1120 Cooke Boulevard

Environmental Noise Study

SLR Project No: 241.30122.00000

February 2023

1120 Cooke Boulevard ENVIRONMENTAL NOISE ASSESSMENT

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SLR Project No: 241.30122.00000

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February 23, 2023

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1.0 INTRODUCTION

SLR Consulting (Canada) Ltd. ("SLR"), was retained by Adi Developments (Masonry) Inc. to conduct an environmental noise assessment for their proposed 1120 Cooke Blvd development in Burlington ("Site"), Ontario in support of the Zoning By-law agreement for the Site.

1.1 Focus of Report

In assessing potential impacts of the environment on the proposed development, the focus of this report is to assess the potential for:

- Transportation noise impacts from the nearby roadways; and
- Railway noise impacts from nearby rail line; and
- Stationary noise impacts from surrounding commercial and industrial properties.

1.2 Nature of Subject Lands

The subject property is at 1120 Cooke Blvd, on the northeast corner of intersection of Waterdown Road and Masonry Court in Burlington Ontario. The Site is currently unoccupied.

The proposed development will include three (3) buildings, the northwestern building (Building A) will have a thirty-three (33) storey tower (Tower A) atop of a twelve (12) storey podium. Building B and Building C will have a twenty-nine (29) storey residential tower (Tower B) and a thirty-one (31) storey residential tower (Tower C) respectively, both atop six (6) storey podiums. Building B and C will include retail space on the ground floor.

A copy of the site plan is included in Appendix A.

1.3 Nature of Surroundings

Immediately to the north of the development is a rail line used by both Metrolinx and CN Rail that runs southwest/northeast. North of the rail line is Aldershot GO station and highway 403.

Directly to the east is a residential development with a GO parking lot beyond.

To the south of the development is Masonry court. Across the road to the southeast is several commercial properties that back on to the residential homes on Waterdown Rd.

To the west across Waterdown Road are industrial lands (KPM Industries Asphalt Plant, and St. Mary's Cement / CBM Ready Mix Facility).

A context plan of the site and surroundings is shown on Figure 1.

2.0 TRANSPORTATION NOISE IMPACTS

2.1 Transportation Noise Sources

Transportation noise sources of interest with the potential to produce noise at the proposed development include:

- Roadway traffic along Masonry Court, Waterdown Road, and Highway 403; and
- Railway traffic along GO Lakeshore West Line, and CN Oakville Subdivision.

Sound exposure levels at the development have been predicted, and this information has been used to identify façade, ventilation, and warning clause requirements.

2.2 Surface Transportation Noise Criteria

2.2.1 MECP Publication NPC-300

2.2.1.1 Noise Sensitive Developments

Ministry of the Environment, Conservation and Parks (MECP) Publication NPC-300 provides sound level criteria for noise sensitive developments. The applicable portions of NPC-300 are Part C – Land Use Planning and the associated definitions outlined in Part A – Background. Tables 1 to 4 below summarize the applicable surface transportation (road and rail) criteria limits.

2.2.1.2 Location Specific Criteria

Table 1 summarizes criteria in terms of energy equivalent sound exposure (L_{eq}) levels for specific noise sensitive locations. Both outdoor and indoor locations are identified, with the focus of outdoor areas being amenity spaces. Indoor criteria vary with sensitivity of the space. As a result, sleep areas have more stringent criteria than Living / Dining room space.

Table 1: MECP Publication NPC-300 Sound Level Criteria for Road and Rail Noise

Type of Space	Time Period	Equivalent Sound Exposure Level - L_{eq} (dBA)		Assessment Location[3]
		Road	Rail [1]	
Outdoor Living Area (OLA)	Daytime (0700-2300h)	55	55	Outdoors [2]
Living / Dining Room	Daytime (0700-2300h)	45	40	Indoors
	Night-time (2300-0700h)	45	40	Indoors
Sleeping Quarters	Daytime (0700-2300h)	45	40	Indoors
	Night-time (2300-0700h)	40	35	Indoors

Notes: [1] Whistle noise is excluded for OLA noise assessments and included for Living / Dining Room and Sleeping Quarter assessments.
[2] Road and Rail noise impacts are to be combined for assessment of OLA impacts.
[3] An assessment of indoor noise levels is required only if the criteria in **Table 4** are exceeded.

Table 2 summarizes the noise mitigation requirements for outdoor amenity areas ("Outdoor Living Areas" or "OLAs"). This would include the ground level patios/backyards and raised terraces.

Table 2: MECP Publication NPC-300 Outdoor Living Area Mitigation Requirements

Time Period	Equivalent Sound Level in Outdoor Living Area (dBA)	Ventilation Requirements
Daytime (0700-2300h)	≤ 55	• None
	55 to 60 incl.	• Noise barrier **OR** Warning Clause A
	> 60	• Noise barrier to reduce noise to 55 dBA **OR** • Noise barrier to reduce noise to 60 dBA and Warning Clause B

2.2.1.3 Ventilation and Warning Clauses

Table 3 summarizes requirements for ventilation where windows potentially would have to remain closed as a means of noise control. Despite implementation of ventilation measures where required, if sound exposure levels exceed the guideline limits in **Table 1**, warning clauses advising future occupants of the potential excesses are required. Warning clauses are discussed further in **Section 2.5.2**.

Table 3: MECP Publication NPC-300 Ventilation & Warning Clause Requirements

Assessment Location	Time Period	Energy Equivalent Sound Exposure Level - L_{eq} (dBA)		Ventilation and Warning Claus Requirements [2]
		Road	Rail [1]	
Outdoor Living Area	Daytime (0700-2300h)	56 to 60 incl.		Type A Warning Clause
Plane of Window	Daytime (0700-2300h)	≤ 55		None
		56 to 65 incl.		Forced Air Heating /provision to add air conditioning + Type C Warning Clause
		> 65		Central Air Conditioning + Type D Warning Clause
	Night-time (2300-0700h)	51 to 60 incl.		Forced Air Heating/ provision to add air conditioning + Type C Warning Clause
		> 60		Central Air Conditioning + Type D Warning Clause

Notes: [1] Rail whistle noise is excluded for OLAs.
[2] Road and Rail noise is combined for determining Ventilation and Warning Clause requirements.

Table 4 provides sound level thresholds which, if exceeded require the building shell and components (i.e., wall, windows) to be designed to ensure that the **Table 3 and 4** indoor sound criteria are met.

Table 4: MECP Publication NPC-300 Building Component Requirements

Assessment Location	Time Period	Energy Equivalent Sound Exposure Level - L_{eq} (dBA))		Component Requirements
		Road	Rail [1]	
Plane of Window	Daytime (0700-2300h)	> 65	> 60	Designed/ Selected to Meet Indoor Requirements [2]
	Night-time (2300-0700h)	> 60	> 55	

Notes: [1] Including whistle noise.
[2] Building component requirements are assessed separately for Road and Railway noise. The resultant sound isolation parameter is required to be combined to determine and overall acoustic parameter.

2.2.2 Halton Region

The Halton Region guidelines include the Noise Abatement Guidelines – Regional Official Plan Guidelines and the Land Use Compatibility Guidelines – Regional Official Plan Guidelines, both dated June 18, 2014. In general, the Halton Region guidelines are consistent with the MECP NPC-300 guidelines, with the exception of the barrier assessment.

2.2.3 CN and Metrolinx-GO Transit Guidelines

Both CN and Metrolinx have published updated noise guidelines for new residential developments located adjacent to their railway corridors. The GO Lakeshore West Line and CN Oakville Subdivision are classified as Principal Main Lines. Accordingly, the applicable guideline limits are presented in **Table 5** below.

Table 5: CN / Metrolinx Sound Level Criteria for Rail Noise

Type of Space	Time Period	Equivalent Sound Exposure Level - L_{eq} (dBA)	Assessment Location
Outdoor Living Area (OLA)	Daytime (0700-2300h)	55	Outdoors
Living / Dining Room	Daytime (0700-2300h)	40	Indoors
	Night-time (2300-0700h)	--	Indoors
Sleeping Quarters	Daytime (0700-2300h)	--	Indoors
	Night-time (2300-0700h)	35	Indoors

2.3 Traffic Data and Future Projections

2.3.1 Roadway Traffic Data

Traffic volumes for Masonry Court and Waterdown Road were obtained from a previous SLR Consulting Report written in 2018 for 101 Masonry Court. The 2017 AADT traffic data was grown further to 2043 using a 2% growth rate per annum. Traffic data for Highway 403 was obtained from the Ministry of Transportation Provincial Highway Traffic Volumes document for the year 2016. The data was grown further to 2043 at a 2% growth rate per annum. **Table 6** below summarizes the road traffic volumes used in the analysis.

Table 6: Summary of Road Traffic Data Used in the Transportation Analysis

Roadway Link	2043 Traffic Volumes (AADT)	% Day/ Night Volume Split		Commercial Traffic Breakdown		Vehicle Speed (km/h)
		Daytime	Night-time	% Med Trucks	% Heavy Trucks	
Masonry Ct (West of Cooke)	3,874	90[1]	10[1]	8.3	4.2	50
Masonry Ct (East of Cooke)	1,994	90[1]	10[1]	8.3	4.2	50
Waterdown Rd	29,567	90[1]	10[1]	10	5	50
Highway 403	241,183	85[2]	15[2]	2.1	6.4	100

Notes: [1] The Day/Night split was determined from historic data at SLR for urban areas.
[2] The Day/Night split was determined from historic data at SLR for Freeways

2.3.2 Rail Traffic Data

Rail traffic data CN Oakville Subdivision were obtained directly from CN. An annual growth rate of 2.5% was applied to the rail data to reach a 2033 future year. Forecasted GO Train data was provided by Metrolinx.

The rail traffic data used in the assessment is summarized in the **Table 7** and included in **Appendix B**.

Table 7: Summary of Rail Traffic Data Used in the Transportation Analysis

Rail Line	Train Type	Typical No. of Engines/ Train	No. of Cars/Train	No of Trains		Maximum Speed (km/h)
				Daytime (7am to 11pm)	Night-time (11pm to 7am)	
GO Lakeshore West Line	GO Commuter	1	12	132	21	153
CN Oakville Subdivision	Freight	4	140	13	8	97
CN Oakville Subdivision	Way freight	4	25	11	4	97
CN Oakville Subdivision	VIA Commuter	2	10	16	0	153

2.4 Projected Sound Levels

Future road traffic sound levels at the proposed development were predicted using Cadna/A, a commercially available noise propagation modelling software. Roadways were modelled as line sources of sound, with sound emission rates calculated using ORNAMENT algorithms, the road traffic noise model of the MECP. These predictions were validated and are equivalent to those made using the MECP's ORNAMENT or STAMSON v5.04 road traffic noise models. A STAMSON validation file is included in **Appendix B.**

Rail operation sound levels at the proposed development were predicted using the FTA/FRA modelling algorithms included in the Cadna/A software, FTA reference sound levels were used for diesel-electric locomotives, and rail cars.

Noise from warning bells were modelled starting at a distance of 300 m from the station platform, which is a conservative distance based on historical observations made by SLR personnel. As the FTA/FRA reference sound levels are for warning horns, and not the typical bells associated with the GO trains, an adjustment was applied. An adjustment of -14 dBA was used, based on the historical SLR sound data for a GO Train bell (approx. LMax of 96 dBA at 15m).

