Attachment A

Supplemental Noise Study

AES
ACOUSTICAL ENGINEERING SERVICES

8850 Sunset Project
Supplemental Construction Noise Impacts Analysis

INTRODUCTION

In response to recent public comments to the Project Draft EIR (received on 11/11/2021),[1] Acoustical Engineering Services, Inc. (AES) has conducted this supplemental construction noise impacts analysis to evaluate the potential noise impacts associated with the construction activities for the proposed development located at 8850 Sunset Boulevard (Project) in the City of West Hollywood (City), California. The public comments raised concerns that a) no receivers were included in the residential area just north of the Project development (e.g., residences on Larrabee Street, Clark Street and Horn Avenue; situated north of Sunset Boulevard) and b) there was no consideration of potential influence from the "canyon effect" caused by the geographical area north of the Project site in the Project noise analysis. Therefore, in response to the public comments, additional noise analysis was conducted for three additional receptors located along Larrabee Street, Clark Street and Horn Avenue located to the north of the Project Site. The locations of the three addition receptor locations, receptors R6 through R8, are shown on Figure 1 (on page 3). The noise analysis revealed no measurable multiple sound reflections at these receptors, generally the typical characteristic of a "canyon effect." In addition, during project construction, the estimated noise levels at receptors R6 through R8 would be below the City's significance thresholds and therefore, noise impacts to the residences north of Sunset Boulevard would be less than significant.

REGULATORY FRAMEWORK

City of West Hollywood General Plan

Pursuant to Mitigation Measure 3.9-1 of the 2035 General Plan Final EIR, the City of West Hollywood has determined that the City should use the following thresholds and procedures for CEQA analysis of a proposed project:[2]

- The City shall apply the noise standards specified in Table 10-1 and Table 10-2 of the Safety and Noise Element to proposed projects analyzed under CEQA.
- In addition, an increase in ambient noise levels is assumed to be a significant noise concern if a proposed project causes ambient noise levels to exceed the following:

[1] Public comments received from Richard G. Wight (email dated 10/20/2021) and Antoinette O'Grady (email dated 11/1/2021), and

[2] Final Program Environmental Impact Report City of West Hollywood General Plan and Climate Action Plan, October 2010, Volume 1, Chapter 3.9.5.

- Where the existing ambient noise level is less than 60 dB, a project-related permanent increase in ambient noise levels of 5 dB L_{dn} or greater.

- Where the existing ambient noise level is greater than 60 dB, a project-related permanent increase in ambient noise levels of 3 dB L_{dn} or greater.

- A project-related temporary increase in ambient noise levels of 10 dB L_{eq} or greater.

City of West Hollywood Noise Control Ordinance

Chapter 9.08, *Noise,* of the City's Municipal Code (Noise Ordinance) establishes acceptable ambient sound levels to regulate intrusive noises within specific land use zones and provides procedures and criteria for the measurement of the sound level of noise sources. These procedures recognize and account for differences in the perceived level of different types of noise and/or noise sources.

Section 9.08.050 (Part d) of the City Noise Control Ordinance prohibits construction between the hours 7:00 P.M. and 8:00 A.M. on weekdays; or at any time on Saturday (except, between the hours of 8:00 A.M. and 7:00 P.M., interior construction is permissible); or at any time on Sunday, New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, the day after Thanksgiving, Christmas Day and observed holidays.

IMPACT ANALYSIS

Sensitive Receptors

Additional noise analysis was conducted at three selected residential receptors, representing the residences located in the WeHo Heights Neighborhood north of Sunset Boulevard. The locations of the three selected noise-sensitive receptors are identified as R6 through R8 in Figure 1 (on page 3). These receptors are located approximately 575 feet to 1225 feet north of the Project Site. The Project's construction noise is unlikely to contribute to the existing ambient noise in this area, based on the significant sound attenuation provided by relatively long distances from the Project construction site and the presence of existing intervening buildings between the Project Site and the receptors.

The existing ambient noise levels at receptors R6 through R8 were measured on December 21, 2021, using a Larson-Davis Model 870 Integrating/Logging Sound Level Meter.[3] A 15-minute measurement was conducted at each of the receptor locations during the daytime hours between 10:00 A.M. and 12:00 P.M. Our site observations and acoustics survey revealed no measurable

[3] This sound meter meets and exceeds the minimum industry standard performance requirements for "Type 1" standard instruments as defined in the American National Standard Institute (ANSI) S1.4.

