

TECHNICAL MEMORANDUM

DATE: June 27, 2025
TO: Tracy Zinn, T&B Planning, Inc.
FROM: Bill Lawson, Urban Crossroads, Inc.
JOB NO: 13796-21 Noise Memo.docx

SUBJECT: BAY & DAY COMMERCE CENTER NOISE ASSESSMENT

Urban Crossroads, Inc. has completed the following Noise Assessment for the Bay & day Commerce Center, which is located on the southwestern corner of Day Street and Bay Avenue in the City of Moreno Valley. On February 19, 2024, Urban Crossroads, Inc. prepared a detailed Noise and Vibration Impact Analysis (2024 Noise Study) report for the proposed Bay & day Commerce Center Project. This letter describes the operational and construction noise impacts due to the revised Project site plan prepared on May 16, 2025.

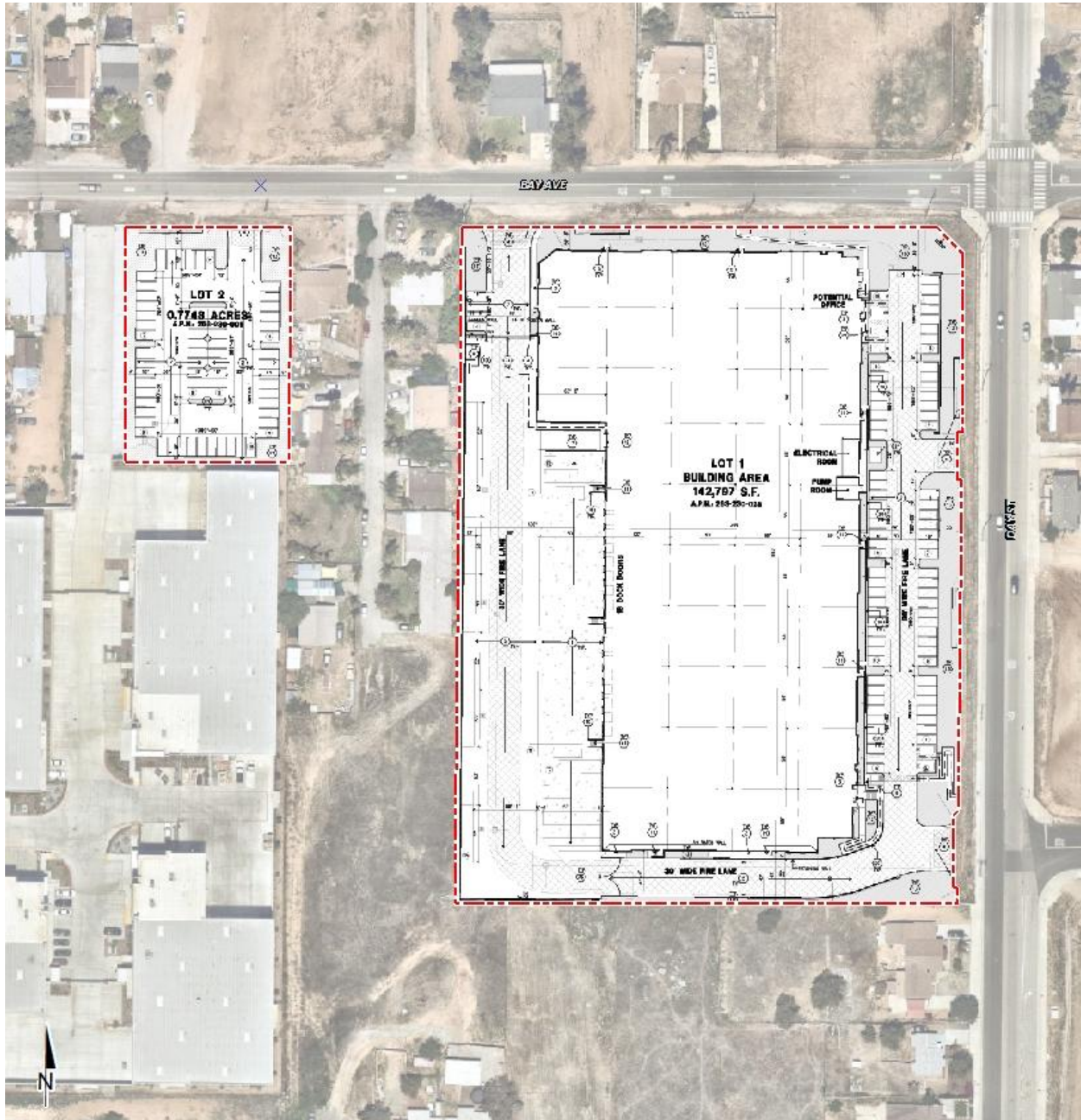
PROJECT BACKGROUND

The Project includes one warehouse building totaling 142,797 square feet on Lot 1 and 65 standard auto parking stalls on Lot 2. The revised Project site plan evaluated in this Noise Assessment is shown on Exhibit 1.

SUMMARY OF FINDINGS

The Noise Assessment shows that the revised Project will not exceed the established City of Moreno Valley off-site traffic, operational or construction noise thresholds. Therefore, consistent with the findings of the 2024 Noise Study, the potential noise impacts attributed to the revised Project site plan are considered *less than significant* at the nearby noise-sensitive receiver locations.

EXHIBIT 1: REVISED PROJECT SITE PLAN



RECEIVER LOCATIONS

To assess the potential noise impacts, the following receiver locations, as shown on Exhibit 2, were identified as representative locations for analysis. Receiver locations R1 to R5 are the same receiver locations presented in the 2024 Noise Study. Additional receiver locations R6 to R9 were added to identify the existing noise sensitive residences located between Project Lots 1 and 2. Sensitive uses or receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land.

OPERATIONAL NOISE ANALYSIS

As discussed in the 2024 Noise Study, the Project-related operational noise sources are expected to include: loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements and truck movements. Table 1 presents a summary of the reference noise sources used to assess the revised Project site plan noise levels.