Sound levels were predicted along the façades of the proposed development using the "building evaluation" feature of Cadna/A. This feature allows for noise levels to be predicted across the entire façade of a structure.

Changes in ground elevation contours for the surrounding area were included in the modelling using topography from the City of Burlington Open Data portal.

Ground absorption was set to G=0 (Reflective) globally for transportation modelling.

2.4.1 Façade Sound Levels

The façade sound levels were predicted at all noise sensitive spaces within the proposed development. The worst-case façade sound levels for each façade are presented in **Table 8**. The transportation façade sound levels of the development, showing the ranges of predicted daytime and night-time sound levels are shown on **Figure 3a/b, Figure 4a/b, and Figure 5a/b** for roadway, railway, and the combined road and rail impacts, respectively. As façade sound levels are predicted to be above 65 dBA during the day and 60 dBA at night for railway noise, an assessment of building components is required for the development.

Table 8: Summary of Transportation Facade Sound Levels[(1)]

Building	Façade [1]	Roadway Sound Levels		Railway Sounds Levels[2]		Combined Road & Rail[2]	
		L_{eq} Day (dBA)	L_{eq} Night (dBA)	L_{eq} Day (dBA)	L_{eq} Night (dBA)	L_{eq} Day (dBA)	L_{eq} Night (dBA)
Building A Podium	North	70	65	66	64	71	67
	East	66	62	63	61	68	64
	South	61	55	52	50	61	56
	West	69	64	63	61	70	65
Tower A	North	70	65	66	64	71	67
	East	66	62	63	61	68	64
	South	59	53	52	50	60	54
	West	68	63	63	60	69	65
Building B Podium	North	67	62	63	61	69	65
	East	66	61	60	58	67	63
	South	61	55	51	48	62	56
	West	62	57	60	58	64	60
Tower B	North	67	62	64	62	69	65
	East	65	61	63	60	67	63
	South	60	53	51	48	60	54
	West	63	58	58	56	64	60
Building C Podium	North	68	63	63	61	69	65
	East	62	58	58	55	63	59
	South	64	58	50	48	65	58
	West	68	63	62	60	69	64
Tower C	North	68	63	63	61	69	65
	East	62	58	60	57	64	60
	South	64	58	50	48	65	58
	West	68	63	62	60	69	64

Notes: [1] Sound Levels shown are the maximums along the facade and are not necessarily for the same location for the various source types.
[2] Including GO Train bells within station.

2.4.2 Outdoor Living Areas

Three common OLAs are currently planned for the rooftops of the podiums of all three buildings as shown on Figure 6a.

As the development includes a common amenity space for all occupants, the private terraces and at grade amenity areas are not considered to be the only outdoor amenity space available. Therefore, an assessment of private terraces was excluded based on the definitions outlined in NPC-300.

Landscaped areas at grade are publicly accessible and have not been included as an Outdoor Living Area based on the definitions outlined in NPC-300.

The predicted road and rail noise impacts are shown on Figure 6a are summarized for the seating areas in the following table:

Table 9: Summary of Predicted Outdoor Living Area Sound Levels

ID	Location	Transportation Impacts L_{eq} Day (dBA)	Applicable Guideline Limit L_{eq} Day (dBA)	Meets Criteria? (Yes/No)
OLA 1	On Top of Building A Podium	65-69	55[1]	No
OLA 2	On Top of Building B Podium	58-63	55[1]	No
OLA 3	On Top of Building C Podium	62	55[1]	No

Notes: [1] NPC 300 and its predecessors require 55 dBA as the outdoor amenity limit. In cases where mitigation may not be technically, economically, and administratively feasible, a tolerance of up to 5 dB may be permitted with a warning clause.

Sound levels are predicted to be above 55 dBA for the outdoor amenity spaces; therefore, an assessment noise control measures is required.

2.5 Façade Assessment

2.5.1 Glazing Requirements

Based on the sound levels shown in Table 8, façade sound levels were predicted to exceed the above criteria at multiple locations throughout the development. Therefore, an assessment of glazing requirements is necessary for meeting the indoor sound level requirements outlined in Table 1.

Indoor sound levels and required facade Sound Transmission Classes (STCs) were estimated using the procedures outlined in National Research Council Building Practice Note BPN-56.

The following assumptions were considered for both buildings:

- 70% glazing for both living room and bedroom facades;
- sleeping quarters were assumed to have a façade-to-floor area ratio of 100%;
- living/dining rooms were assumed to have a façade-to-floor area ratio of 50%;
- non-glazing portion of wall was assumed to have a rating of STC 45 for all locations.

The acoustic requirements are provided below in Table 10, which is the STC rating taking into consideration roadway noise and railway noise and the assumptions listed in the previous section.

The combined glazing and frame assembly must be designed to ensure the overall sound isolation performance for the entire window unit meets the sound isolation requirements. It is recommended window manufacturers test data be reviewed to confirm acoustical performance is met.

The glazing requirements above are approximated, based on the generic room, façade and glazing dimensions. Once detailed floor plans and façade plans become available, the glazing requirements should be re-assessed and reviewed by an Acoustical Consultant.

Table 10: Façade Sound Transmission Class (STC) Requirements

Building	Façade [1]	Non-Glazing Component	Glazing Requirements	
			Living Room	Bedroom
Building A Podium	North	45	31	36
	East	45	OBC	33
	South	45	OBC	OBC
	West	45	30	34
	North Corners	45	34	38
	South Corners	45	30	35
Tower A	North	45	31	36
	East	45	OBC	33
	South	45	OBC	OBC
	West	45	OBC	33
	North Corner	45	33	38
	South Corners	45	OBC	34
Building B Podium	North	45	OBC	33
	East	45	OBC	31
	South	45	OBC	OBC
	West	45	OBC	30
	North Corners	45	31	35
	South Corners	45	OBC	32
Tower B	North	45	OBC	34
	South	45	OBC	32
	East	45	OBC	OBC
	West	45	OBC	OBC
	North Corners	45	31	36
	South Corners	45	OBC	33
Building C Podium	North	45	OBC	33
	East	45	OBC	OBC
	South	45	OBC	OBC
	West	45	OBC	33
	North Corners	45	32	36
	South Corners	45	30	34
Tower C	North	45	OBC	33

	South	45	OBC	OBC
	East	45	OBC	OBC
	West	45	OBC	33
	North Corners	45	32	36
	South Corners	45	30	34

Notes: OBC = Ontario Building Code, meeting a rating of STC 29

2.5.2 Ventilation and Warning Clause Requirements

The requirements regarding warning clauses are summarized in Table 3. Based on the predicted sound levels, warning clauses are recommended to be included in agreements registered on Title for the residential units and included in all agreements of purchase and sale or lease, and all rental agreements.

Forced air heating with provisions for future installation of central air conditioning, and a Type C warning clause, is recommended for all affected units with façade sound levels that are between 56 and 65 dBA during the daytime, or between 51 and 60 dBA during night-time hours. This includes all the Façades listed below, Warning clause text can be found in Appendix C.

- Building A Podium – South Façade;
- Tower A – South Façade;
- Building B Podium – South and West Façade;
- Tower B – South and West Façade;
- Building C Podium – East and South Façade; and
- Tower C – East and South Façade.

Central Air Conditioning and a Type D Warning Clause is recommended for all affected units with façade sound levels that are above 65 during the daytime hours and/or 60 dBA during night-time hours. This includes all the Façades listed below, Warning clause text can be found in.

- Building A Podium – North, East, and West Façade;
- Tower A – North, East, and West Façade;
- Building B Podium – North and East Façade;
- Tower B – North and West Façade;
- Building C Podium – North and West Façade; and
- Tower C – North and West.

In addition, CP and Metrolinx Warning Clauses are required for all blocks of the development. Warning clause text can be found in Appendix C.

2.6 Outdoor Living Area Requirements

2.6.1 Acoustic Barriers

An evaluation of acoustic barriers was completed for OLAs. Barriers along the perimeter of each outdoor amenity space, as well as a barrier separating OLA 1 into two sections were considered. The following table summarizes the predicted OLA sound levels with acoustic barriers at different heights.

Table 11: Summary of OLA Acoustic Barrier Modelling

Building Section	Location	ID	Barrier Height (m)	Transportation Noise Levels Leq Day (dBA)	Applicable Guideline Limit Leq Day (dBA) [1]
Podium A Rooftop	Level 13	OLA 1	0	65-69	55
			1	63-67	55
			2	60-62	55
			3	58-59	55
			4	57	55
			5	55-56	55
Podium B Rooftop	Level 7	OLA 2	0	58-63	55
			1	57-62	55
			2	53-58	55
			3	52-56	55
			4	52-54	55
			5	52-53	55
Podium A Rooftop	Level 7	OLA 3	0	62	55
			1	62	55
			2	57	55
			3	56	55
			4	55	55
			5	53	55

Notes: [1] NPC 300 and its predecessors require 55 dBA as the outdoor amenity limit. In cases where mitigation may not be technically, economically, and administratively feasible, a tolerance of up to 5 dB may be permitted, subject to feasibility.

Based on discussions with the owners and design team, a barrier height limit of 3 m is considered feasible. Heights beyond this are understood to be infeasible from a structural and architectural perspective.

As shown in Table 11, 4 m to 5 m high barriers would be required to mitigate sound levels for outdoor living areas to meet the 55 dBA sound level limit, which is not considered technically feasible or practical.

A maximum height of 3 m was applied to the perimeter barriers on Building A, B, and C as discussed above. The results, based on 3 m high perimeter barriers for Buildings A, B, and C are summarized in Table 12 below and are displayed graphically on Figure 6b.

Table 12: Summary of Recommended Acoustic Barriers

Building Section	Location	ID	Barrier Height (m)	Transportation Noise Level Leq Day (dBA)	Applicable Guideline Limit Leq Day (dBA)	Notes
Podium A Rooftop	Level 13	OLA 1	3	58-59	55[1]	• Perimeter barrier • Height = 3 m • Approx. length of 69 m • Surface Density of 20 kg/m^2 required • Must be sealed with no gaps
Podium B Rooftop	Level 7	OLA 2	3	52-55	55[1]	• Perimeter barrier • Height = 3 m • Approx. lengths of 60 m • Surface Density of 20 kg/m^2 required • Must be sealed with no gaps
Podium C Rooftop	Level 7	OLA 3	3	56	55[1]	• Perimeter barrier • Height = 3 m • Approx. lengths of 43 m • Surface Density of 20 kg/m^2 required • Must be sealed with no gaps

Notes: [1] NPC 300 and its predecessors require 55 dBA as the outdoor amenity limit. In cases where mitigation may not be technically, economically, and administratively feasible, a tolerance of up to 5 dB may be permitted, subject to feasibility.

The perimeter acoustic barriers can be composed of solid walls and glass/ plexiglass panels. The panels should be selected so that they have sufficient mass to adequately attenuate the noise (generally a minimum of 20 kg/m^2 face density). The panels and frames should be free of gaps and cracks on the sides and bottom. The system should also be designed to withstand any wind loading.

Localized seating and screening will be implemented at the SPA stage to reduce the noise impacts at OLAs. With the inclusion of a combination of noise barriers (perimeter + localized screening for seating areas) and optimization of locales within the rooftop amenity space as passive areas, transportation noise can be reduced to normally acceptable levels in the context of urban development.