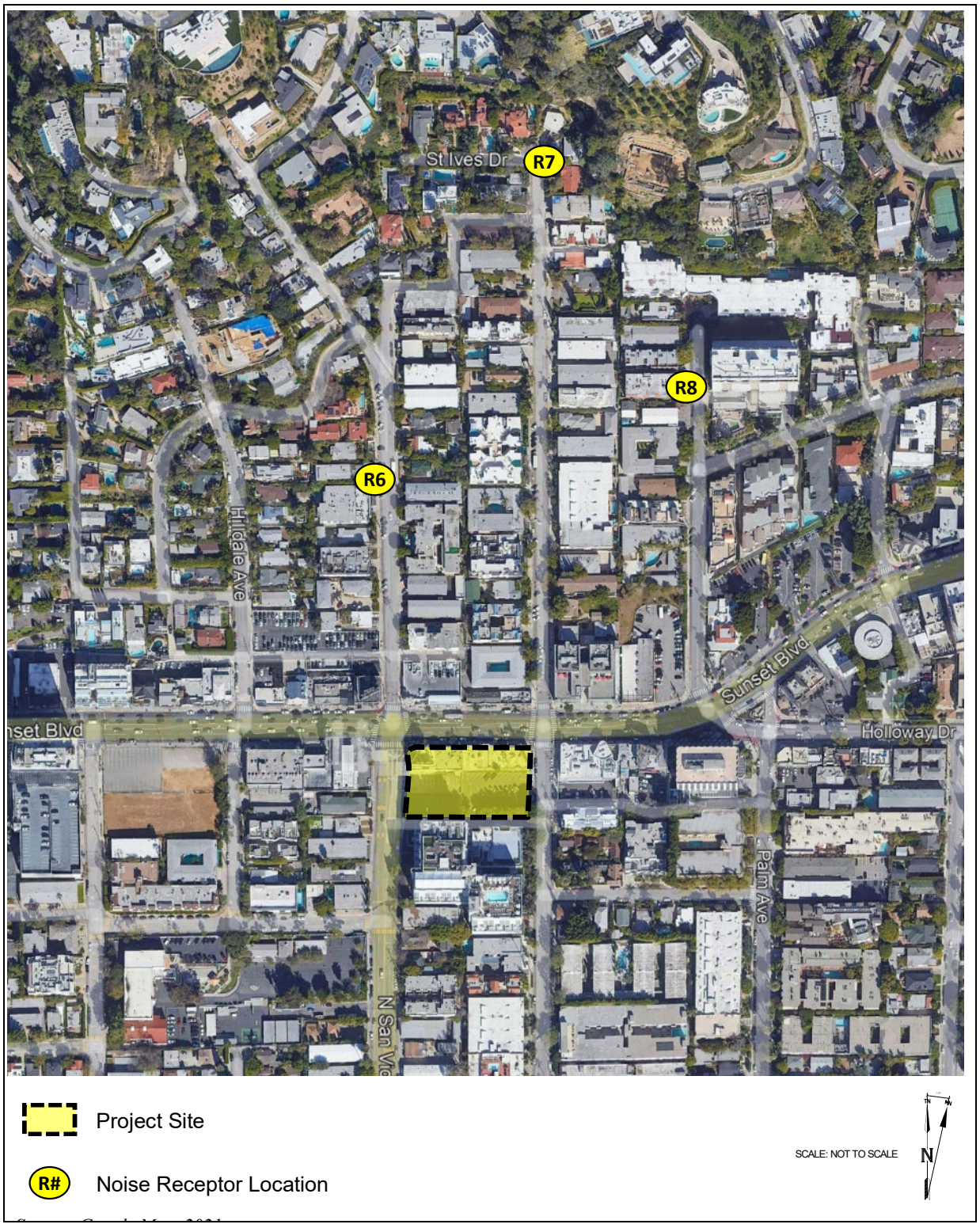


Figure 1. Noise Receptor Locations

multiple sound reflections, generally considered a characteristic of a "canyon effect." Typically, "canyon effect" could occurs where tall and continuous structures (or canyons) are situated in parallel to the receptor. Current development in the areas where the additional ambient noise environment was recorded consists of mostly low- to mid- rise structures with articulated facades and gaps between the adjacent buildings, which are not conducive to creating the "canyon effect." As described below, the noise analysis utilized state-of-the-art computer noise prediction model (SoundPLAN), which takes into account the specifics of land topography and sound reflections from the ground and nearby buildings for any potential "canyon effect."

Significance Thresholds

Construction Noise

The significance threshold for construction-related noise impacts is based on the Mitigation Measure 3.9-1 of the City's 2035 General Plan Final EIR. Since construction activities are considered a temporary occurrence, the applicable significance criteria for temporary noise source are used. Therefore, a project would normally have a significant impact on noise levels from construction if:

- On-site and off-site construction activities would exceed existing ambient exterior noise levels by 10 dBA (hourly L_{eq}) or more at a noise-sensitive use.

Construction Noise Impacts

Noise impacts from Project on-site construction activities would be a function of the noise generated by construction equipment, the location of the equipment, the timing and duration of the noise-generating construction activities, and the relative distance to noise-sensitive receptors. While the Project construction off-site construction trucks could be a potential noise sources, these receptors north of the Project Site are not in a close vicinity to, or near the Project's planned haul routes. The on-site construction activities for the Project would generally include demolition, site grading and excavation for the subterranean parking garage, building construction, and finishing. Each stage of construction would involve the use of various types of construction equipment and would, therefore, have its own distinct noise characteristics. Demolition generally involves the use of backhoes, front-end loaders, and heavy-duty trucks. Grading and excavation typically require the use of earth-moving equipment, such as excavators, front-end loaders, and heavy-duty trucks. Building construction typically involves the use of cranes, forklifts, concrete trucks, pumps, and delivery trucks. Noise from construction equipment would generate both steady-state and episodic noise that could be heard within and adjacent to the Project Site.

