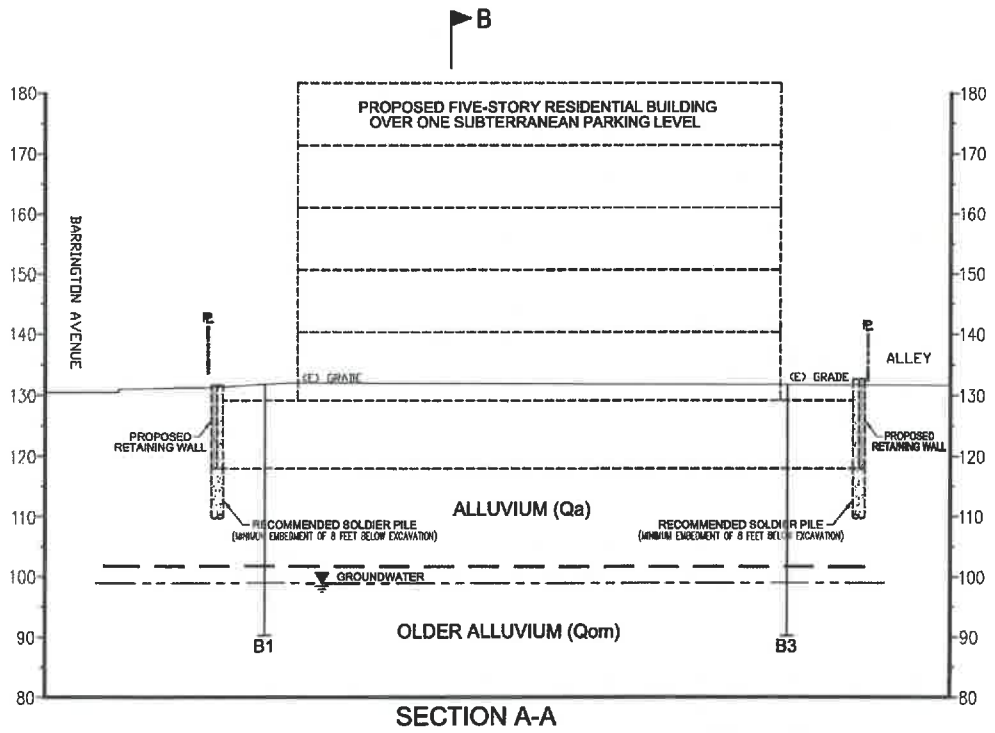
SITE PLAN

BG: 23694 2662 & 2668 S BARRINGTON AVE, LLC

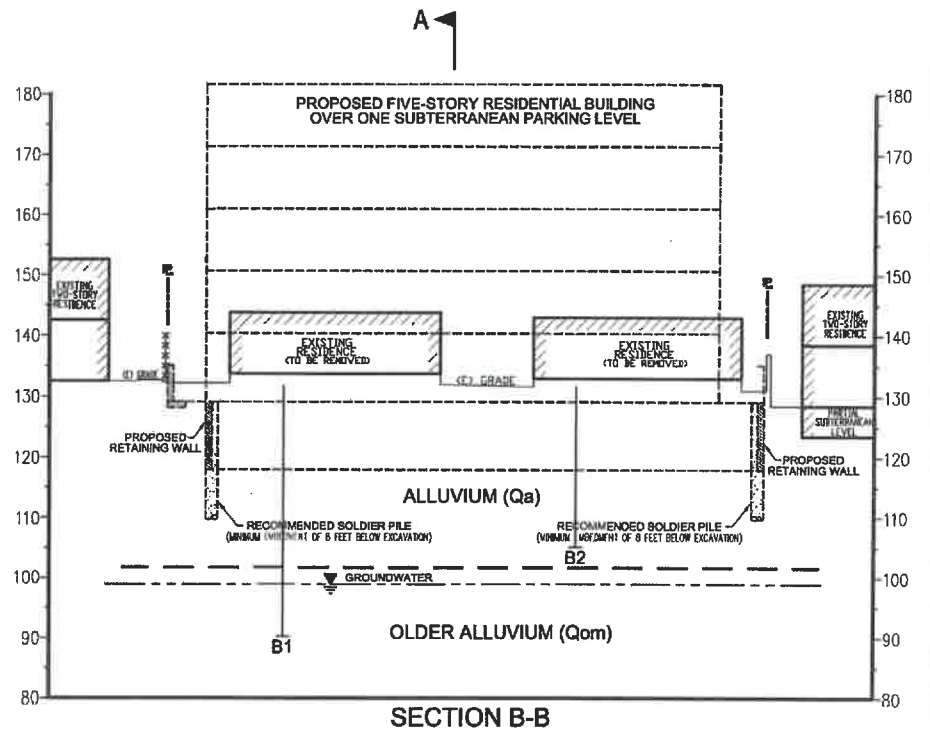
CONSULTANT : RSB

DRAWN BY : AS

SCALE: 1" = 20'