2.6.2 Warning Clause Requirements

As physical mitigation will be required for the common outdoor amenity areas, a Type B warning clause is required. Warning clause text can be found in Appendix C.

3.0 STATIONARY SOURCE NOISE IMPACTS

3.1 Site Visit and Noise Observations

A review has been conducted for the potential impacts on the development from “stationary” noise sources in the surrounding area.

SLR staff completed site visits in February 2016, October 2018, and again in April 2021 to the development lands and surrounding area. The surrounding area primarily includes residential and commercial/retail lands, with industrial facilities located to the west (approx. 150 m from the development).

The general ambient environment surrounding the development lands are dominated by roadway noise from Highway 403 during all periods of the day. Railway noise along the CN Oakville subdivision is frequent throughout the day and audible within the area surrounding the development lands.

The industrial facilities located in a 1000 m radius with a potential to impact the development are summarized in Table 13. Facilities currently operating under an approved MECP Certificate of Approval (CofA) or Environmental Compliance Approval (ECA) are identified in the following table.

Table 13: Summary of Surrounding Industries with Potential for Noise Impacts

Name	Description	Separation Distance (m)	CofA/ECA No.
Aldershot GO Station	GO Train Station	250	-
AldershotRail Yard	Rail Yard	325	-
KPM Industries – Howard Road Plant	Asphalt Plant	130	Amended CofA Number 3669-5TPS2E
St. Mary's Cement / CBM Co. – 1093 Howard Road	Ready-Mix Plant	350	Amended ECA Number 5639-ABLLKT
Cougar Shoes Inc.	Shoe Store	20	-
PV Labs Ltd.	Imaging Company	20	-
Gentherm	Electronics Manufacturer	45	-
Rosehill Liquidation	Liquidation Warehouse	45	-
101 Masonry Court	Residential Subdivision	0	-

3.2 Stationary Source Data

3.2.1 Surrounding Industries

Aldershot GO Station

During the overnight period, GO Trains are not kept within the station. Therefore, the station is not considered to be a Layover Yard.

The 5:03 am GO Train was observed to arrive from the east, idle within the GO Station for a 10-minute period prior to departing east bound. In general, through trains were observed to stop for a period of 1 to 3 minutes, where end-of-line trains (arrive from east, then depart eastbound) were observed to stop and idle for a 10-minute period.

During the daytime period, fuel trucks were observed to park within the loading area and await the trains. The truck engines were shut down when fueling was not taking place.

Stationary noise sources modelled for the Aldershot GO Station include idling locomotives and idling fuel trucks. Based on current operations, three (3) GO Trains arrive (westbound), idle for 10 minutes during the stop and depart within a 1-hour period. During the night-time period, two (2) GO Trains arrive/idle/depart during the worst-case hour. In addition, GO Train fueling was observed to occur during the daytime period.

Source locations are shown on Figure 7. Reference sound levels and additional details regarding noise modelling parameters are included in Table D.1 of Appendix D.

Aldershot Rail Yard

Freight trains were observed by SLR personnel to move within the Rail Yard during site visits.

Rail car movements were observed to occur periodically during the day. Impulsive noise from rail car movements were not consistently present, where trains of rail cars were observed to come to a complete stop without the associated knuckle-thump impulsive noise. On occasion, a single impulse was observed when the train came to a stop, as opposed to the successive impulses associated with a long train of railway cars.

Noise impacts from the Aberdeen Rail Yard were modelled for both continuous and impulsive noise. Three (3) idling locomotives were modelled within the west end of the yard. Impulsive noise was modelled as a line, representing the single impulse within the west end of the yard.

The locations of the above sources are shown on Figure 7, with reference sound levels and modelling parameters summarized in Table D.1 of Appendix D.

KPM Industries – Asphalt Plant

The only significant noise sources audible near the KPM Industries property line were an excavator, front end loader and crusher. The KPM Industries operations were observed to be inaudible during all periods of the day at the development lands, due to high ambient noise from highway 403.

Stationary noise sources modelled for the KPM Industries facility include the east end operations (excavator, front end loader and crusher), and the Asphalt Plant located in the west end of the facility.

Figure 7 shows the locations of the above sources. Table D.1 of Appendix D summarizes the reference sound levels and parameters used in the noise modelling.

St. Mary's Cement / CBM Co. – Ready Mix Plant

Similarly to the KPM Industries operations, the ready-mix plant operations were observed to be inaudible at the development land due to the high ambient noise from Highway 403.

Typical noise sources for a ready-mix plant include the delivery of cement powder, truck loadout and truck wash/mix. The locations of these sources are shown on Figure 7, with reference sound levels and modelling parameters summarized in Table D.1 of Appendix D.

Sound level data from past site visit measurements and generic SLR historical sound level data was applied in the stationary noise modelling. All stationary sources modelled are shown on Figure 7. A summary of the sound power levels, and duty cycles used in the assessment are included in Appendix D.

Cougar Shoes Inc.

Commercial operations for Cougar Shoes Inc. activities were observed to be inaudible at the development land and surrounding areas.

Noise sources for the commercial operation include rooftop HVAC units and idling trucks in the loading bay. The locations of these sources are shown on Figure 7, with reference sound levels and modelling parameters summarized in Table D.1 of Appendix D.

SLR historical sound level data was applied in the stationary noise modelling. All stationary sources modelled are shown on Figure 7. A summary of the sound power levels, and duty cycles used in the assessment are included in Appendix D.

PV Labs Ltd.

Operations for PV Labs Ltd. activities were observed to be inaudible at the development land and surrounding areas.

Noise sources for the operation include rooftop HVAC units and idling trucks in the loading bay. The locations of these sources are shown on Figure 7, with reference sound levels and modelling parameters summarized in Table D.1 of Appendix D.

SLR historical sound level data was applied in the stationary noise modelling. All stationary sources modelled are shown on Figure 7. A summary of the sound power levels, and duty cycles used in the assessment are included in Appendix D.

Gentherm/Rosehill Liquidation

Gentherm and Rosehill Liquidation share a building at 1047 Cooke Boulevard. Operations for the facility were observed to be inaudible at the development land and surrounding areas.

Noise sources for the operation include rooftop HVAC units and idling trucks in the loading bay. The locations of these sources are shown on Figure 7, with reference sound levels and modelling parameters summarized in Table D.1 of Appendix D.

SLR historical sound level data was applied in the stationary noise modelling. All stationary sources modelled are shown on Figure 7. A summary of the sound power levels, and duty cycles used in the assessment are included in Appendix D.

101 Masonry Court

The residential development operates rooftop equipment, parking exhaust fans, and three emergency generators.

The locations of these sources are shown on Figure 7, with reference sound levels and modelling parameters summarized in Table D.1 of Appendix D.

Manufacturers data was applied in the stationary noise modelling. All stationary sources modelled are shown on Figure 7. A summary of the sound power levels, and duty cycles used in the assessment are included in Appendix D.

3.3 Stationary Noise Modeling

The impacts from stationary sources were modelled using Cadna/A, a software implementation of the internationally recognized ISO-9613-2 environmental noise propagation algorithms. Cadna/A / ISO-9613 is the preferred noise model of the MECP. The ISO 9613 equations account for:

- Source to receiver geometry;
- Distance attenuation;
- Atmospheric absorption;
- Reflections off of the ground and ground absorption;
- Reflections off vertical walls; and

- Screening effects of buildings, terrain, and purpose-built noise barriers (noise walls, berms, etc.).

The following additional parameters were used in the modelling, which are consistent with providing a conservative (worst-case assessment of noise levels):

- Temperature: 10°C;
- Relative Humidity: 70%;
- Default Ground Absorption G: G=0.0 (Reflective); and
- Reflection: An order of reflection of 1 was used.

As described in ISO 9613-2, ground factor values that represent the effect of ground absorption on sound levels range between 0 and 1. Based on the specific site conditions, the ground factor values used in the modelling were a ground factor value of 0 for acoustically reflective surfaces, such as asphalt. Large grassy areas are considered to have a ground factor of 1 and included as localized ground absorption in the modelling. Areas consisting primarily of dirt are considered to be intermediate ground type with an absorption factor of 0.5.

The "building evaluation" feature of the Cadna/A was used to assess noise impacts on the residential portions of the towers. This feature allows for noise levels to be predicted across the entire façade of a structure.

3.3.1 MECP NPC-300 Guidelines for Stationary Noise Sources

MECP noise guidelines for stationary source noise impacting residential developments are given in MECP publication NPC-300.

The lands were previously designated as a Class 4 area as part of the Phase 1 development for Station West. The NPC-300 Class 4 area exclusionary sound level limits for steady and impulsive sound sources are expressed as a 1-hr equivalent sound level (L_{eq} (1 hr) values and are summarized in **Table 14** and **Table 15** respectively and applied in this assessment.

Table 14: NPC-300 Class 4 Continuous Noise Requirements

Receiver Category	Time Period	Class 4 Exclusionary Sound Level Limits, L_{eq} (1 hr), dBA [1]
Plane of Window [1]	0700 – 1900h 1900 – 2300h 2300 – 0700h	60 60 55
Outdoor Living Area [1]	0700 – 1900h 1900 – 2300h 2300 – 0700h	55 55 -

Notes: [1] Applicable for "Noise Sensitive Spaces", as defined in NPC-300.

Table 15: NPC-300 Class 4 Impulsive Noise Requirements

Number of Impulses In a 1-Hour Period (7 am to 11 pm) / (11 pm to 7 am)	Outdoor [1] (L_{LM}, dBAI)	Plane of Window (L_{LM}, dBAI)
9 or More	55	60/55
7 to 8	60	65/60
5 to 6	65	70/65

4	70	75/70
3	75	80/75
2	80	85/80
1	85	90/85

Railway impulsive noise was not observed to occur more than once per hour, and as indicated above was observed to be a single impulse. Therefore, the exclusionary limits of 90 dBAI and 85 dBAI were applied for the daytime/evening and night-time periods, respectively and 85dBAI for outdoor living areas.

3.3.2 Emergency Equipment Testing

Sound level limits for emergency equipment operating in non-emergency situations are 5 dB greater than the sound level limits otherwise applicable to other stationary sources, as outlined in NPC-300. Additionally, emergency equipment operating in non-emergency situations is to be assessed independently of all other stationary sources of noise.

3.3.3 Continuous Stationary Noise

Façade Sound Levels

A summary of the predicted noise impacts on each façade are shown in **Table 16**, and **Figures 8a/b** for the daytime/evening and night-time periods, respectively.

The predicted worst-case noise impacts at the façade of both buildings are predicted to be at or below the default Class 4 criteria of 60dBA during the day and 55dBA at night. Therefore, additional noise mitigation is not required.