Individual pieces of construction equipment that would be used for construction produce maximum noise levels of 74 dBA to 90 dBA at a reference distance of 50 feet from the noise source, as shown in Table 1 (on page 5). The construction equipment noise levels at 50 feet distance (Referenced Maximum Noise Levels) are based on the FHWA Roadway Construction Noise Model User's Guide (RCNM, 2006), which is a technical report containing actual

measured noise data for construction equipment. These maximum noise levels would occur when equipment is operating under full power conditions (i.e., the equipment engine at maximum speed). However, equipment used on construction sites often operates under less than full power conditions, or part power. To more accurately characterize construction-period noise levels, the average (Hourly L_{eq}) noise level associated with each construction stage is calculated based on the quantity, type, and usage factors for each type of equipment that would be used during each construction stage.[4] These noise levels are typically associated with multiple pieces of equipment operating simultaneously.

Table 1. Construction Equipment Noise Emission Reference Levels and Usage Factors

Type of Equipment	Acoustical Usage Factor (%)	Reference Maximum Noise Levels at 50 Feet,[a] L_{max} (dBA)
Air Compressor	40	78
Cement and Mortar Mixer	50	80
Concrete Pump	20	81
Concrete Saw	20	90
Crane	16	81
Dozer	40	82
Drill Rig	20	84
Excavator	40	81
Man Lift/ Forklift	20	75
Water Truck	40	76
Excavator	40	81
Paver	50	77
Rubber Tired Loader	40	79
Tractor/Loader/Backhoe	40	84
Trencher	50	80
Delivery Truck	40	74
Welders	40	74

[a] *Construction equipment noise levels are based on the FHWA RCNM.*
Source: FHWA Roadway Construction Noise Model User's Guide, Table 1, 2006

Potential noise impacts on the existing residences to the north from the Project on-site construction noise sources were calculated using the SoundPLAN (version 8.2) 3-dimensional computer noise prediction model.[5] SoundPLAN is a 3-dimensional acoustic ray tracing program

[4] Pursuant to the FHWA Roadway Construction Noise Model User's Guide, 2006, the usage factor is the percentage of time during a construction noise operation that a piece of construction is operating at full power.

[5] SoundPLAN GmbH, SoundPLAN version 8.2, 2020.

designed to calculate the noise propagation in an outdoor environment. The SoundPLAN model takes into account the land topography (as imported from Google Earth map) and sound reflections from the ground and nearby buildings. The SoundPlan noise prediction computer model is the state-of-the-art engineering tool, utilized for analyzing noise in a complex environment (e.g., hill side topography and intervening buildings).

Table 2 (below) provides the estimated construction noise levels for various construction phases at the off-site noise sensitive receptors R6 through R8. As indicated in Table 2, the estimated noise levels at receptors R6 through R8 would be a minimum 12 dBA (at R6) to 29 dBA (at R8) *below* the City's significance thresholds, which are equivalent to the measured daytime ambient noise levels plus 10 dBA. Therefore, noise impacts to the residences north of Sunset Boulevard from Project construction would be less than significant.

Table 2. Construction Noise Levels

Loc.	Approx. Distance to Project Const. Site, feet	Existing Daytime Ambient Noise Levels, dBA (L_{eq})	Estimated Noise Levels by Construction Phase,[a] dBA (L_{eq})				Significance Threshold,[b] dBA (L_{eq})	Exceed the Sig. Threshold dBA (L_{eq})
			Demo	Grading/ Excavation	Building Construction	Paving/ Finishing		
R6	575	55.7	53.5	52.7	51.7	46.5	65.7	0.0
R7	1225	53.8	46.1	45.6	45.2	36.3	63.8	0.0
R8	840	61.6	42.2	40.6	38.7	33.0	71.6	0.0

[a] *Detailed calculation worksheets are included in Appendix A.*
[b] *Significance thresholds are equivalent to the measured daytime ambient noise levels plus 10 dBA.*
Source: AES, 2022

8850 Sunset Project
Supplemental Construction Noise Impact Analysis

Appendix A

Construction Noise Calculations

8850 Sunset
Source Levels in dB(A) - 03-Demo

Name	Source type	Lw dB(A)	
Concrete Saw	Point	114.7	
Concrete Saw	Point	114.7	
Excavator	Point	108.7	
Rubber Tired Dozer	Point	109.7	
Rubber Tired Dozer	Point	109.7	
Tractors/Loaders/Backhoes	Point	111.7	
Tractors/Loaders/Backhoes	Point	111.7	
Water Truck	Point	103.7	