TABLE 1: REFERENCE NOISE LEVELS

Noise Source ¹	Noise Source Height (Feet)	Min./ Hour ²		Reference Noise Level (dBA Leq) @ 50 Feet	Sound Power Level (dBA) ³
		Day	Night		
Loading Dock Activity	8'	60	60	65.7	111.5
Roof-Top Air Conditioning Units	5'	39	28	57.2	88.9
Trash Enclosure Activity	5'	60	30	57.3	89.0
Parking Lot Vehicle Movements	5'	60	60	52.6	79.0
Truck Movements	8'	60	60	59.8	93.2

¹ As measured by Urban Crossroads, Inc.

² Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 8:00 a.m. - 10:00 p.m.; "Nighttime" = 10:01 p.m. - 7:59 a.m.

³ Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source.

Exhibit 3 identifies the 16 individual noise source locations used to assess the operational noise levels. The operational noise analysis includes the planned 10-foot-high screen walls separating the loading docks from the noise sensitive residential land uses west and south of the Project site. The planned screenwall shown on Exhibit 3 is measured from the top of the building pad elevation (finished surface) and is designed for screening, privacy, noise control, and security. At the time this noise analysis was prepared, the future tenants and building locations of the proposed non-residential land uses were unknown, and therefore, this noise study includes a conservative analysis of the potential worst-case noise environment.

EXHIBIT 2: RECEIVER LOCATIONS

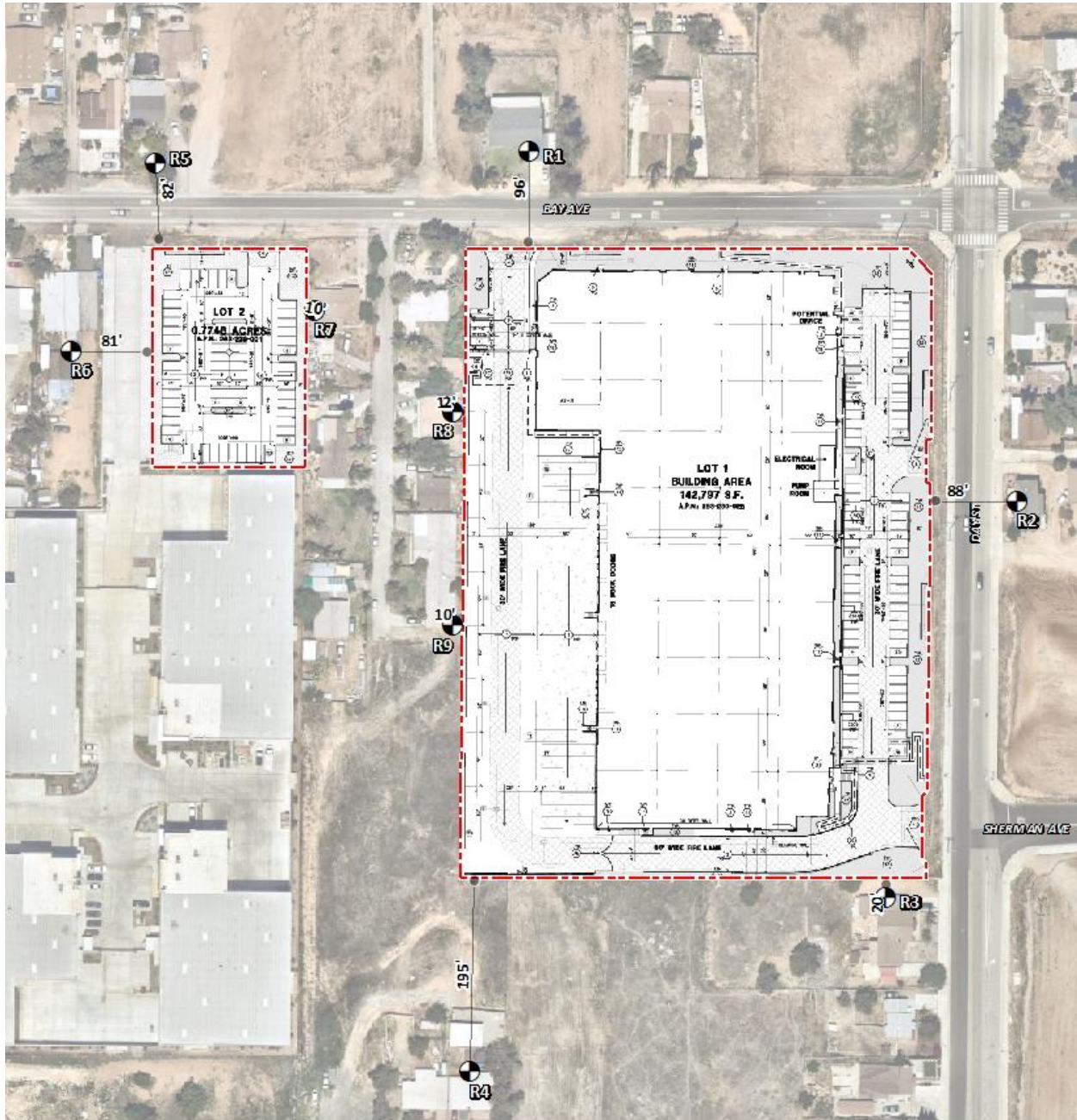
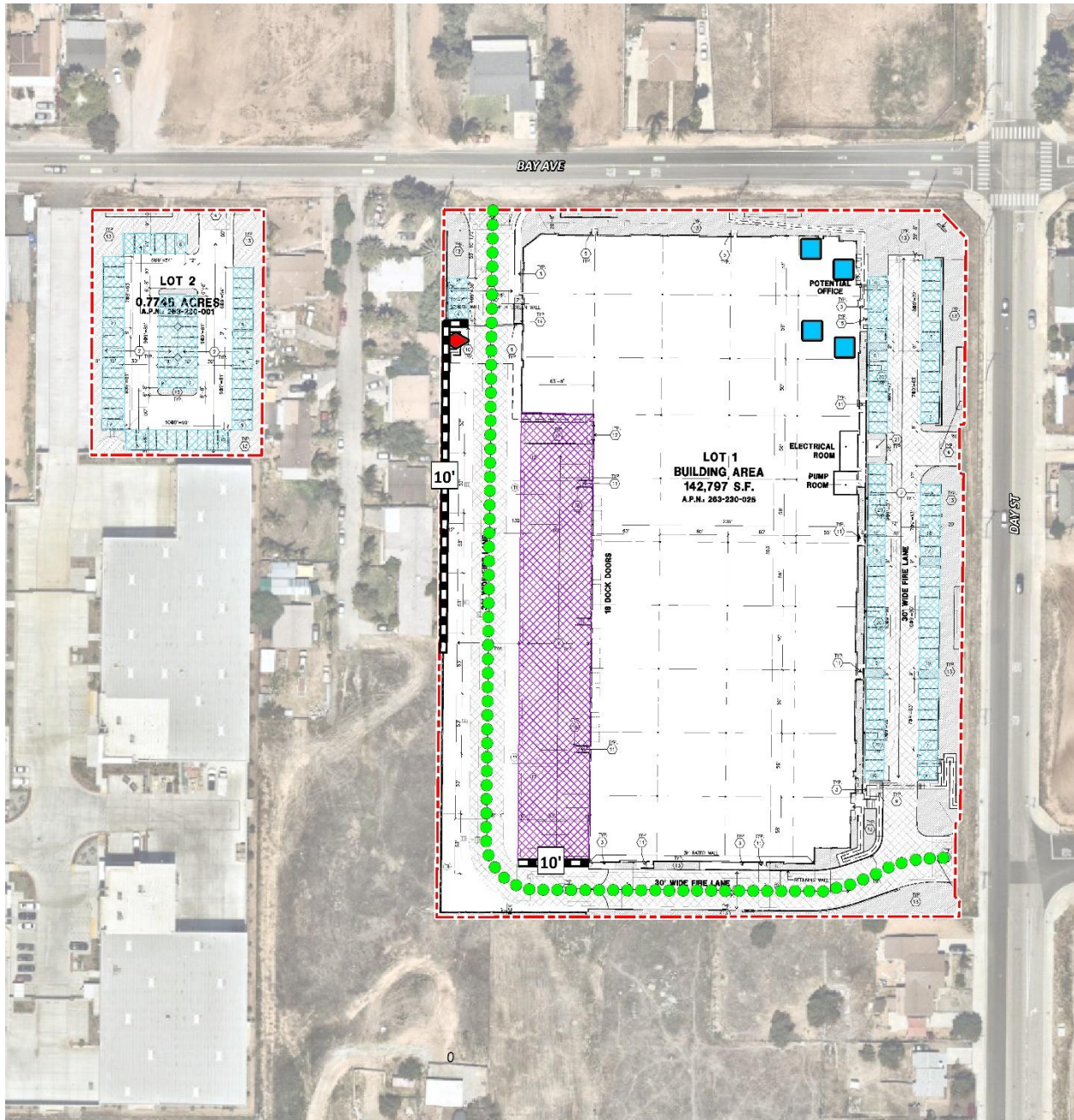