Table 16: Summary of Stationary Continuous Façade Sound Levels

Building	Façade [1]	Stationary Sound Levels [2]		Applicable Guideline Limit		Meets Guideline Limits?	
		Day/Eve (dBA)	Night (dBA)	Day/Eve (dBA)	Night (dBA)	Day/Eve (Y/N)	Night (Y/N)
Building A Podium	North	57	53	60	55	Y	Y
	East	54	52			Y	Y
	South	57	49			Y	Y
	West	58	52			Y	Y
Tower A	North	56	53			Y	Y
	East	54	52			Y	Y
	South	57	50			Y	Y
	West	57	52			Y	Y
Building B Podium	North	52	48			Y	Y
	East	57	54			Y	Y
	South	55	51			Y	Y
	West	52	47			Y	Y
Tower B	North	56	54			Y	Y

Building	Façade [1]	Stationary Sound Levels [2]		Applicable Guideline Limit		Meets Guideline Limits?	
		Day/Eve (dBA)	Night (dBA)	Day/Eve (dBA)	Night (dBA)	Day/Eve (Y/N)	Night (Y/N)
	East	57	55			Y	Y
	South	54	51			Y	Y
	West	54	50			Y	Y
Building C Podium	North	56	50			Y	Y
	East	52	50			Y	Y
	South	56	49			Y	Y
	West	57	47			Y	Y
Tower C	North	57	53			Y	Y
	East	54	52			Y	Y
	South	56	50			Y	Y
	West	58	52			Y	Y

Notes: [1] Façade locations are identified on **Figure 8.**
[2] Sound levels shown represent the worst-case impact along the identified façade

The predicted worst-case noise impacts at the façade of both buildings are predicted to be at or below the default Class 4 criteria of 60dBA during the day and 55dBA at night. Therefore, additional noise mitigation is not required.

Outdoor Living Areas

A summary of the predicted noise impacts on each façade are shown in Table 17, and graphically on Figure 9.

Table 17: Summary of Predicted Outdoor Living Area Sound Levels

ID	Location	Impacts L_{eq} Day (dBA)	Applicable Guideline Limit L_{eq} Day (dBA)	Meets Criteria? (Yes/No)
OLA 1	On Top of Building A Podium	50	55	Yes
OLA 2	On Top of Building B Podium	43-47	55	Yes
OLA 3	On Top of Building C Podium	45	55	Yes

The continuous stationary sound levels within the rooftop common amenity areas with the inclusion of the planned 2.2 m perimeter parapet are predicted to be below the exclusionary guideline limit of 55 dBA. Therefore, no additional mitigation is required. Sound Levels are shown on Figure 9.

3.3.4 Impulsive Stationary Noise

Façade Sound Levels

A summary of the predicted noise impacts on each façade are shown on **Figure 10** and in the following table.

Table 18: Summary of Stationary Impulsive Façade Sound Levels

Building	Façade [1]	Stationary Sound Levels [2]		Applicable Guideline Limit		Meets Guideline Limits?	
		Day/Eve (dBAI)	Night (dBAI)	Day/Eve (dBAI)	Night (dBAI)	Day/Eve (Y/N)	Night (Y/N)
Building A Podium	North	55	55	90	85	Y	Y
	East	55	55			Y	Y
	South	50	50			Y	Y
	West	36	36			Y	Y
Tower A	North	55	55			Y	Y
	East	55	55			Y	Y
	South	50	50			Y	Y
	West	38	38			Y	Y
Building B Podium	North	54	54			Y	Y
	East	54	54			Y	Y
	South	39	39			Y	Y
	West	45	45			Y	Y
Tower B	North	55	55			Y	Y
	East	55	55			Y	Y
	South	43	43			Y	Y
	West	49	49			Y	Y
Building C Podium	North	53	53			Y	Y
	East	53	53			Y	Y
	South	32	32			Y	Y
	West	34	34			Y	Y
Tower C	North	54	54			Y	Y
	East	54	54			Y	Y
	South	41	41			Y	Y
	West	37	37			Y	Y

Notes: [1] Façade locations are identified on **Figure 10.**
[2] Sound levels shown represent the worst-case impact along the identified façade

The impulsive noise from rail car knuckle thumps were found to be below the exclusionary Class 4 sound levels for all facades, during all periods of the day. Therefore, the applicable guideline limits are met on all facades of the proposed development and additional noise mitigation measures are not required.

Outdoor Living Areas

The predicted impulsive stationary sound levels within the rooftop common amenity areas without any mitigation are in the range of 35 dBA to 45 dBA during all times of the day, which is below the exclusionary guideline limits. Therefore, no additional mitigation is required. Predicted OLA sound levels are shown on Figure 11.

3.3.5 Generator Testing

Façade Sound Levels

Noise impacts from generator testing were predicted on the development facades and shown on Figure 12 and summarized in Table 19. Generator testing is assumed to occur during daytime periods only for a duration of 30 minutes.

Table 19: Summary of Emergency Generator Façade Sound Levels

Building	Façade [1]	Stationary Sound Levels [2]		Applicable Guideline Limit		Meets Guideline Limits?	
		Day/Eve (dBA)	Night (dBA)	Day/Eve (dBAI)	Night (dBAI)	Day/Eve (Y/N)	Night (Y/N)
Building A Podium	North	44	N/A	65	60	Y	Y
	East	47				Y	Y
	South	45				Y	Y
	West	28				Y	Y
Tower A	North	44				Y	Y
	East	47				Y	Y
	South	45				Y	Y
	West	27				Y	Y
Building B Podium	North	44				Y	Y
	East	51				Y	Y
	South	43				Y	Y
	West	40				Y	Y
Tower B	North	44				Y	Y
	East	51				Y	Y
	South	42				Y	Y
	West	39				Y	Y
Building C Podium	North	40				Y	Y
	East	40				Y	Y

Building	Façade [1]	Stationary Sound Levels [2]		Applicable Guideline Limit		Meets Guideline Limits?	
		Day/Eve (dBA)	Night (dBA)	Day/Eve (dBAI)	Night (dBAI)	Day/Eve (Y/N)	Night (Y/N)
	South	37				Y	Y
	West	19				Y	Y
Tower C	North	25				Y	Y
	East	40				Y	Y
	South	35				Y	Y
	West	19				Y	Y

Outdoor Living Areas

The predicted sound levels from emergency generators within the rooftop common amenity areas without any mitigation are in the range of 23 dBA to 49 dBA during all times of the day, which is below the exclusionary guideline limits. Therefore, no additional mitigation is required. Predicted sound levels are shown on Figure 13.

3.4 Ventilation and Warning Clause Requirements

As the surrounding industries have the potential to be audible at times, a warning clause should be included in the Agreement of Purchase and Sale or Lease and in the relevant Development Agreements. An MECP NPC-300 Type E warning clause is recommended for all suites within the development. See Appendix C for warning clause details.

In addition, central air conditioning and a Type F Warning Clause is recommended as a component of the Class 4 Area designation. See Appendix C for warning clause details.

PART 2: IMPACTS OF THE DEVELOPMENT ON ITSELF

4.0 STATIONARY SOURCE NOISE IMPACTS ON THE DEVELOPMENT ITSELF

At the time of this assessment, the proposed development's mechanical systems have not been sufficiently designed.

If common mechanical systems will be implemented as part of the proposed development, the impacts from all equipment should comply with the MECP Publication NPC-300 guideline limits. The mechanical equipment is to be included with proposed development; the potential impacts should be assessed as part of the final building design. The criteria can be met at all surrounding and on-site receptors by the appropriate selection of mechanical equipment, by locating equipment with sufficient setback from noise sensitive locations, and by incorporating control measures (e.g., silencers) into the design. This can be confirmed at later stages of approval.

If individual air conditioning systems are to be implemented for each residential unit for the proposed site, the sound levels from each unit should meet MECP Publication NPC-216.

PART 3: IMPACTS OF THE DEVELOPMENT ON THE SOUROUNDING AREA

5.0 STATIONARY SOURCE NOISE IMPACTS ON SORROUNDING AREA

In terms of the noise environment of the area, it is expected that the project will have a negligible effect on the neighbouring properties.

The traffic related to the proposed development will be small relative to the existing traffic volumes within the area and is not of concern with respect to noise impact.

Other possible development noise sources with possible adverse impacts on the surrounding neighbourhood are the potential mechanical equipment (make up air units, cooling units, and parking garage vents). This equipment is required to meet MECP Publication NPC-300 requirements at the worst-case off-site noise sensitive receptors.

Off-site impacts are not anticipated given that the systems will be designed to ensure that the applicable noise guidelines are met at on-site receptors.

Regardless, potential impacts will be assessed as part of the final building design to ensure compliance. The criteria can be met at all surrounding and on-site receptors though the use of routine mitigation measures, including the appropriate selection of mechanical equipment, by locating equipment with sufficient setback from noise sensitive locations, and by incorporating control measures (e.g., silencers) into the design.

It is recommended that the mechanical systems be reviewed by an Acoustical Consultant prior to final selection of equipment.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The potential for noise impacts on and from the proposed development have been assessed. Impacts of the environment on the development, the development on the surrounding area and the development on itself have been considered. Based on the results of our studies, the following conclusions have been reached:

6.1 Transportation Noise

- An assessment of transportation noise impacts from the CP and Metrolinx railway noise as well as roadway noise from Waterdown Road, Masonry Court, and Highway 403.
- Based on transportation façade sound levels upgraded glazing is required within the development, as outlined in outlined in Section 2.5.1.
- Noise impacts within the common outdoor amenity areas, are predicted to exceed the applicable guidelines. With the inclusion of a combination of noise barriers, transportation noise can be reduced to normally acceptable levels in the context of urban development, as outlined in Section 2.6.1.
- Forced air heating and the provision for air conditioning and a Type C Warning Clause are recommended for multiple façades across each building, as outlined in Section 2.5.2. Warning clauses are included in Appendix C.
- Central Air Conditioning and a Type D Warning Clause is recommended for multiple façades across each building, as outlined in Section 2.5.2. Warning clauses are included in Appendix C.
- As acoustic barriers are required to reduce transportation noise levels within the rooftop amenity spaces, a Type B warning Clauses are required as outlined in Section 2.6.2. Warning clauses are included in Appendix C.
- In addition, CP, and Metrolinx Warning Clauses are also required for all units in the development.

6.2 Stationary Noise

- "Stationary" noise from the surrounding commercial and industrial facilities were assessed on the proposed development based on the Class 4 Area designation approved for the development lands, as outlined in Section 3.
- Stationary noise impacts from the surrounding commercial noise are predicted to meet NPC-300 Class 4 guideline limits at all facades and outdoor amenity areas.
- A Type E noise warning clause is recommended, as outlined in Section 3.4, due to the general noise from the surrounding industries and commercial properties. Warning clauses are included in Appendix C.
- Central air conditioning and a Type F noise warning clause should be included as a component of the Class 4 Area designation, as outlined in Section 3.4. Warning clauses are included in Appendix C.

6.3 Overall Assessment

- Impacts from the environment on the proposed development can be adequately controlled with upgraded glazing, inclusion of noise barriers, ventilation requirements and warning clauses, as outlined in Part 1 of this report.
- Impacts from the proposed development on itself are not anticipated and can be adequately controlled by following the design guidance outlined in Part 2 of this report.
- Impacts from the proposed development on the surroundings are expected to meet the applicable guideline limits and can be adequately controlled by following the design guidance outlined Part 3 of this report.
- As the glazing analysis was completed based on generic room and window dimensions, the analysis should be revised once detailed floor and façade plans are available.
- As the mechanical systems for the proposed development have not been designed at the time of this assessment, the acoustical design should be reviewed by an Acoustical Consultant as part of the final building design.

7.0 REFERENCES

International Organization for Standardization, ISO 9613-2: *Acoustics – Attenuation of Sound During Propagation Outdoors Part 2: General Method of Calculation*, Geneva, Switzerland, 1996.