8850 Sunset
Contribution level - 03-Demo

Source	Source type	Leq,d dB(A)	
Receiver R6 Leq,d 53.5 dB(A)			
Concrete Saw	Point	51.7	
Tractors/Loaders/Backhoes	Point	46.6	
Rubber Tired Dozer	Point	38.9	
Water Truck	Point	32.8	
Excavator	Point	35.9	
Concrete Saw	Point	40.2	
Rubber Tired Dozer	Point	34.7	
Tractors/Loaders/Backhoes	Point	34.2	
Receiver R7 Leq,d 46.1 dB(A)			
Concrete Saw	Point	33.7	
Tractors/Loaders/Backhoes	Point	32.5	
Rubber Tired Dozer	Point	31.4	
Water Truck	Point	24.7	
Excavator	Point	29.4	
Concrete Saw	Point	35.0	
Rubber Tired Dozer	Point	35.0	
Tractors/Loaders/Backhoes	Point	44.4	
Receiver R8 Leq,d 42.2 dB(A)			
Concrete Saw	Point	34.3	
Tractors/Loaders/Backhoes	Point	32.0	
Rubber Tired Dozer	Point	30.1	
Water Truck	Point	25.1	
Excavator	Point	30.8	
Concrete Saw	Point	36.9	
Rubber Tired Dozer	Point	33.2	
Tractors/Loaders/Backhoes	Point	34.3	

8850 Sunset
Source Levels in dB(A) - 04-Grading

Name	Source type	Lw dB(A)	
Concrete Pump	Point	105.7	
Drill Rig	Point	108.7	
Drill Rig	Point	108.7	
Excavator	Point	108.7	
Excavator	Point	108.7	
Rubber Tired Dozer	Point	109.7	
Tractors/Loaders/Backhoes	Point	111.7	
Tractors/Loaders/Backhoes	Point	111.7	
Trencher	Point	108.6	
Water Truck	Point	103.7	

Source	Source type	Leq,d dB(A)	
Receiver R6 Leq,d 52.7 dB(A)			
Drill Rig	Point	43.9	
Tractors/Loaders/Backhoes	Point	49.9	
Rubber Tired Dozer	Point	38.9	
Water Truck	Point	32.8	
Excavator	Point	35.9	
Trencher	Point	34.1	
Concrete Pump	Point	30.6	
Tractors/Loaders/Backhoes	Point	34.2	
Excavator	Point	36.5	
Drill Rig	Point	46.1	
Receiver R7 Leq,d 45.6 dB(A)			
Drill Rig	Point	29.5	
Tractors/Loaders/Backhoes	Point	30.6	
Rubber Tired Dozer	Point	31.3	
Water Truck	Point	24.8	
Excavator	Point	29.4	
Trencher	Point	28.9	
Concrete Pump	Point	31.0	
Tractors/Loaders/Backhoes	Point	44.4	
Excavator	Point	30.0	
Drill Rig	Point	30.2	
Receiver R8 Leq,d 40.6 dB(A)			
Drill Rig	Point	29.0	
Tractors/Loaders/Backhoes	Point	31.3	
Rubber Tired Dozer	Point	30.1	
Water Truck	Point	25.0	
Excavator	Point	30.2	
Trencher	Point	30.8	
Concrete Pump	Point	29.2	
Tractors/Loaders/Backhoes	Point	34.3	
Excavator	Point	30.6	
Drill Rig	Point	29.8	

8850 Sunset
Source Levels in dB(A) - 05-Building Construction

Name	Source type	Lw dB(A)	
Air Compressor	Point	105.7	
Air Compressor	Point	105.7	
Concrete Pump	Point	105.7	
Cranes	Point	104.7	
Forklifts	Point	99.7	
Forklifts	Point	99.7	
Manlifts	Point	99.7	
Manlifts	Point	99.7	
Tractors/Loaders/Backhoes	Point	111.7	
Tractors/Loaders/Backhoes	Point	111.7	
Welders	Point	101.7	
Welders	Point	101.7	

Source	Source type	Leq,d dB(A)	
Receiver R6 Leq,d 51.7 dB(A)			
Welders	Point	37.0	
Tractors/Loaders/Backhoes	Point	50.2	
Forklifts	Point	28.9	
Manlifts	Point	28.8	
Air Compressor	Point	32.9	
Cranes	Point	30.2	
Concrete Pump	Point	30.6	
Tractors/Loaders/Backhoes	Point	34.2	
Welders	Point	36.4	
Air Compressor	Point	43.1	
Forklifts	Point	24.2	
Manlifts	Point	38.4	
Receiver R7 Leq,d 45.2 dB(A)			
Welders	Point	22.5	
Tractors/Loaders/Backhoes	Point	30.7	
Forklifts	Point	21.3	
Manlifts	Point	20.8	
Air Compressor	Point	26.4	
Cranes	Point	25.0	
Concrete Pump	Point	31.0	
Tractors/Loaders/Backhoes	Point	44.3	
Welders	Point	23.0	
Air Compressor	Point	27.3	
Forklifts	Point	29.7	
Manlifts	Point	30.2	
Receiver R8 Leq,d 38.7 dB(A)			
Welders	Point	22.0	
Tractors/Loaders/Backhoes	Point	31.3	
Forklifts	Point	20.1	
Manlifts	Point	21.0	
Air Compressor	Point	27.2	
Cranes	Point	26.9	
Concrete Pump	Point	29.2	
Tractors/Loaders/Backhoes	Point	34.4	
Welders	Point	23.5	
Air Compressor	Point	26.8	
Forklifts	Point	25.0	
Manlifts	Point	20.6	