EXHIBIT 3: PROJECT NOISE SOURCE LOCATIONS



PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements and truck movements., Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations and at 200 feet from the property line of the source. Table 2 shows the Project operational noise levels during the daytime hours from 8:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 42.7 to 57.1 dBA L_{eq} . The operational noise level calculations are included in Appendix 1.

TABLE 2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA L_{eq})									
	R1	R2	R3	R4	R5	R6	R7	R8	R9	@200'
Loading Dock Activity	48.9	32.5	38.6	51.6	46.2	49.5	50.5	51.5	52.7	57.0
Roof-Top Air Conditioning Units	36.1	41.4	34.1	24.1	30.4	29.4	28.1	19.7	18.0	24.1
Trash Enclosure Activity	33.0	9.5	10.2	24.8	18.6	17.3	26.6	43.3	31.2	20.2
Parking Lot Vehicle Movements	31.5	33.9	32.0	21.3	37.5	40.3	48.2	30.1	18.7	33.1
Truck Movements	41.4	28.3	47.0	35.9	29.1	30.4	35.0	37.7	36.6	37.6
Total (All Noise Sources)	50.0	42.7	47.9	51.7	46.9	50.1	52.6	52.3	52.8	57.1

¹ See Exhibit 2 for the noise source locations. CadnaA noise model calculations are included in Appendix A.

Table 3 shows the Project operational noise levels during the nighttime hours from 10:01 p.m. to 7:59 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 41.1 to 57.1 dBA L_{eq} . The differences between the daytime and nighttime noise levels are largely related to the duration of noise activity (Table 1).

TABLE 3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA L_{eq})									
	R1	R2	R3	R4	R5	R6	R7	R8	R9	@200'
Loading Dock Activity	48.9	32.5	38.6	51.6	46.2	49.5	50.5	51.5	52.7	57.0
Roof-Top Air Conditioning Units	33.7	39.0	31.7	21.7	28.0	27.0	25.7	17.3	15.6	21.7
Trash Enclosure Activity	29.0	5.5	6.2	20.8	14.7	13.3	22.6	39.3	27.2	16.2
Parking Lot Vehicle Movements	31.5	33.9	32.0	21.3	37.5	40.3	48.2	30.1	18.7	33.1
Truck Movements	41.4	28.3	47.0	35.9	29.1	30.4	35.0	37.7	36.6	37.6
Total (All Noise Sources)	49.8	41.1	47.8	51.7	46.9	50.1	52.6	52.0	52.8	57.1

¹ See Exhibit 2 for the noise source locations. CadnaA noise model calculations are included in Appendix A.

PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against the City of Moreno Valley exterior noise level standards at the nearest noise-sensitive receiver locations. Table 4 shows that the operational noise levels associated with Bay & day Commerce Center Project will not exceed the City of Moreno Valley 65 dBA L_{eq} daytime and 60 dBA L_{eq} nighttime exterior noise level standards at all the nearest receiver locations and at 200 feet

from the property line of the source with the planned 10-foot-high noise barriers as shown on Exhibit 3. Therefore, the operational noise impacts are considered *less than significant* at the nearest noise-sensitive receiver locations.