National Research Council, Building Practice Note 56: *Controlling Sound Transmission into Buildings*, Canada 1985.

Ontario Ministry of the Environment, Conservation and Parks, 1989, Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT).

Ontario Ministry of the Environment, Conservation and Parks, Publication NPC-300: *Environmental Noise Guideline, Stationery and Transportation Sources – Approval and Planning*, 2013.

Ontario Ministry of the Environment, Conservation and Parks, 1996, STAMSON v5.03: Road, Rail and Rapid Transit Noise Prediction.

8.0 STATEMENT OF LIMITATIONS

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FIGURES

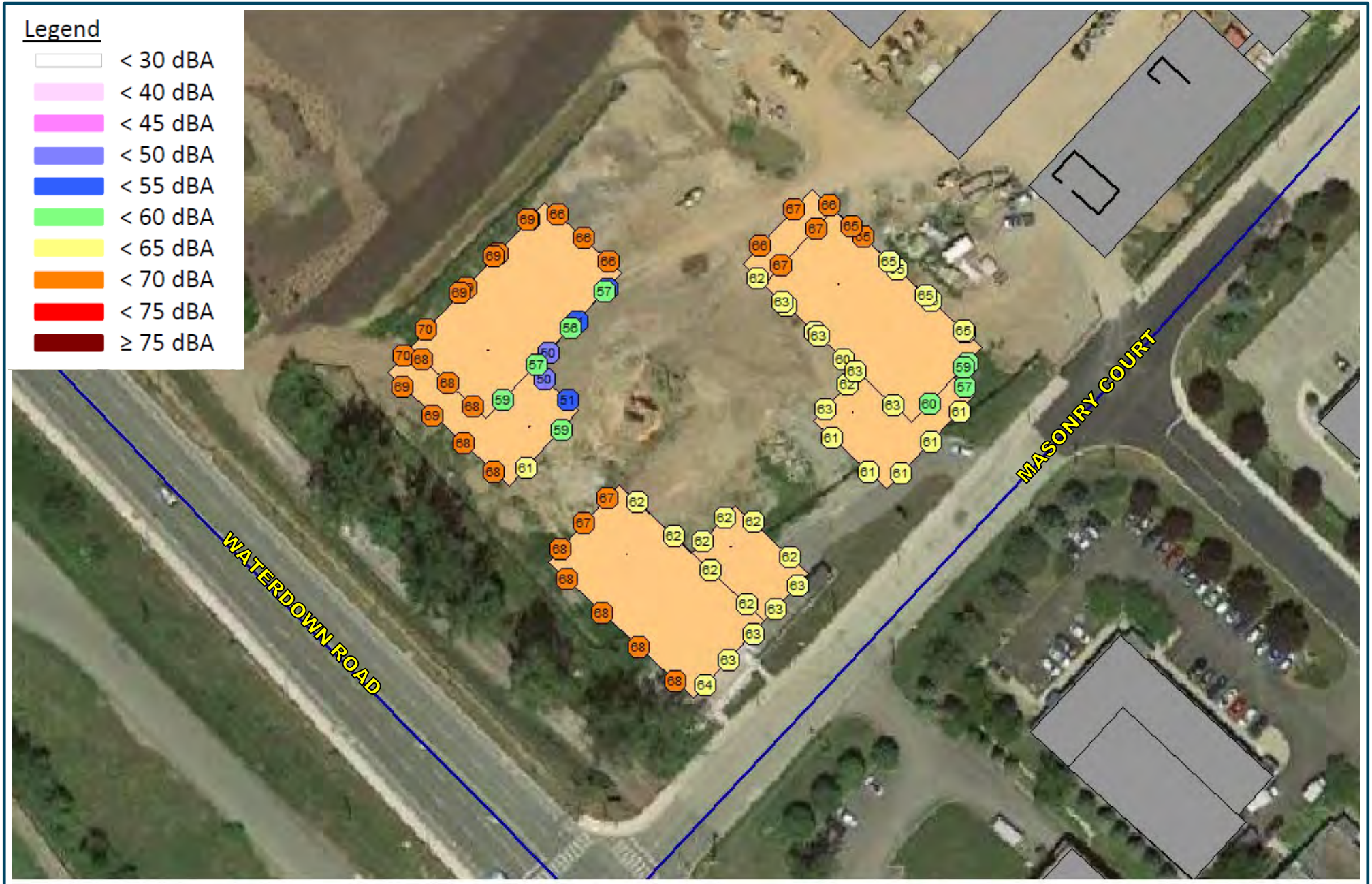
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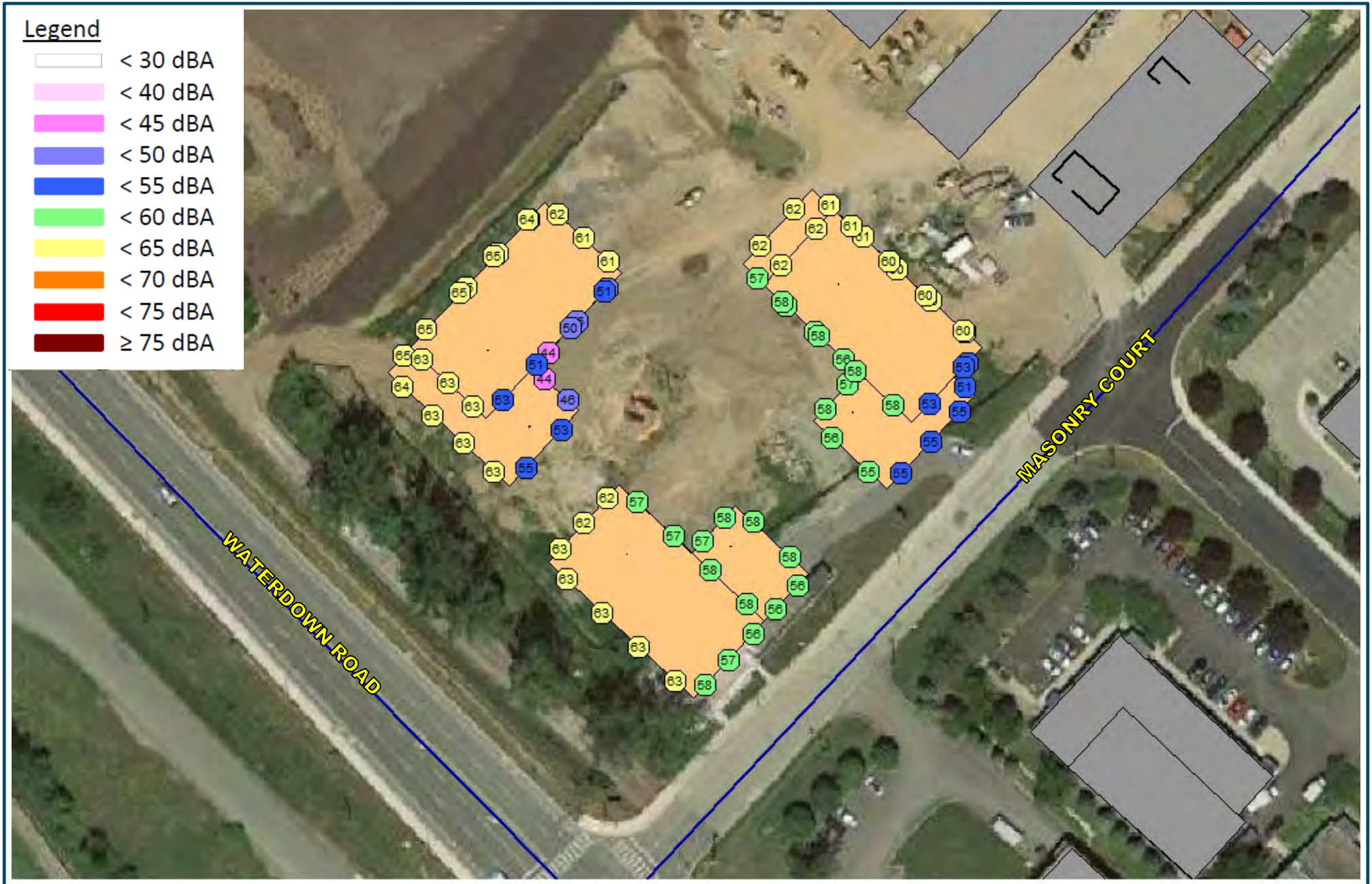
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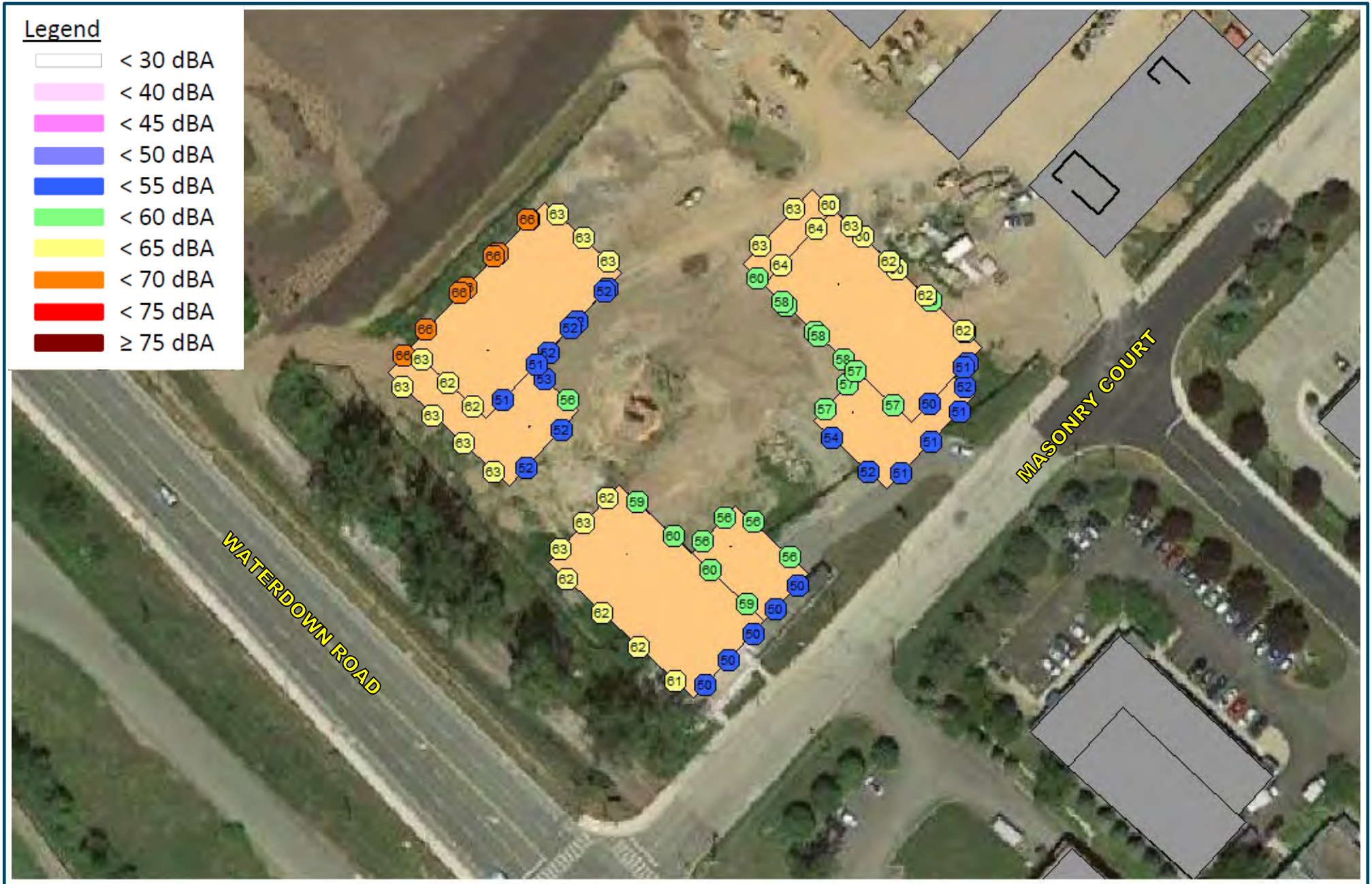
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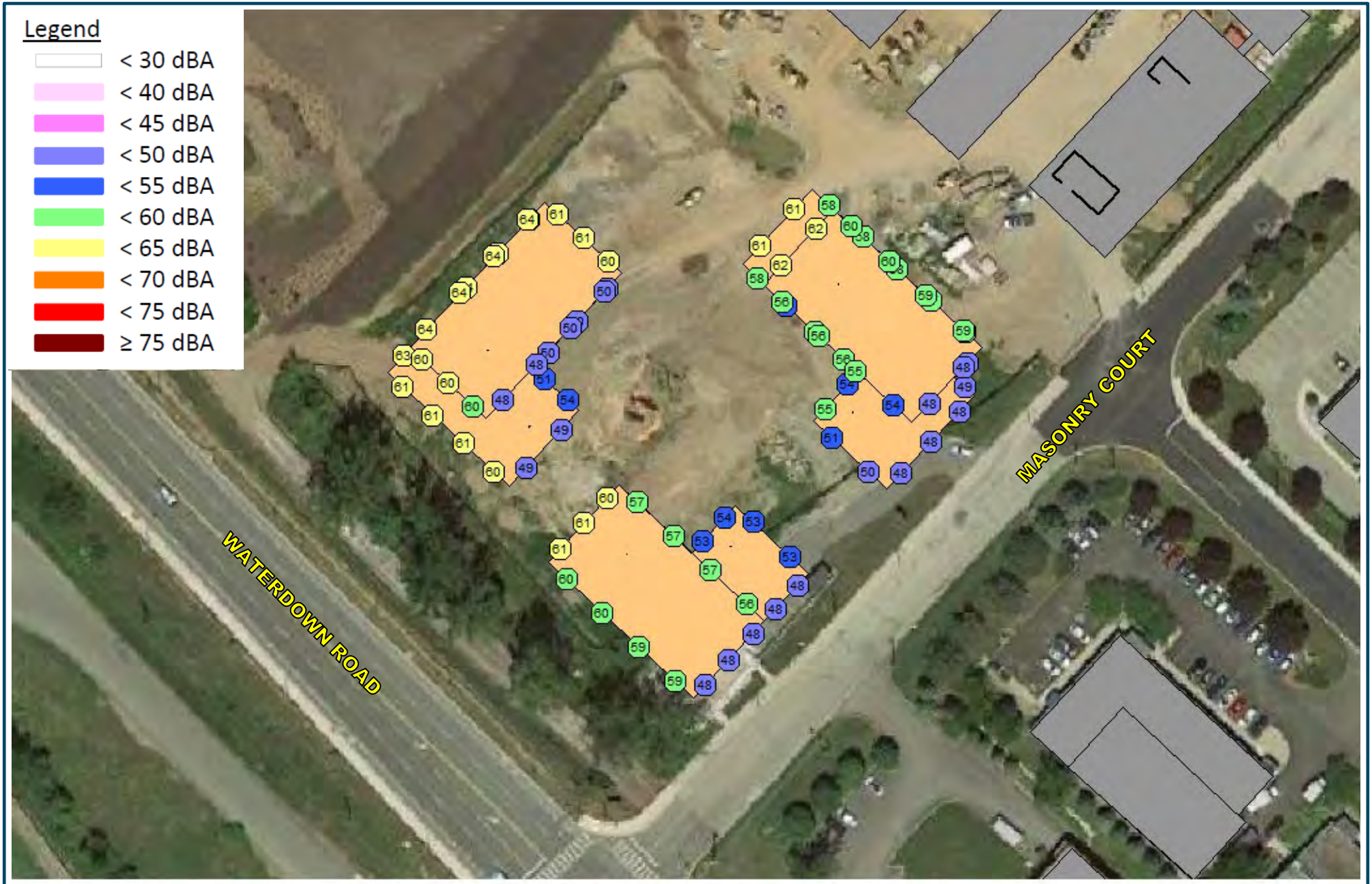
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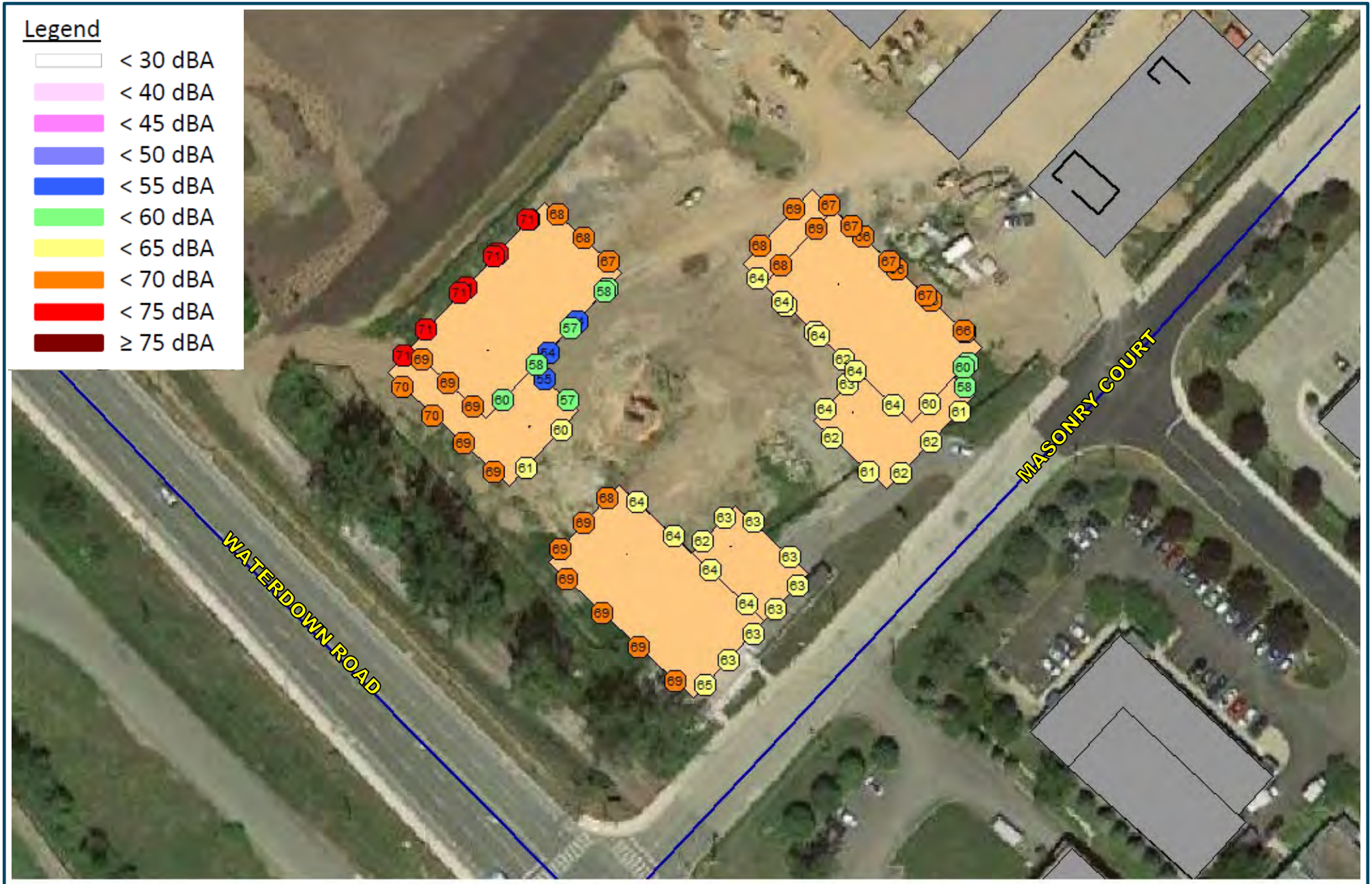
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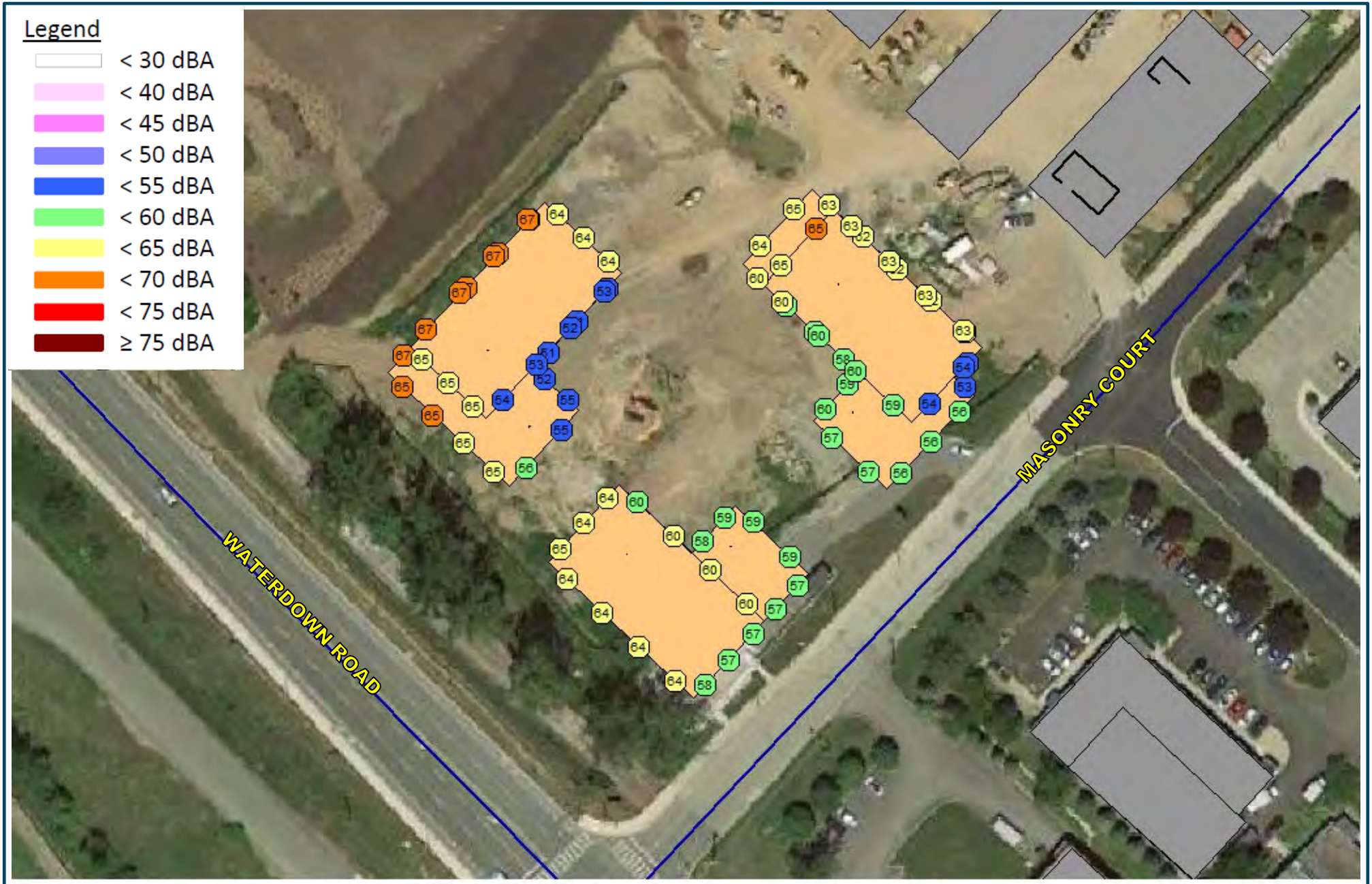
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MODELLED RAILWAY NOISE IMPACTS - NIGHTTIME		Project No. 241.30122.00000		