SECTION A-A



SECTION B-B

MARCH 07, 2023

BYER GEOTECHNICAL INC.
1461 E. CHEVY CHASE DR., SUITE 200
GLENDALE, CA 91206
818.549.9959 TEL
818.543.3747 FAX

SECTIONS A & B

BG: 23694 2662 & 2668 S BARRINGTON AVE, LLC

CONSULTANT: RSB

DRAWN BY: AS

SCALE: 1" = 20'

CITY OF LOS ANGELES
CALIFORNIA

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

April 24, 2023

LOG # 125763
SOILS/GEOLOGY FILE - 2

2662 and 2668 S Barrington Ave, LLC
865 Via De La Paz #308
Pacific Palisades, CA 90272

TRACT: 7449
LOT(S): 5 & 6
LOCATION: 2662 S. Barrington Ave.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Soils Report	BG 23694	03/07/2023	Byer Geotechnical, Inc.

The Grading Division of the Department of Building and Safety has reviewed the referenced report that provide recommendations for the proposed 5 story residential building over a basement area. The earth materials at the subsurface exploration locations consist of native soils. The consultants recommend to support the proposed structure(s) on conventional foundations bearing on native undisturbed soils.

As of January 1, 2023, the City of Los Angeles has adopted the new 2023 Los Angeles Building Code (LABC). The 2023 LABC requirements will apply to all projects where the permit application submittal date is after January 1, 2023.

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 2023 City of LA Building Code. P/BC numbers refer to 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. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill (1809.2, 7011.3).

7. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction (7013.12).

8. 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).

9. 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)

10. Where any excavation, not addressed in the approved reports, would remove lateral support (as defined in 3307.3.1) from a public way, adjacent property or structures, a supplemental report shall be submitted to the Grading Division of the Department containing recommendations for shoring, underpinning, and sequence of construction. Shoring recommendations shall include the maximum allowable lateral deflection of shoring system to prevent damage to adjacent structures, properties and/or public ways. Report shall include a plot plan and cross-section(s) showing the construction type, number of stories, and location of adjacent structures, and analysis incorporating all surcharge loads that demonstrate an acceptable factor of safety against failure. (7006.2 & 3307.3.2)

11. 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).

12. The soils engineer shall review and approve the shoring and/or underpinning plans prior to issuance of the permit (3307.3.2).

13. 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.

14. Unsurcharged temporary excavations over 5 feet exposing soil shall be trimmed back at a gradient not exceeding 1:1, as recommended.

15. Shoring shall be designed for the lateral earth pressures specified on page 15 of the report; all surcharge loads shall be included into the design.

16. Shoring shall be designed for a maximum lateral deflection of ½ inch where a structure is within a 1:1 plane projected up from the base of the excavation, and 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, as recommended.

17. A shoring monitoring program shall be implemented to the satisfaction of the soils engineer.

18. All foundations shall derive entire support from native undisturbed soils, as recommended.

19. 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.

20. The foundation/slab design shall satisfy all requirements of the Information Bulletin P/BC 2017-116 "Foundation Design for Expansive Soils" (1803.5.3).

21. 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. According to ASCE 7-16 Section 11.4.8, for structures on Site Class D sites with S1 greater than or equal to 0.2, the parameter SM1 determined by EQ. (11.4-2) shall be increased by 50%. Alternatively, a supplemental report containing a site-specific ground motion hazard analysis in accordance with ASCE 7-16 Section 21.2 shall be submitted for review and approval.

22. Basement walls and other walls in which horizontal movement is restricted at the top shall be designed for at-rest pressure as specified on page 12 of the report (1610.1). All surcharge loads shall be included into the design.

23. The structure shall be connected to the public sewer system per P/BC 2020-027.

24. 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).