TABLE 4: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location ¹	Project Operational Noise Levels (dBA Leq) ²		Noise Level Standards (dBA Leq) ³		Noise Level Standards Exceeded? ⁴	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	50.0	49.8	65	60	No	No
R2	42.7	41.1	65	60	No	No
R3	47.9	47.8	65	60	No	No
R4	51.7	51.7	65	60	No	No
R5	46.9	46.9	65	60	No	No
R6	50.1	50.1	65	60	No	No
R7	52.6	52.6	65	60	No	No
R8	52.3	52.0	65	60	No	No
R9	52.8	52.8	65	60	No	No
@200'	57.1	57.1	65	60	No	No

¹ See Exhibit 2 for the receiver locations.

² Proposed Project operational noise levels as shown on Tables 2 and 3.

³ City of Moreno Valley Municipal Code, Chapter 11.80 Noise Regulation

⁴ Do the estimated Project operational noise source activities exceed the noise level standards?

⁵ Project operational noise levels provided for informational purposes

"Daytime" = 8:00 a.m. - 10:00 p.m.; "Nighttime" = 10:01 p.m. - 7:59 a.m.

PROJECT OPERATIONAL NOISE INCREASES

To describe the Project Alternative operational noise increases, the typical operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations that may be potentially impacted by Project operational noise sources. Noise levels that would be experienced at existing receiver locations when Project source noise is added to the daytime and nighttime ambient conditions are presented in Tables 5 and 6, respectively.

As indicated in Table 5, the Project will generate a daytime operational noise increase ranging from 0.2 to 4.1 dBA L_{eq} at the nearest receiver locations. Table 6 shows that the Project will generate a nighttime operational noise increase ranging from 0.2 to 4.6 dBA L_{eq} at the nearest receiver locations. The Project-related operational noise increases will not exceed the operational noise increase significance criteria outlined in the 2024 Noise Study. Therefore, the Project related operational noise increases at the sensitive receiver locations will be *less than significant* with the planned 10-foot-high noise barriers.

TABLE 5: DAYTIME PROJECT OPERATIONAL NOISE INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels	Combined Project and Ambient ⁴	Project Increase ⁵	Increase Criteria ⁶	Increase Criteria Exceeded?
R1	50.0	L2	61.4	61.7	0.3	5.0	No
R2	42.7	L3	53.4	53.8	0.4	5.0	No
R3	47.9	L4	53.8	54.8	1.0	5.0	No
R4	51.7	L4	53.8	55.9	2.1	5.0	No
R5	46.9	L2	61.4	61.6	0.2	5.0	No
R6	50.1	L6	49.8	53.0	3.2	5.0	No
R7	52.6	L2	61.4	61.9	0.5	5.0	No
R8	52.3	L1	50.9	54.7	3.8	5.0	No
R9	52.8	L1	50.9	55.0	4.1	5.0	No

¹ See Exhibit 2 for the receiver locations.

² Project daytime operational noise levels as shown on Table 2.

³ Ambient noise level measurement locations from Table 5-1 in the 2024 Noise Study.

⁴ Represents the combined ambient conditions plus the Project activities.

⁵ The noise level increase expected with the addition of the proposed Project activities.

⁶ Significance increase criteria.

TABLE 6: NIGHTTIME OPERATIONAL NOISE INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels	Combined Project and Ambient ³	Project Increase ⁴	Increase Criteria ⁵	Increase Criteria Exceeded?
R1	49.8	L2	59.4	59.9	0.5	5.0	No
R2	41.1	L3	49.8	50.3	0.5	5.0	No
R3	47.8	L4	50.2	52.2	2.0	5.0	No
R4	51.7	L4	50.2	54.0	3.8	5.0	No
R5	46.9	L2	59.4	59.6	0.2	5.0	No
R6	50.1	L6	48.2	52.3	4.1	5.0	No
R7	52.6	L2	59.4	60.2	0.8	5.0	No
R8	52.0	L1	50.0	54.1	4.1	5.0	No
R9	52.8	L1	50.0	54.6	4.6	5.0	No

¹ See Exhibit 2 for the receiver locations.

² Project nighttime operational noise levels as shown on Table 2.

³ Ambient noise level measurement locations from Table 5-1 in the 2024 Noise Study.

⁴ Represents the combined ambient conditions plus the Project activities.

⁵ The noise level increase expected with the addition of the proposed Project activities.

⁶ Significance increase criteria.

CONSTRUCTION IMPACTS

To prevent high levels of construction noise from impacting noise-sensitive land uses, City of Moreno Valley Municipal Code Section 11.80.030[D][7] limits general construction activities within 200 feet of residential uses to weekdays, between 7:00 a.m. and 8:00 p.m. In addition, grading operations shall be limited to the hours identified in Section 8.21.050[O] of 7:00 a.m. to 6:00 p.m., Monday through Friday, and 8:00 a.m. to 4:00 p.m. on weekends and holidays or as approved by the City Engineer.

CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels outlined in the 2024 Noise Study and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearest sensitive receiver locations were completed. Consistent with FTA guidance for general construction noise assessment, the construction noise levels represent the combined noise levels for the loudest construction equipment, assuming they operate at the same time. As shown on Table 7, the construction noise levels are expected to range from 59.4 to 78.0 dBA L_{eq} at the nearest receiver locations and 59.4 dBA L_{eq} at 200 feet from the property line of the source. Appendix 2 includes the detailed CadnaA construction noise model inputs. The construction noise analysis shows on Table 7 that the nearest receiver locations will not exceed the reasonable daytime 80 dBA L_{eq} significance threshold or the City of Moreno Valley daytime 65 dBA L_{eq} significance threshold at 200 feet during Project construction activities. Therefore, the unmitigated noise impacts due to Project construction activities are considered *less than significant*.

TABLE 7: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location ¹	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴
R1	64.2	80	No
R2	63.0	80	No
R3	67.2	80	No
R4	59.6	80	No
R5	68.8	80	No
R6	70.6	80	No
R7	78.0	80	No
R8	70.1	80	No
R9	71.7	80	No
at 200'	59.4	65	No

¹ Receiver locations are shown on Exhibit 2.