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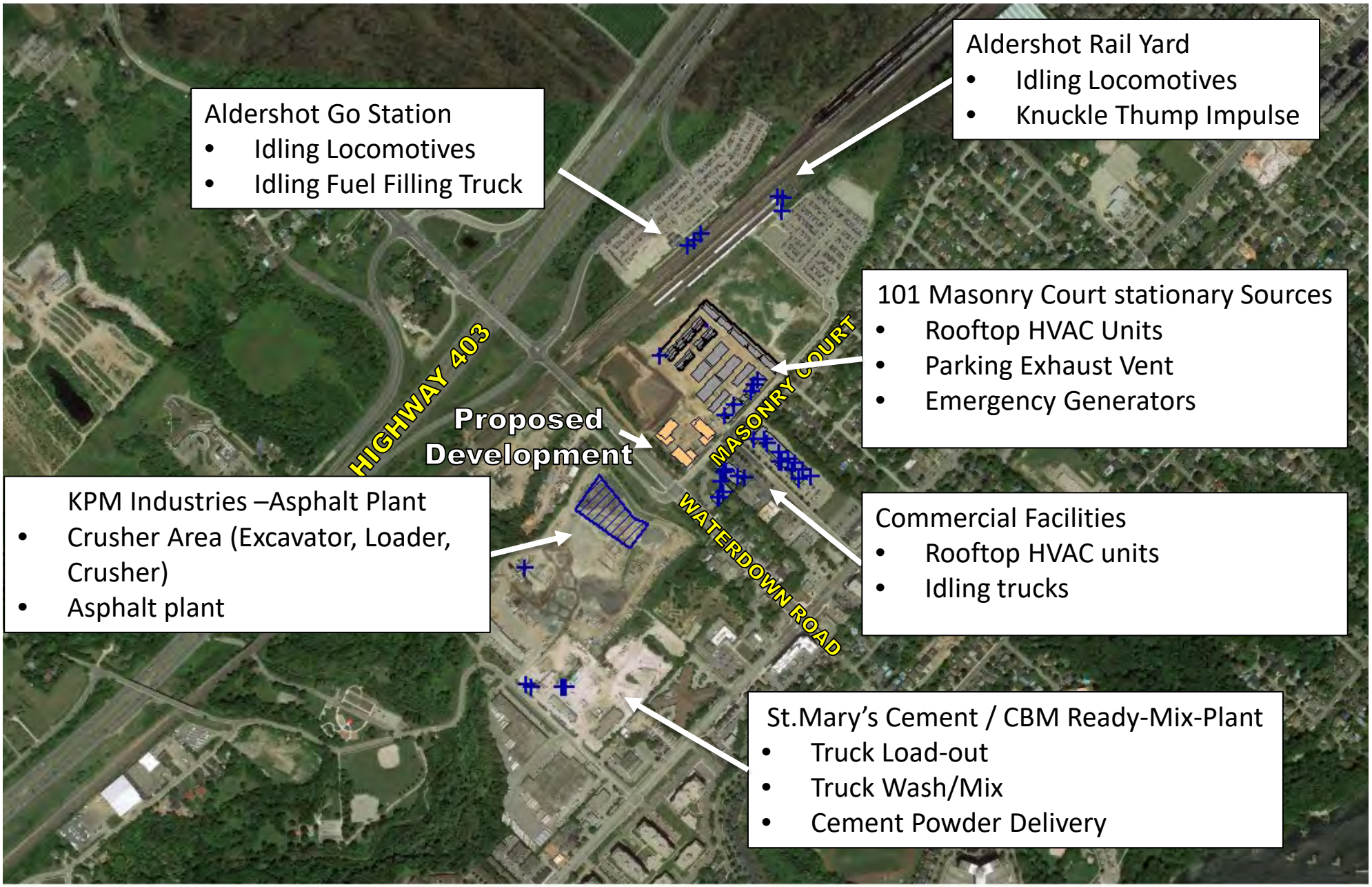
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1120 COOKE BOULEVARD		Date: Feb, 10, 2023 Rev 0.0	Figure No. **5b**	
MODELLED ROAD + RAIL NOISE IMPACTS - NIGHTTIME		Project No. 241.30122.00000		



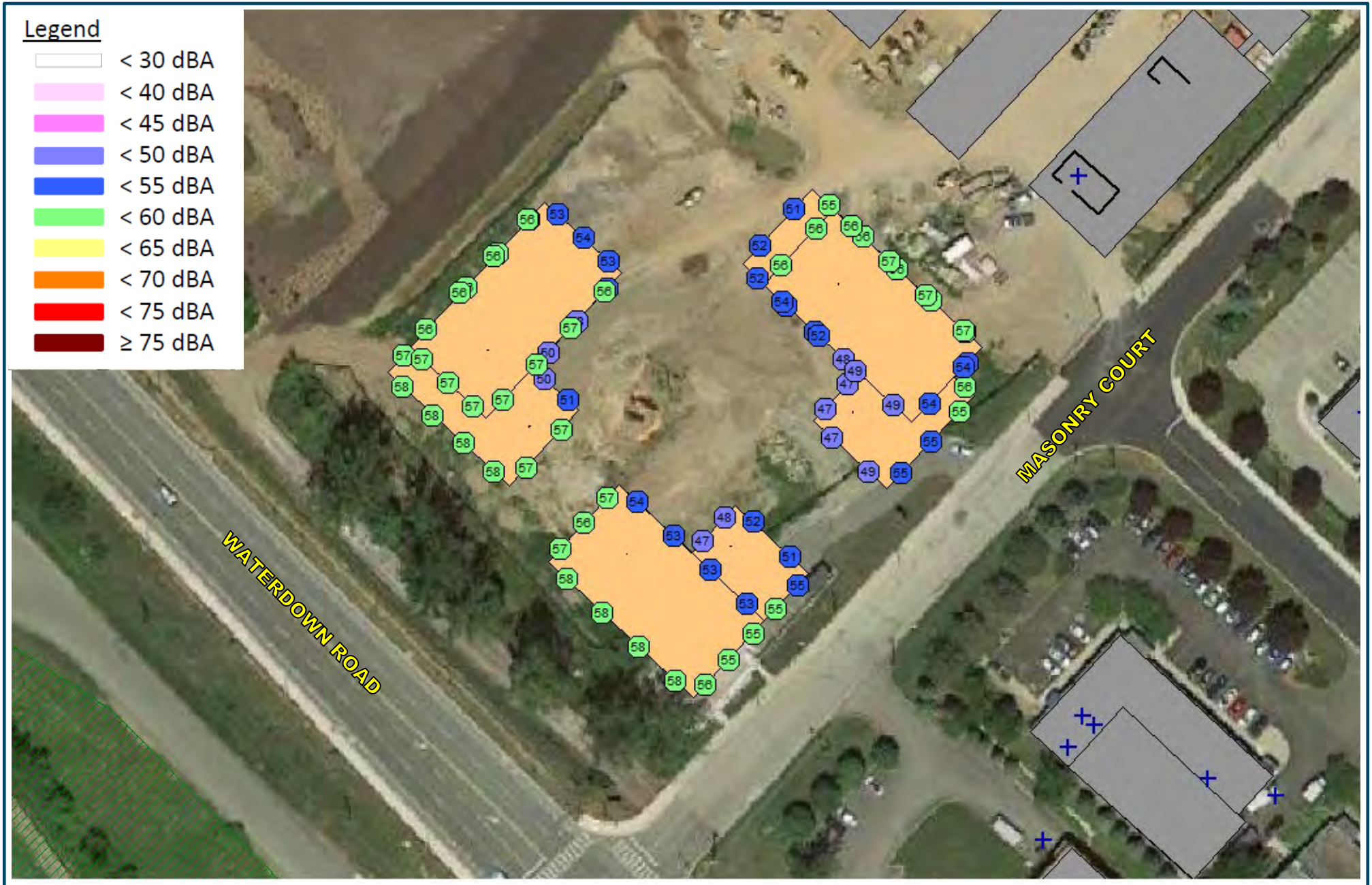
ADI	True North	Scale: 1:1000	METRES	SLR global environmental solutions
1120 COOKE BOULEVARD		Date: Feb, 10, 2023 Rev 0.0	Figure No. **6a**	
MODELLED ROAD + RAILWAY NOISE IMPACTS – OLA WITHOUT MITIGATION		Project No. 241.30122.00000		