8850 Sunset
Source Levels in dB(A) - 06-Paving Finishing

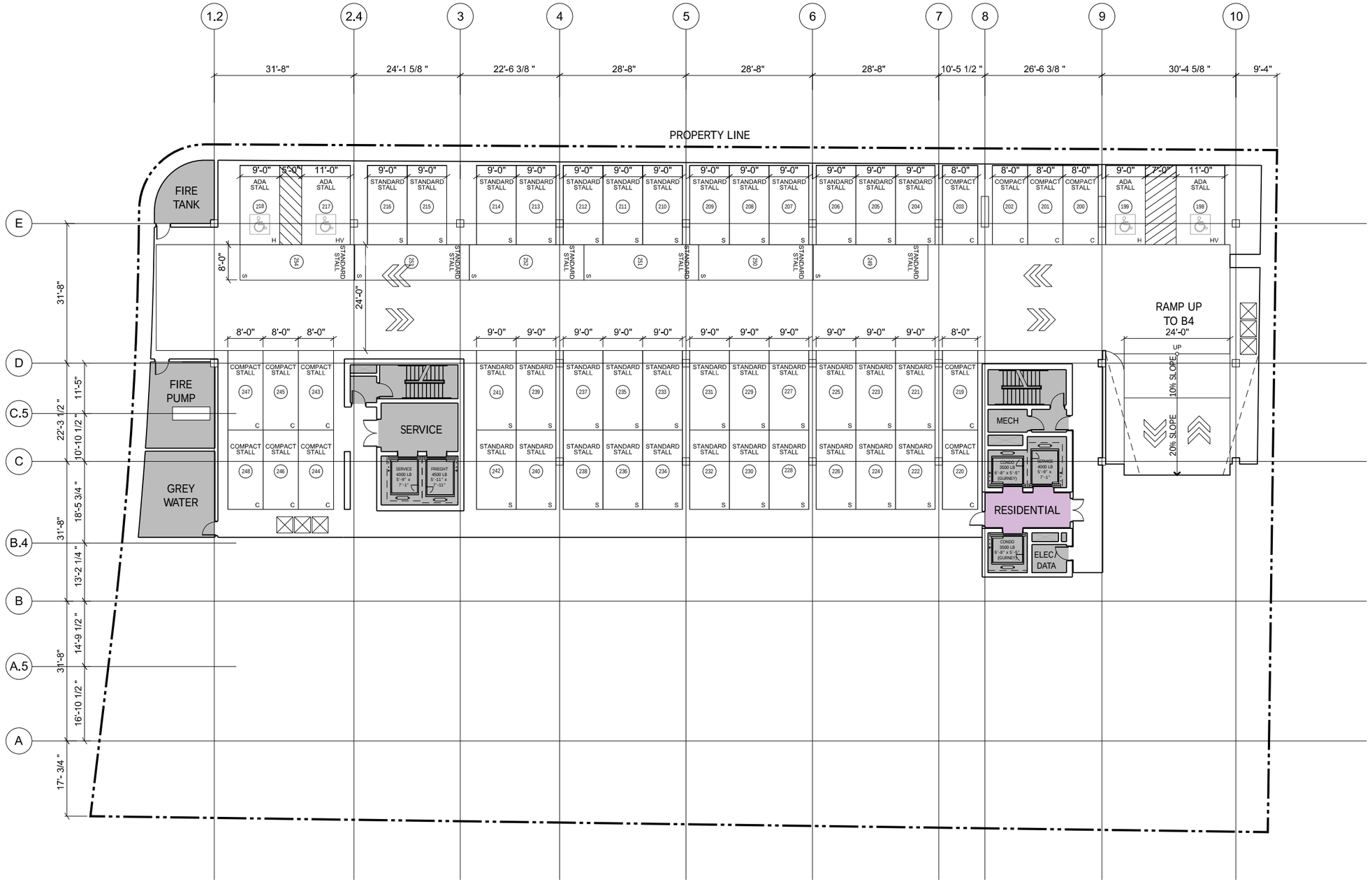
Name	Source type	Lw dB(A)	
Cement & Mortar Mixer	Point	108.6	
Paving Equipment	Point	105.6	
Skid Steer Loader	Point	106.7	

8850 Sunset
Contribution level - 06-Paving Finishing

Source	Source type	Leq,d dB(A)	
Receiver R6 Leq,d 46.5 dB(A)			
Cement & Mortar Mixer	Point	46.0	
Skid Steer Loader	Point	35.7	
Paving Equipment	Point	28.8	
Receiver R7 Leq,d 36.3 dB(A)			
Cement & Mortar Mixer	Point	27.5	
Skid Steer Loader	Point	27.6	
Paving Equipment	Point	34.9	
Receiver R8 Leq,d 33.0 dB(A)			
Cement & Mortar Mixer	Point	28.2	
Skid Steer Loader	Point	28.1	
Paving Equipment	Point	28.3	