² Construction noise calculations are included in Appendix 2.

³ Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

As shown on Table 8, the noise levels associated with the nighttime concrete pour activities are estimated to range from 40.2 to 50.5 dBA L_{eq} and 41.2 dBA L_{eq} at 200 feet. The analysis shows that the unmitigated nighttime concrete pour activities will not exceed the reasonable nighttime 70 dBA L_{eq} significance threshold or the City of Moreno Valley daytime 60 dBA L_{eq} significance threshold at 200 feet during Project nighttime concrete pour activities. Therefore, the unmitigated nighttime concrete pour noise level impacts are considered *less than significant*. Appendix 3 includes the CadnaA nighttime concrete pour noise model inputs.

TABLE 8: CONCRETE POUR NOISE LEVEL COMPLIANCE

Receiver Location ¹	Concrete Pour Construction Noise Levels (dBA L_{eq})		
	Exterior Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴
R1	48.1	70	No
R2	46.1	70	No
R3	48.3	70	No
R4	40.8	70	No
R5	40.2	70	No
R6	42.2	70	No
R7	45.9	70	No
R8	50.5	70	No
R9	49.5	70	No
at 200'	41.2	60	No

¹ Receiver locations are shown on Exhibit 2.

² Construction noise calculations are included in Appendix 3.

³ Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.

⁴ Do the estimated Project concrete pour noise levels exceed the construction noise level threshold?

CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Table 9 presents the expected Project related vibration levels at the nearby receiver locations. To ensure that the Project construction vibration levels do not exceed the exceed the 0.3 PPV (in/sec) threshold, the Project will provide a 20-foot setback buffer. The 20-foot construction vibration setback buffer would restrict the use of large, loaded trucks, heavy mobile equipment greater than 80,000 pounds, jack hammers and vibratory rollers within 20-feet of receiver location R7, R8 and R9. Instead, small rubber-tired or alternative equipment, as well as soil compaction equipment shall be used during Project construction to reduce vibration effects on nearby structures and their occupants. Table 10 shows that with the 20-foot setback buffer, Project construction vibration levels will not exceed the 0.3 PPV (in/sec) construction vibration threshold. Therefore, the construction vibration impacts are considered *less than significant*.

TABLE 9: PROJECT CONSTRUCTION VIBRATION LEVELS

Location ¹	Distance to Const. Activity (Feet) ²	Typical Construction Vibration Levels PPV (in/sec) ³						Thresholds PPV (in/sec) ⁴	Thresholds Exceeded? ⁵
		Small bulldozer	Jack-hammer	Loaded Trucks	Large bulldozer	Vibratory Roller	Highest Vibration Level		
R1	96'	0.000	0.005	0.010	0.012	0.028	0.028	0.3	No
R2	88'	0.000	0.005	0.012	0.013	0.032	0.032	0.3	No
R3	20'	0.004	0.049	0.106	0.124	0.293	0.293	0.3	No
R4	195'	0.000	0.002	0.003	0.004	0.010	0.010	0.3	No
R5	82'	0.001	0.006	0.013	0.015	0.035	0.035	0.3	No
R6	81'	0.001	0.006	0.013	0.015	0.036	0.036	0.3	No
R7	20'	0.004	0.049	0.106	0.124	0.293	0.293	0.3	No
R8	20'	0.004	0.049	0.106	0.124	0.293	0.293	0.3	No
R9	20'	0.004	0.049	0.106	0.124	0.293	0.293	0.3	No
@200'	200'	0.000	0.002	0.003	0.004	0.009	0.009	0.3	No

¹ Receiver locations are shown on Exhibit 2.

² Distance from receiver building facade to Project construction boundary (Project site boundary).

³ Based on the Vibration Source Levels of Construction Equipment from the 2024 Noise Study.

⁴ Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Table 19, p. 38.

⁵ Does the peak vibration exceed the acceptable vibration thresholds?

"PPV" = Peak Particle Velocity



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APPENDIX 1:
CADNAA OPERATIONAL NOISE CALCULATIONS



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13796 - Bay & Day Commerce Center

CadnaA Noise Prediction Model: 13796-22 NA.cna

Date: 27.06.25

Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (ft)	10000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (ft)	3280.80
Min. Length of Section (ft)	3.30
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	1
Search Radius Src	328.08
Search Radius Rcvr	328.08
Max. Distance Source - Rcvr	3280.84 3280.84
Min. Distance Rcvr - Reflector	3.28 3.28
Min. Distance Source - Reflector	0.33
Industrial (ISO 9613 (1996))	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	
	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°F)	50
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (mph)	6.7
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr				Limit. Value				Land Use			Height (ft)	Coordinates			
			Day (dBA)	Night (dBA)	CNEL (dBA)	Lden (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Lden (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)	
R1	R1		50.0	49.8	56.5	56.5	65.0	0.0	60.0	0.0				5.00	r	6249109.06	2280186.68	1555.00
R2	R2		42.7	41.1	47.7	47.7	65.0	0.0	60.0	0.0				5.00	r	6249592.10	2279840.88	1562.00
R3	R3		47.9	47.8	54.4	54.4	65.0	0.0	60.0	0.0				5.00	r	6249461.70	2279448.16	1568.87
R4	R4		51.7	51.7	58.4	58.4	65.0	0.0	60.0	0.0				5.00	r	6249049.93	2279276.23	1546.45
R5	R5		46.9	46.9	53.5	53.5	65.0	0.0	60.0	0.0				5.00	r	6248738.80	2280175.72	1552.65
R6	R6		50.1	50.1	56.8	56.8	65.0	0.0	60.0	0.0				5.00	r	6248655.04	2279989.51	1552.86
R7	R7		52.6	52.6	59.2	59.2	65.0	0.0	60.0	0.0				5.00	r	6248895.15	2280000.41	1553.04
R8	R8		52.3	52.0	58.6	58.6	65.0	0.0	60.0	0.0				5.00	r	6249043.89	2279927.70	1549.10
R9	R9		52.9	52.8	59.5	59.5	65.0	0.0	60.0	0.0				5.00	r	6249044.95	2279749.39	1548.00
@200	@200		57.1	57.1	63.7	63.7	65.0	0.0	60.0	0.0				5.00	r	6248842.53	2279685.53	1545.61