25. An on-site storm water infiltration system at the subject site shall not be implemented, as recommended.

26. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS (7013.10).

27. 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).

28. 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)

29. Prior to excavation an initial inspection shall be called with the LADBS Inspector. During the initial inspection, the sequence of construction; shoring; protection fences; and, dust and traffic control will be scheduled (108.9.1).

30. 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).

31. 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).

ALAN DANG
Structural Engineering Associate II

AD/ad
Log No. 125763
213-482-0480

cc: John Doe, Applicant
Byer Geotechnical, Inc., Project Consultant
LA District Office

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY
Grading Division

District LA | Log No. 125763

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: TR 7449
Block: NONE Lots: 5 AND 6
3. OWNER: 2662 AND 2668 S. BARRRINGTON AVE.LLC
Address: 865 VIA DE LA PAZ #308
City: PACIFIC PALISADES Zip: 90272
Phone (Daytime):

2. PROJECT ADDRESS: 2662 S BARRINGTON
4. APPLICANT AARON BRUMER
Address: 10999 RIVERSIDE DR. SUITE 302
City: NORTH HOLLYWOOD Zip: 91602
Phone (Daytime): (310)422-9234
E-mail address: AARON@AARONBRUMER.COM

5. Report(s) Prepared by: BYER GEOTECHNICAL INC
6. Report Date(s): MARCH 7,2023

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)

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	
☐ Import-Export Route		☐ Response to Correction	
Cubic Yards:		☐ Expedite ONLY	
		Sub-total	
		Surcharge	89.86
		TOTAL FEE	452.86

Fee Due: 452.86
Fee Verified By: JL Date: 4/12/23
(Cashier Use Only)

#1558158 Pd 4/13/23

ACTION BY:

THE REPORT IS: ☐ NOT APPROVED
☐ APPROVED WITH CONDITIONS ☐ BELOW ☐ ATTACHED

For Geology — Date

For Soils — Date

REFERRAL FORMS:

TRANSPORTATION STUDY ASSESSMENT

DEPARTMENT OF TRANSPORTATION - REFERRAL FORM

RELATED CODE SECTION: Los Angeles Municipal Code Section 16.05 and various code sections.

PURPOSE: The Department of Transportation (LADOT) Referral Form serves as an initial assessment to determine whether a project requires a Transportation Assessment.

GENERAL INFORMATION

- Administrative: Prior to the submittal of a referral form with LADOT, a Planning case must have been filed with Los Angeles City Planning.
- All new school projects, including by-right projects, must contact LADOT for an assessment of the school's proposed drop-off/pick-up scheme and to determine if any traffic controls, school warning and speed limit signs, school crosswalk and pavement markings, passenger loading zones and school bus loading zones are needed.
- Unless exempted, projects located within a transportation specific plan area may be required to pay a traffic impact assessment fee regardless of the need to prepare a transportation assessment.
- Pursuant to LAMC Section 19.15, a review fee payable to LADOT may be required to process this form. The applicant should contact the appropriate LADOT Development Services Office to arrange payment.
- LADOT's Transportation Assessment Guidelines, VMT Calculator, and VMT Calculator User Guide can be found at **http://ladot.lacity.org**.
- A transportation study is not needed for the following project applications:
    - Ministerial / by-right projects
    - Discretionary projects limited to a request for change in hours of operation
    - Tenant improvement within an existing shopping center for change of tenants
    - Any project only installing a parking lot or parking structure
    - Time extension
    - Single family home (unless part of a subdivision)
- This Referral Form is not intended to address the project's site access plan, driveway dimensions and location, internal circulation elements, dedication and widening, and other issues. These items require separate review and approval by LADOT.

SPECIAL REQUIREMENTS

When submitting this referral form to LADOT, include the completed documents listed below.

☐ Copy of Department of City Planning Application (CP-7771.1).

☐ Copy of a fully dimensioned site plan showing all existing and proposed structures, parking and loading areas, driveways, as well as on-site and off-site circulation.

☐ If filing for purposes of Site Plan Review, a copy of the Site Plan Review Supplemental Application.

☐ Copy of project-specific VMT Calculator analysis results.