Attachment B

Revised Parking Exhibit for Proposed Project



PARKING EXHIBIT - B5

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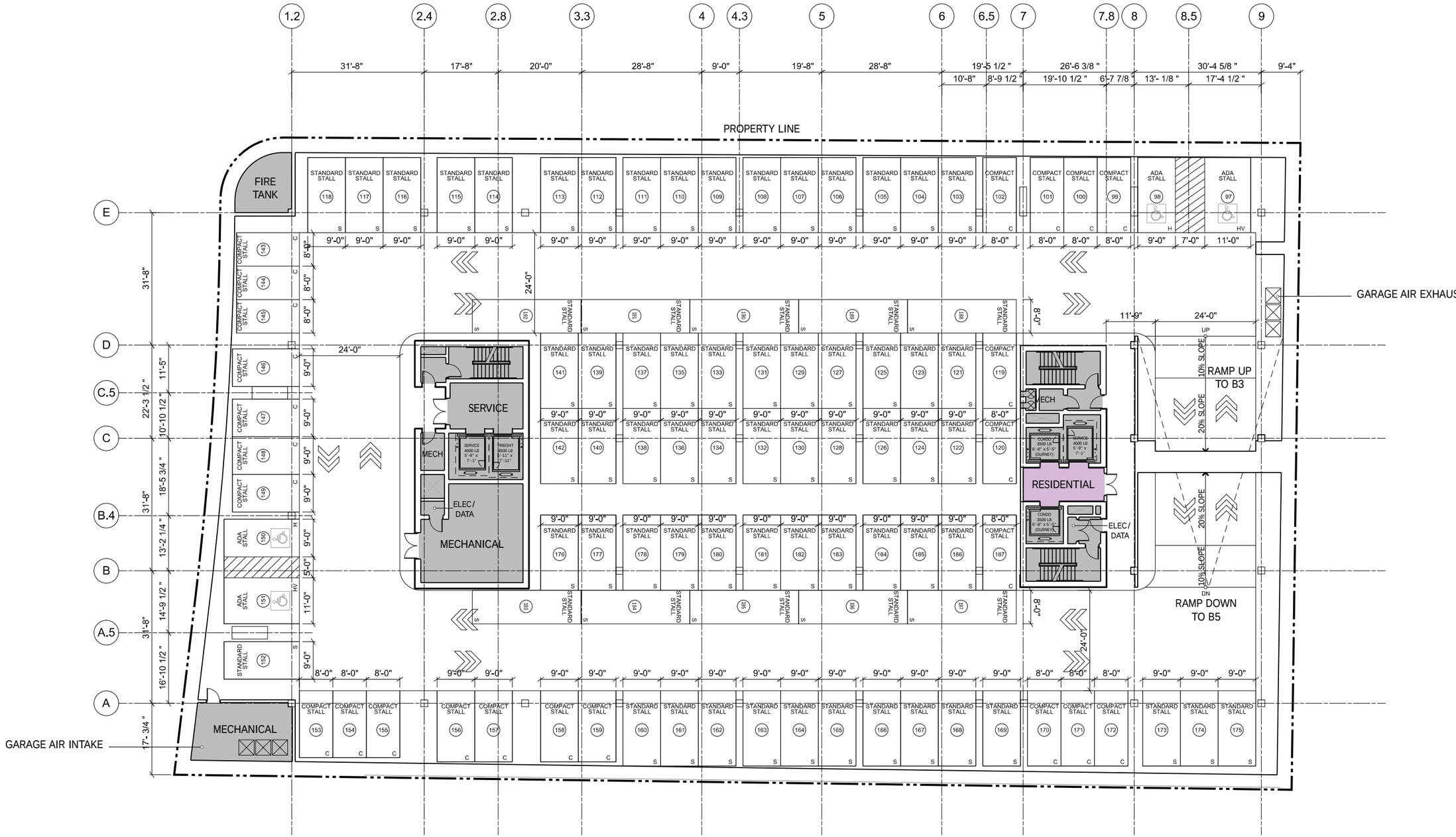