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li		Operating Time			Height (ft)	Coordinates				
			Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value (dB(A))	norm.	Day (min)	Special (min)		Night (min)	X (ft)	Y (ft)	Z (ft)	
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6249370.58	2280056.38	1598.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6249399.66	2280038.15	1598.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6249371.89	2279984.34	1598.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6249400.53	2279969.58	1598.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	r	6249057.22	2279975.65	1550.14

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number	Speed	(ft)	r	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(min)	(min)	(min)	Day	Evening			Night
LINESOURCE		TRUCK01	93.2	93.2	93.2	68.4	68.4	68.4	Lw	93.2								8	r

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
LINESOURCE	TRUCK01	8.00	r	6249089.77	2280090.94	1555.21	1547.21
				6249083.69	2279536.85	1551.00	1543.00
				6249084.28	2279529.48	1551.00	1543.00
				6249086.06	2279522.30	1551.00	1543.00
				6249089.00	2279515.51	1551.00	1543.00
				6249093.00	2279509.29	1551.00	1543.00
				6249097.96	2279503.81	1551.03	1543.03
				6249103.76	2279499.21	1551.11	1543.11
				6249110.23	2279495.62	1551.22	1543.22
				6249117.19	2279493.13	1551.34	1543.34
				6249124.47	2279491.82	1551.85	1543.85
				6249131.87	2279491.71	1552.44	1544.44
				6249381.43	2279490.41	1561.08	1553.08
				6249403.28	2279495.75	1562.10	1554.10
				6249424.35	2279503.60	1564.06	1556.06
				6249444.37	2279513.85	1565.27	1557.27
				6249461.91	2279517.99	1566.23	1558.23
				6249479.83	2279520.02	1567.44	1559.44
				6249497.86	2279519.90	1568.00	1560.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	r
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(min)	(min)	(min)		
AREASOURCE		CAR01	79.0	79.0	79.0	55.3	55.3	55.3	Lw	79					5	r
AREASOURCE		CAR02	79.0	79.0	79.0	57.2	57.2	57.2	Lw	79					5	r
AREASOURCE		CAR03	79.0	79.0	79.0	54.9	54.9	54.9	Lw	79					5	r
AREASOURCE		CAR04	79.0	79.0	79.0	54.6	54.6	54.6	Lw	79					5	r
AREASOURCE		CAR05	79.0	79.0	79.0	59.4	59.4	59.4	Lw	79					5	r
AREASOURCE		CAR06	79.0	79.0	79.0	61.6	61.6	61.6	Lw	79					5	r
AREASOURCE		CAR07	79.0	79.0	79.0	52.8	52.8	52.8	Lw	79					5	r
AREASOURCE		CAR08	79.0	79.0	79.0	53.0	53.0	53.0	Lw	79					5	r
AREASOURCE		CAR09	79.0	79.0	79.0	55.6	55.6	55.6	Lw	79					5	r
AREASOURCE		CAR10	79.0	79.0	79.0	55.7	55.7	55.7	Lw	79					5	r
AREASOURCE		DOCK01	111.5	111.5	111.5	77.9	77.9	77.9	Lw	111.5					8	r

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
AREASOURCE	CAR01	5.00	r	6248878.26	2280040.22	1549.00	1544.00
				6248877.28	2279897.24	1549.63	1544.63
				6248859.68	2279897.03	1546.17	1541.17
				6248860.90	2280040.22	1548.92	1543.92
AREASOURCE	CAR02	5.00	r	6248765.10	2279896.99	1545.27	1540.27
				6248856.75	2279896.99	1546.00	1541.00
				6248856.50	2279878.66	1548.67	1543.67
				6248766.07	2279880.13	1546.04	1541.04
AREASOURCE	CAR03	5.00	r	6248795.65	2280015.29	1547.27	1542.27
				6248828.64	2280015.29	1547.69	1542.69
				6248829.62	2279933.17	1545.93	1540.93
				6248794.43	2279934.39	1545.43	1540.43
AREASOURCE	CAR04	5.00	r	6248746.03	2280049.99	1548.00	1543.00
				6248765.10	2280049.26	1547.80	1542.80
				6248765.10	2279896.99	1545.27	1540.27
				6248745.05	2279897.48	1545.90	1540.90
AREASOURCE	CAR05	5.00	r	6248763.39	2280070.28	1548.00	1543.00
				6248819.35	2280069.55	1548.94	1543.94
				6248818.62	2280052.44	1548.66	1543.66
				6248763.63	2280052.19	1547.93	1542.93
AREASOURCE	CAR06	5.00	r	6249050.71	2280030.78	1550.19	1545.19
				6249067.20	2280030.78	1549.88	1544.88
				6249068.07	2279995.62	1549.00	1544.00
				6249051.14	2279995.19	1549.00	1544.00
AREASOURCE	CAR07	5.00	r	6249467.37	2279849.35	1558.03	1553.03
				6249485.17	2279849.79	1559.00	1554.00
				6249481.70	2279588.94	1560.82	1555.82
				6249465.20	2279588.94	1560.07	1555.07
AREASOURCE	CAR08	5.00	r	6249422.23	2279867.15	1558.00	1553.00
				6249436.56	2279866.71	1557.80	1552.80
				6249434.82	2279588.50	1559.67	1554.67
				6249418.33	2279589.37	1559.97	1554.97

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	CAR09	5.00	r	6249420.93	2280032.08	1554.00	1549.00
				6249438.29	2280032.51	1554.00	1549.00
				6249438.29	2279894.06	1558.00	1553.00
				6249421.80	2279895.36	1558.00	1553.00
AREASOURCE	CAR10	5.00	r	6249468.67	2280047.27	1554.89	1549.89
				6249485.17	2280045.97	1555.84	1550.84
				6249483.00	2279904.47	1559.03	1554.03
				6249467.37	2279904.47	1558.72	1553.72
AREASOURCE	DOCK01	8.00	r	6249114.94	2279912.72	1552.89	1544.89
				6249178.31	2279910.55	1556.04	1548.04
				6249173.94	2279517.70	1552.91	1544.91
				6249112.02	2279517.58	1551.38	1543.38