TO BE VERIFIED BY PLANNING STAFF PRIOR TO LADOT REVIEW

LADOT DEVELOPMENT SERVICES DIVISION OFFICES: Please route this form for processing to the appropriate LADOT Development Review Office as follows (see this map for geographical reference):

Metro	**West LA**	**Valley**
213-972-8482	*213-485-1062*	*818-374-4699*
100 S. Main St, 9th Floor	7166 W. Manchester Blvd	6262 Van Nuys Blvd, 3rd Floor
Los Angeles, CA 90012	Los Angeles, CA 90045	Van Nuys, CA 91401

1. PROJECT INFORMATION

Case Number: CPC-2023-4250-DB-HCA

Address: 2662 - 2668 S Barrington Avenue Los Angeles, CA 90064

Project Description: 21 Unit Apartment Building

Seeking Existing Use Credit (will be calculated by LADOT): Yes _____ No _____ Not sure ✓

Applicant Name: Jake Heller

Applicant E-mail: jheller@jdj-consulting.com Applicant Phone: _____

Planning Staff Initials: _____ **Date:** _____

2. PROJECT REFERRAL TABLE

	Land Use (list all)	**Size / Unit**	**Daily Trips[1]**
Proposed[1]	21 Unit Apartment Building	21 Units	100
	Total trips[1]:		

a. Does the proposed project involve a discretionary action? **Yes** ☑ **No** ☐

b. Would the proposed project generate 250 or more daily vehicle trips[2]? **Yes** ☐ **No** ☑

c. If the project is replacing an existing number of residential units with a smaller number of residential units, is the proposed project located within one-half mile of a heavy rail, light rail, or bus rapid transit station[3]? **Yes** ☐ **No** ☑

If **YES** to **a.** and **b.** or **c.**, or to **all** of the above, the Project must be referred to LADOT for further assessment.

Verified by: Planning Staff Name: _____ Phone: _____

Signature: Joshua Jones Date: 06/30/23

[1] Qualifying Existing Use to be determined by LADOT staff on following page, per LADOT's Transportation Assessment Guidelines.

[2] To calculate the project's total daily trips, use the VMT Calculator. Under 'Project Information', enter the project address, land use type, and intensity of all proposed land uses. Select the '+' icon to enter each land use. After you enter the information, copy the 'Daily Vehicle Trips' number into the total trips in this table. Do not consider any existing use information for screening purposes. For additional questions, consult LADOT's VMT Calculator User Guide and the LADOT Transportation Assessment Guidelines (available on the LADOT website).

[3] Relevant transit lines include: Metro Red, Purple, Blue, Green, Gold, Expo, Orange, and Silver line stations; and Metrolink stations.

TO BE COMPLETED BY LADOT

3. PROJECT INFORMATION

	Land Use (list all)	Size / Unit	Daily Trips
Proposed	Apartment Building	21	100
	Total new trips:		100
Existing	Existing SFD	2	17
	Total existing trips:		17
	Net Increase / Decrease (+ or -)		+83

a. Is the project a single retail use that is less than 50,000 square feet? **Yes** ☐ **No** ☑
b. Would the project generate a net increase of 250 or more daily vehicle trips? **Yes** ☐ **No** ☑
c. Would the project generate a net increase of 500 or more daily vehicle trips? **Yes** ☐ **No** ☑
d. Would the project result in a net increase in daily VMT? **Yes** ☐ **No** ☑
e. If the project is replacing an existing number of residential units with a smaller number of residential units, is the proposed project located within one-half mile of a heavy rail, light rail, or bus rapid transit station? **Yes** ☐ **No** ☑

f. Does the project trigger Site Plan Review (LAMC 16.05)? **Yes** ☐ **No** ☑

g. Project size:
- **i.** Would the project generate a net increase of 1,000 or more daily vehicle trips? **Yes** ☐ **No** ☑
- **ii.** Is the project's frontage 250 linear feet or more along a street classified as an Avenue or Boulevard per the City's General Plan? **Yes** ☐ **No** ☑
- **iii.** Is the project's building frontage encompassing an entire block along a street classified as an Avenue or Boulevard per the City's General Plan? **Yes** ☐ **No** ☑

VMT Analysis (CEQA Review)
If **YES** to **a.** and **NO** to **e.** a VMT analysis is **NOT** required.
If **YES** to both **b.** and **d.**; or to **e.** a VMT analysis **is** required.