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PARKING EXHIBIT - B3

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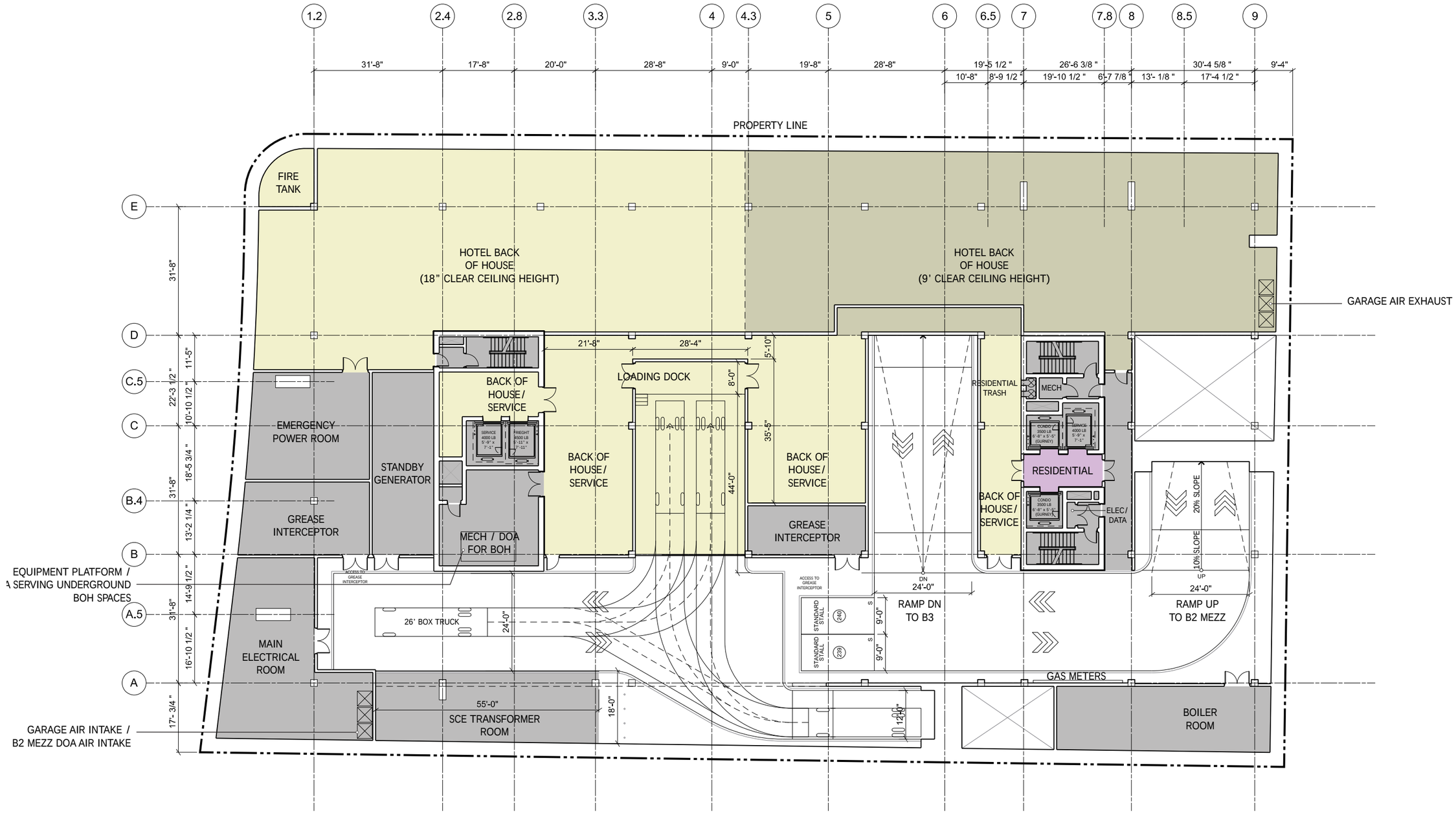

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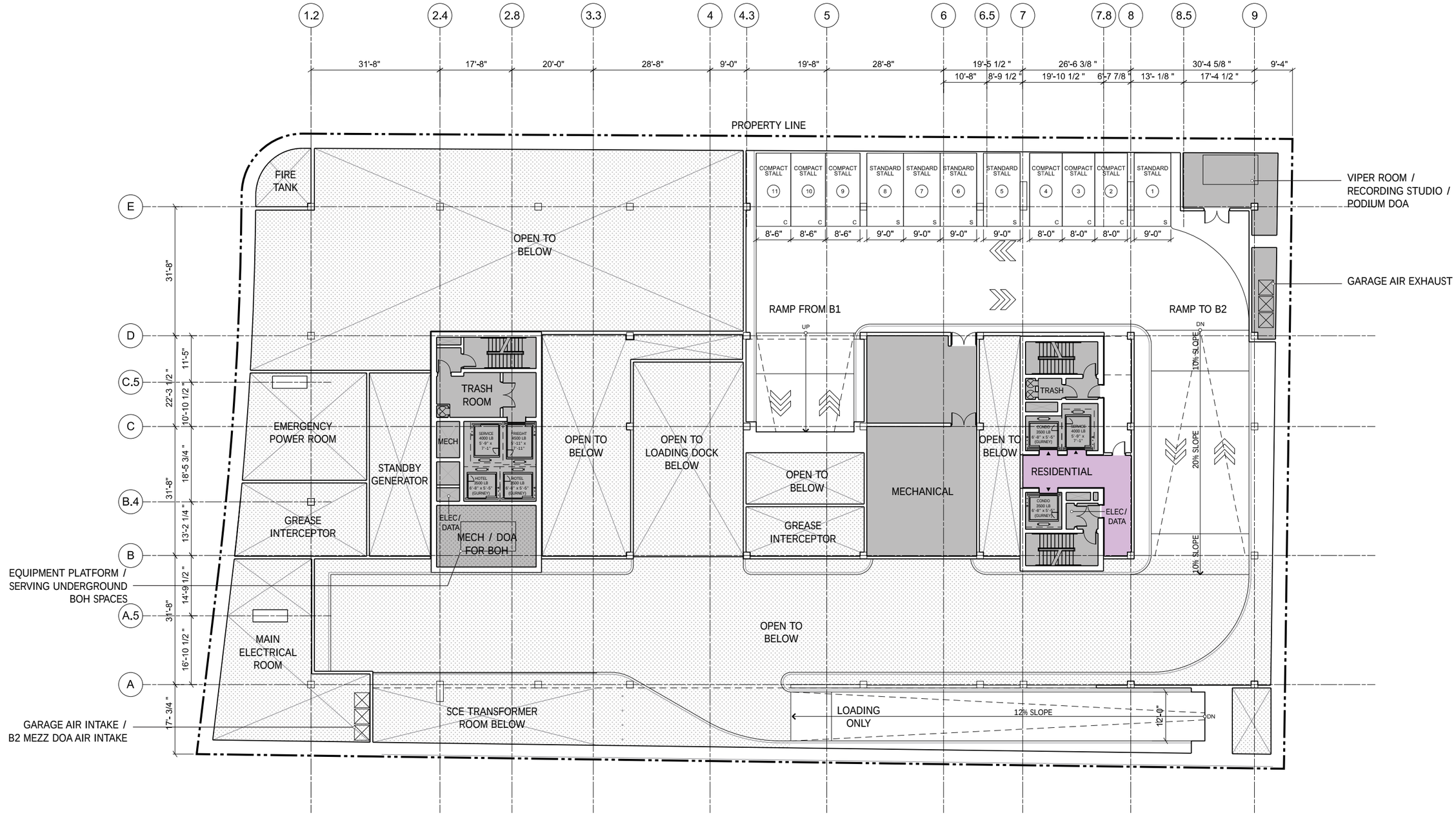