Barrier(s)

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
				left	right		horz.	vert.	Begin	End	x	y	z	Ground
							(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERTEMP				0					10.49	r	6249174.42	2279517.11	1555.39	1544.90
											6249112.30	2279517.22	1553.88	1543.39
BARRIEREXISTING				0					6.00	r	6249032.60	2279324.76	1547.00	1541.00
											6249033.03	2279339.95	1547.00	1541.00
											6249086.42	2279336.04	1550.18	1544.18
BARRIERTEMP				0					10.49	r	6249068.26	2279990.96	1554.38	1543.89
											6249048.70	2279990.96	1555.71	1545.22
											6249046.25	2279699.65	1554.14	1543.65

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	Coordinates				
								Begin	x	y	z	Ground
								(ft)	(ft)	(ft)	(ft)	(ft)
BUILDING			BUILDING00001	x	0	45.00	r	6249131.87	2280069.84	1593.00	1548.00	
								6249395.32	2280068.10	1593.00	1549.00	
								6249395.32	2280064.20	1593.00	1549.00	
								6249410.51	2280063.76	1593.00	1549.00	
								6249410.08	2280026.00	1593.00	1549.00	
								6249414.85	2280025.57	1593.00	1549.00	
								6249409.65	2279576.78	1593.00	1549.00	
								6249405.31	2279578.09	1593.00	1549.00	
								6249404.44	2279528.17	1593.00	1548.24	
								6249374.49	2279529.04	1593.00	1548.78	
								6249374.92	2279514.72	1593.00	1548.00	
								6249174.52	2279516.77	1593.00	1544.88	
							6249178.31	2279910.55	1593.00	1548.04		
							6249114.94	2279912.72	1593.00	1544.89		
							6249116.68	2280056.82	1593.00	1547.00		
BUILDING			BUILDING00002	x	0	15.00	r	6248993.53	2279828.90	1559.72	1544.72	
								6249036.39	2279827.72	1559.72	1545.00	
								6249034.81	2279716.44	1559.72	1544.00	
								6249006.11	2279716.84	1559.72	1544.00	
								6249006.50	2279779.36	1559.72	1544.47	
BUILDING			BUILDING00003	x	0	15.00	r	6248993.92	2279779.36	1559.72	1544.29	
								6248996.67	2279869.01	1559.89	1544.89	
								6249012.40	2279868.22	1559.89	1545.00	
								6249012.80	2279863.89	1559.89	1545.00	
								6249030.49	2279863.50	1559.89	1545.00	
BUILDING			BUILDING00004	x	0	15.00	r	6249030.49	2279834.01	1559.89	1545.00	
								6248997.46	2279834.80	1559.89	1545.00	
								6249000.61	2279944.89	1560.00	1545.00	
								6249032.46	2279945.29	1560.00	1545.58	
								6249033.24	2279905.57	1560.00	1545.00	
BUILDING			BUILDING00005	x	0	15.00	r	6249001.00	2279904.79	1560.00	1545.00	
								6249020.96	2279982.64	1561.11	1546.11	
								6249041.80	2279983.82	1561.11	1546.76	
								6249041.80	2279963.37	1561.11	1546.21	
BUILDING			BUILDING00006	x	0	15.00	r	6249021.36	2279963.37	1561.11	1546.00	
								6248980.16	2280020.39	1562.15	1547.15	
								6248978.59	2280049.49	1562.15	1547.19	
								6249028.92	2280049.88	1562.15	1546.96	
BUILDING			BUILDING00007	x	0	15.00	r	6249028.92	2280020.00	1562.15	1546.29	
								6248893.26	2280050.67	1562.14	1547.14	
								6248940.05	2280051.45	1562.14	1548.79	
								6248940.84	2280018.82	1562.14	1548.48	
								6248923.14	2280019.21	1562.14	1548.55	
							6248923.93	2280007.41	1562.14	1548.31		
							6248892.08	2280007.81	1562.14	1548.03		

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	Coordinates				
								Begin	x	y	z	Ground
							(ft)	(ft)	(ft)	(ft)	(ft)	
BUILDING			BUILDING00008	x	0		15.00	r	6248903.48	2279924.05	1562.00	1547.00
									6248931.01	2279922.48	1562.00	1547.00
									6248928.26	2279863.11	1562.00	1545.61
									6248901.52	2279863.11	1562.00	1545.76
BUILDING			BUILDING00009	x	0		15.00	r	6248895.62	2279741.61	1557.14	1542.14
									6248929.83	2279742.00	1557.14	1543.00
									6248929.83	2279705.83	1557.14	1542.97
									6248895.62	2279705.43	1557.14	1542.12



APPENDIX 2:
CADNAA CONSTRUCTION NOISE CALCULATIONS



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13796 - Bay & Day Commerce Center