Access, Safety, and Circulation Assessment (Corrective Conditions)
If **YES** to **c.**, a project access, safety, and circulation evaluation may be required.
If **YES** to **f.** and either **g.i.**, **g.ii.**, or **g.iii.**, an access assessment may be required.

LADOT Comments:
Fee Calculation Estimate is contingent on Applicant seeking proof of occupancy for existing use credit.

Please note that this form is not intended to address the project's site access plan, driveway dimensions and location, internal circulation elements, dedication and widening, and other issues. These items require separate review and approval by LADOT. Qualifying Existing Use to be determined per LADOT's Transportation Assessment Guidelines.

4. Specific Plan with Trip Fee or TDM Requirements: **Yes** ☑ **No** ☐

Fee Calculation Estimate: $108,077

VMT Analysis Required (Question b. satisfied): **Yes** ☐ **No** ☑

Access, Safety, and Circulation Evaluation Required (Question c. satisfied): **Yes** ☐ **No** ☑

Access Assessment Required (Question c., f., and either g.i., g.ii. or g.iii satisfied): **Yes** ☐ **No** ☑

Prepared by DOT Staff Name: Joshua Jones Phone: (213)485-1062

Signature: Joshua Jones Digitally signed by Joshua Jones DN: cn=Joshua Jones, o=LADOT, ou=West LA Development Review, email=joshua.jones@lacity.org, c=US Date: 2023.06.30 10:33:43 -07'00' Date: 06/30/23

APPLICATIONS

TREE DISCLOSURE STATEMENT

Los Angeles Municipal Code (LAMC) Section 46.00 requires disclosure and protection of certain trees located on private and public property, and that they be shown on submitted and approved site plans. Any discretionary application that includes changes to the building footprint, including demolition or grading permit applications, shall provide a Tree Disclosure Statement completed and signed by the Property Owner.

If there are any protected trees or protected shrubs on the project site and/or any trees within the adjacent public right-of-way that may be impacted or removed as a result of the project, a Tree Report (CP-4068) will be required, and the field visit must be conducted by a qualified Tree Expert, prepared and conducted within the last 12 months.

Property Address: 2662 - 2668 S Barrington Ave Los Angeles, CA 90064

Date of Field Visit: 05/18/23

Does the property contain any of the following protected trees or shrubs?

☐ **Yes** (Mark any that apply below)

- ☐ Oak, including Valley Oak *(Quercus lobota)* and California Live Oak (*Quercus agrifolia*) or any other tree of the oak genus indigenous to California, but excluding the Scrub Oak
- ☐ Southern California Black Walnut (*Juglans californica*)
- ☐ Western Sycamore (*Platanus racemosa*)
- ☐ California Bay (*Umbellularia californica*)
- ☐ Mexican Elderberry (*Sambucus mexicana*)
- ☐ Toyon (*Heteromeles arbutifolia*)

☑ **No**

Does the property contain any street trees in the adjacent public right-of-way?

☐ **Yes** ☑ **No**

Does the project occur within the Mt. Washington/Glassell Park Specific Plan Area and contain any trees 12 inches or more diameter at 4.5 feet above average natural grade at base of tree and/or is more than 35 feet in height?

☐ **Yes** ☑ **No**

Does the project occur within the Coastal Zone and contain any of the following trees?

☐ **Yes** (Mark any that apply below)

- ☐ Blue Gum Eucalyptus *(Eucalyptus globulus)*
- ☐ Red River Gum Eucalyptus *(Eucalyptus camaldulensis)*
- ☐ Other Eucalyptus species

☑ **No**

Tree Expert Credentials (if applicable)

Name of Tree Expert: _____

Mark which of the following qualifications apply:

- ☐ Certified arborist with the International Society of Arboriculture who holds a license as an agricultural pest control advisor
- ☐ Certified arborist with the International Society of Arboriculture who is a licensed landscape architect
- ☐ Registered consulting arborist with the American Society of Consulting Arborists

Certification/License No.: _____

Owner's Declaration

I acknowledge and understand that knowingly or negligently providing false or misleading information in response to this disclosure requirement constitutes a violation of the Los Angeles Municipal Code Section 46.00, which can lead to criminal and/or civil legal action. I certify that the information provided on this form relating to the project site and any of the above biological resources is accurate to the best of my knowledge.

Name of the Owner (Print) RJ Wynn

Owner Signature DocuSigned by: 078720FF9A1641D... Date 05/18/23