PARKING EXHIBIT - B2 MEZZANINE

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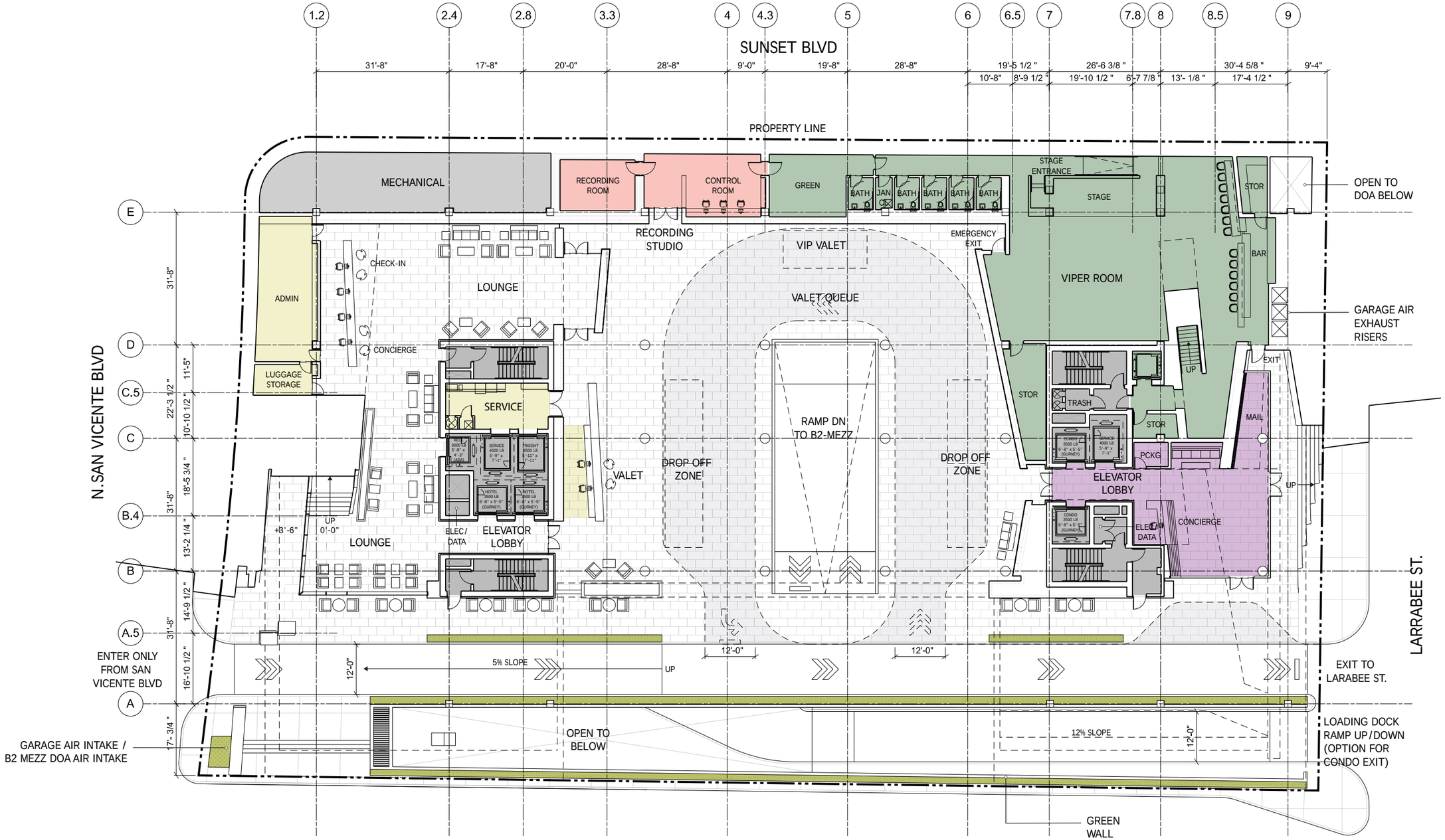

PARKING EXHIBIT - B1

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