CadnaA Noise Prediction Model: 13796-21 NA_construction.cna

Date: 17.06.25

Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (ft)	10000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (ft)	3280.80
Min. Length of Section (ft)	3.30
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	1
Search Radius Src	328.08
Search Radius Rcvr	328.08
Max. Distance Source - Rcvr	3280.84 3280.84
Min. Distance Rcvr - Reflector	3.28 3.28
Min. Distance Source - Reflector	0.33
Industrial (ISO 9613 (1996))	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	
	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°F)	50
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (mph)	6.7
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr				Limit. Value				Land Use			Height (ft)	Coordinates			
			Day (dBA)	Night (dBA)	CNEL (dBA)	Lden (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Lden (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)	
R1		R1	64.2	64.2	70.9	70.9	65.0	0.0	60.0	0.0				5.00	r	6249109.06	2280186.68	1555.00
R2		R2	63.0	63.0	69.6	69.6	65.0	0.0	60.0	0.0				5.00	r	6249592.10	2279840.88	1562.00
R3		R3	67.2	67.2	73.9	73.9	65.0	0.0	60.0	0.0				5.00	r	6249461.70	2279448.16	1568.87
R4		R4	59.6	59.6	66.3	66.3	65.0	0.0	60.0	0.0				5.00	r	6249049.93	2279276.23	1546.45
R5		R5	68.8	68.8	75.5	75.5	65.0	0.0	60.0	0.0				5.00	r	6248738.80	2280175.72	1552.65
R6		R6	70.6	70.6	77.3	77.3	65.0	0.0	60.0	0.0				5.00	r	6248655.04	2279989.51	1552.86
R7		R7	78.0	78.0	84.6	84.6	65.0	0.0	60.0	0.0				5.00	r	6248896.90	2280029.91	1553.41
R8		R8	70.1	70.1	76.8	76.8	65.0	0.0	60.0	0.0				5.00	r	6249033.30	2279929.49	1549.57
R9		R9	71.7	71.7	78.3	78.3	65.0	0.0	60.0	0.0				5.00	r	6249040.22	2279710.97	1549.00
@200		@200	59.4	59.4	66.1	66.1	65.0	0.0	60.0	0.0				5.00	r	6249016.72	2279266.74	1545.25

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li		Operating Time			Height (ft)	
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value norm.	Day (min)	Special (min)	Night (min)		
SITEBOUNDARY		LOT1	115.0	115.0	115.0	70.7	70.7	70.7	Lw	115				8	r
SITEBOUNDARY		LOT2	115.0	115.0	115.0	80.1	80.1	80.1	Lw	115				8	r

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
SITEBOUNDARY	LOT1	8.00	r	6249046.74	2280091.01	1555.72	1547.72
				6249484.32	2280090.23	1566.14	1558.14
				6249507.30	2280066.14	1571.00	1563.00
				6249505.71	2279902.03	1565.74	1557.74

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
				6249501.70	2279901.56	1565.78	1557.78
				6249501.33	2279858.96	1563.91	1555.91
				6249505.19	2279858.18	1563.76	1555.76
				6249502.13	2279554.08	1568.00	1560.00
				6249498.14	2279549.83	1568.00	1560.00
				6249497.53	2279485.77	1568.32	1560.32
				6249501.52	2279481.86	1568.24	1560.24
				6249501.26	2279468.23	1568.81	1560.81
				6249040.28	2279467.74	1550.64	1542.64
SITEBOUNDARY	LOT2	8.00	r	6248736.71	2280090.79	1553.70	1545.70
				6248887.91	2280090.57	1554.63	1546.63
				6248885.85	2279874.41	1552.78	1544.78
				6248735.83	2279874.95	1550.72	1542.72



APPENDIX 3:
CADNAA CONCRETE POUR NOISE CALCULATIONS



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13796 - Bay & Day Commerce Center

CadnaA Noise Prediction Model: 13796-21 NA_pour.cna

Date: 17.06.25

Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (ft)	10000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (ft)	3280.80
Min. Length of Section (ft)	3.30
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	1
Search Radius Src	328.08
Search Radius Rcvr	328.08
Max. Distance Source - Rcvr	3280.84 3280.84
Min. Distance Rcvr - Reflector	3.28 3.28
Min. Distance Source - Reflector	0.33
Industrial (ISO 9613 (1996))	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	
	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°F)	50
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (mph)	6.7
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr				Limit. Value				Land Use			Height	Coordinates			
			Day	Night	CNEL	Lden	Day	Night	CNEL	Lden	Type	Auto	Noise Type		X	Y	Z	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(ft)	(ft)	(ft)	(ft)	
R1	R1		64.2	64.2	70.9	70.9	65.0	0.0	60.0	0.0				5.00	r	6249109.06	2280186.68	1555.00
R2	R2		63.0	63.0	69.6	69.6	65.0	0.0	60.0	0.0				5.00	r	6249592.10	2279840.88	1562.00
R3	R3		67.2	67.2	73.9	73.9	65.0	0.0	60.0	0.0				5.00	r	6249461.70	2279448.16	1568.87
R4	R4		59.6	59.6	66.3	66.3	65.0	0.0	60.0	0.0				5.00	r	6249049.93	2279276.23	1546.45
R5	R5		68.8	68.8	75.5	75.5	65.0	0.0	60.0	0.0				5.00	r	6248738.80	2280175.72	1552.65
R6	R6		70.6	70.6	77.3	77.3	65.0	0.0	60.0	0.0				5.00	r	6248655.04	2279989.51	1552.86
R7	R7		78.0	78.0	84.6	84.6	65.0	0.0	60.0	0.0				5.00	r	6248896.90	2280029.91	1553.41
R8	R8		70.1	70.1	76.8	76.8	65.0	0.0	60.0	0.0				5.00	r	6249033.30	2279929.49	1549.57
R9	R9		71.7	71.7	78.3	78.3	65.0	0.0	60.0	0.0				5.00	r	6249040.22	2279710.97	1549.00
@200	@200		59.4	59.4	66.1	66.1	65.0	0.0	60.0	0.0				5.00	r	6249016.72	2279266.74	1545.25

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li		Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special		Night
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(min)	(min)	(min)	(ft)	
BUILDING		LOT1	100.3	100.3	100.3	59.2	59.2	59.2	Lw	100.3				8	r

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
BUILDING	LOT1	8.00	r	6249131.87	2280069.84	1593.00	1548.00
				6249395.32	2280068.10	1593.00	1549.00
				6249395.32	2280064.20	1593.00	1549.00
				6249410.51	2280063.76	1593.00	1549.00
				6249410.08	2280026.00	1593.00	1549.00

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
				6249414.85	2280025.57	1593.00	1549.00
				6249409.65	2279576.78	1593.00	1549.00
				6249405.31	2279578.09	1593.00	1549.00
				6249404.44	2279528.17	1593.00	1548.24
				6249374.49	2279529.04	1593.00	1548.78
				6249374.92	2279514.72	1593.00	1548.00
				6249174.40	2279516.89	1593.00	1544.88
				6249178.31	2279910.55	1593.00	1548.04
				6249114.94	2279912.72	1593.00	1544.89
				6249116.68	2280056.82	1593.00	1547.00