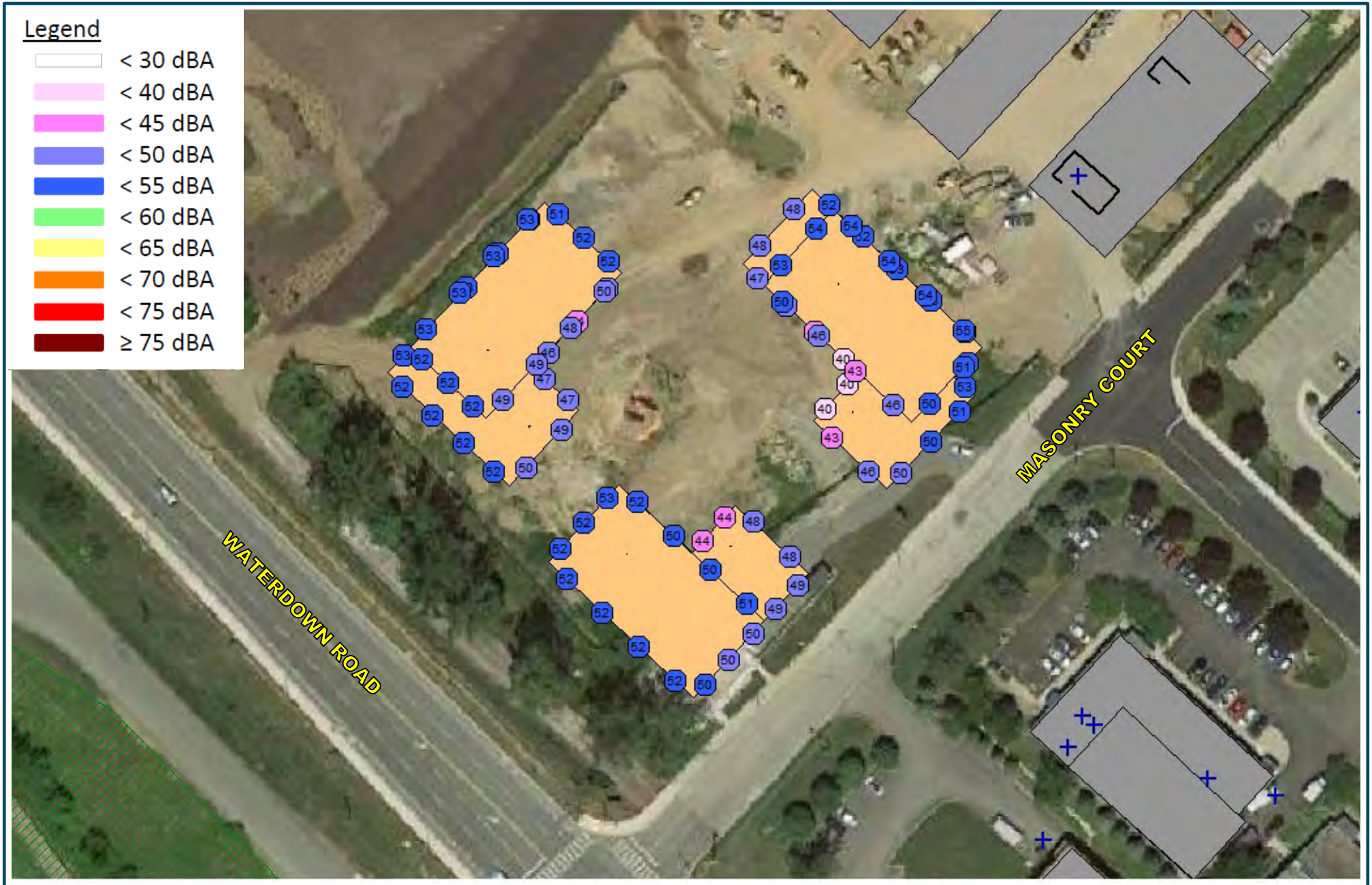
ADI	True North	Scale: 1:1000	METRES	SLR global environmental solutions
1120 COOKE BOULEVARD		Date: Feb, 10, 2023 Rev 0.0	Figure No. **6b**	
MODELLED ROAD + RAILWAY NOISE IMPACTS – OLA WITH MITIGATION		Project No. 241.30122.00000		



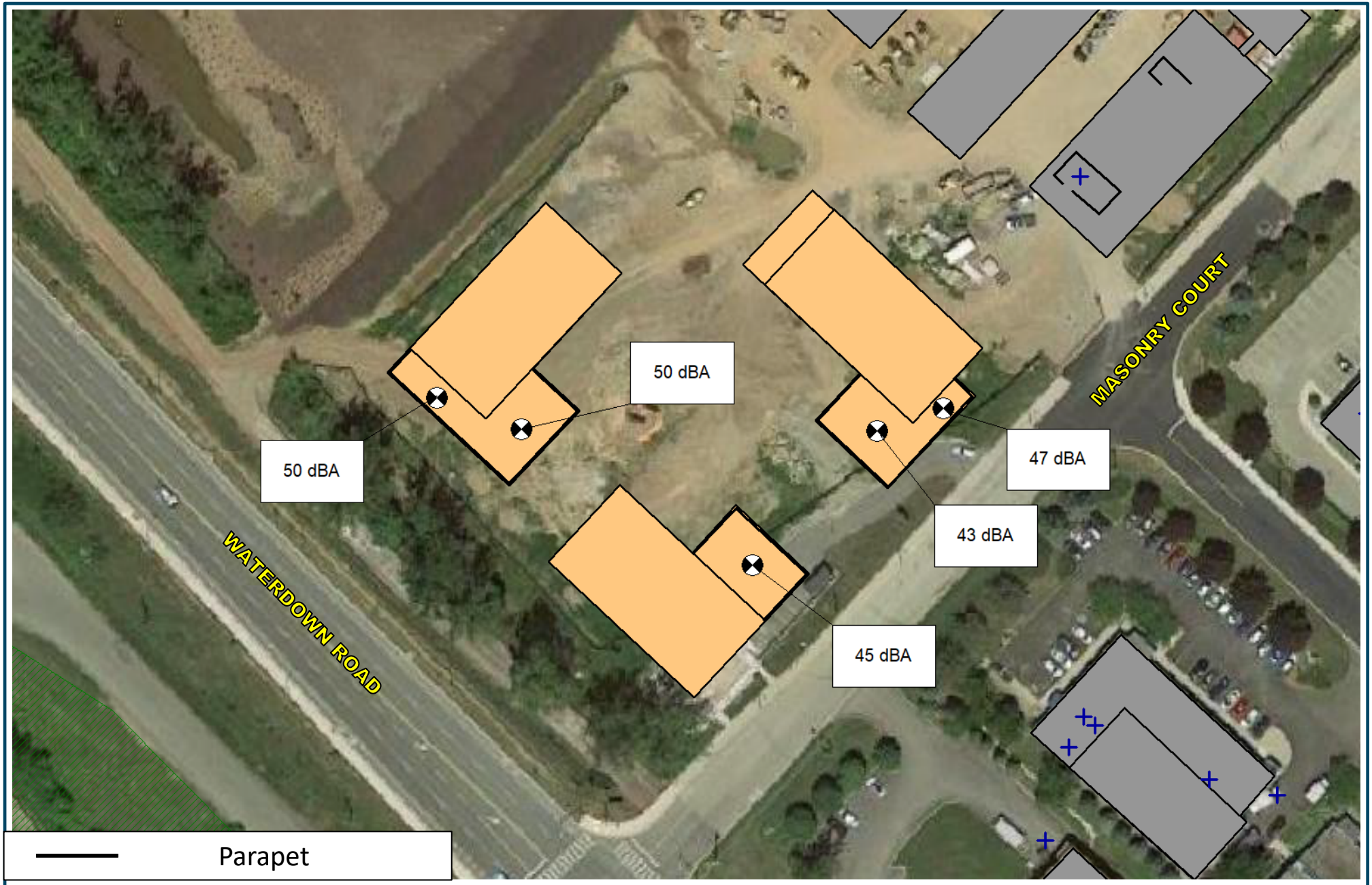
ADI	True North	Scale: 1:10000	METRES	SLR global environmental solutions
1120 COOKE BOULEVARD		Date: Feb, 10, 2023 Rev 0.0	Figure No. 7	
STATIONARY NOISE SOURCE LOCATIONS		Project No. 241.30122.00000		



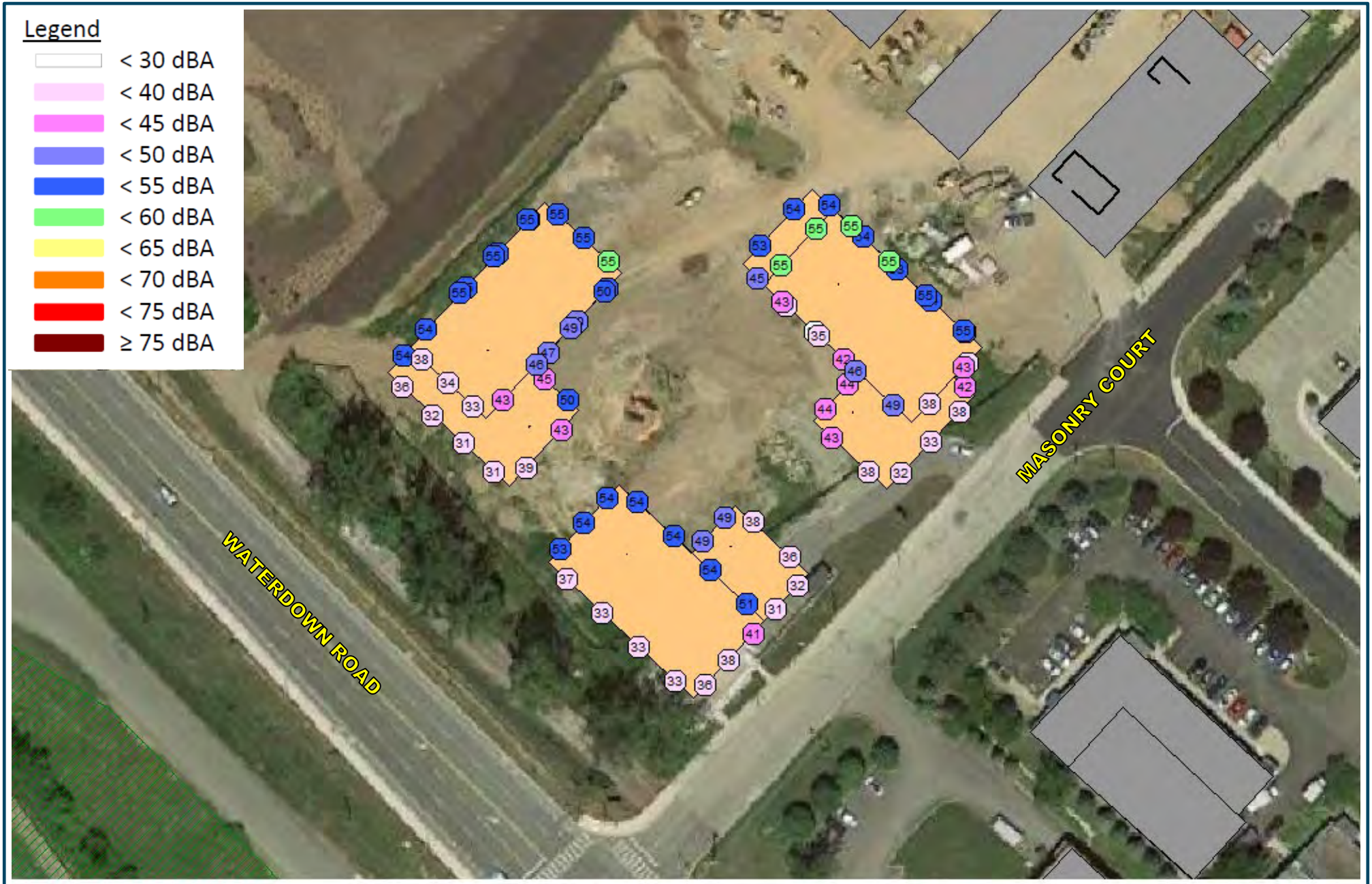
ADI	True North	Scale: 1:1000	METRES	SLR global environmental solutions
1120 COOKE BOULEVARD		Date: Feb, 10, 2023 Rev 0.0	Figure No. **8a**	
MODELLED STATIONARY NOISE IMPACTS (CONTINUOUS) - DAYTIME		Project No. 241.30122.00000		



ADI	True North	Scale: 1:1000	METRES	SLR global environmental solutions
1120 COOKE BOULEVARD		Date: Feb, 10, 2023 Rev 0.0	Figure No. **8b**	
MODELLED STATIONARY NOISE IMPACTS (CONTINUOUS) - NIGHTTIME		Project No. 241.30122.00000		



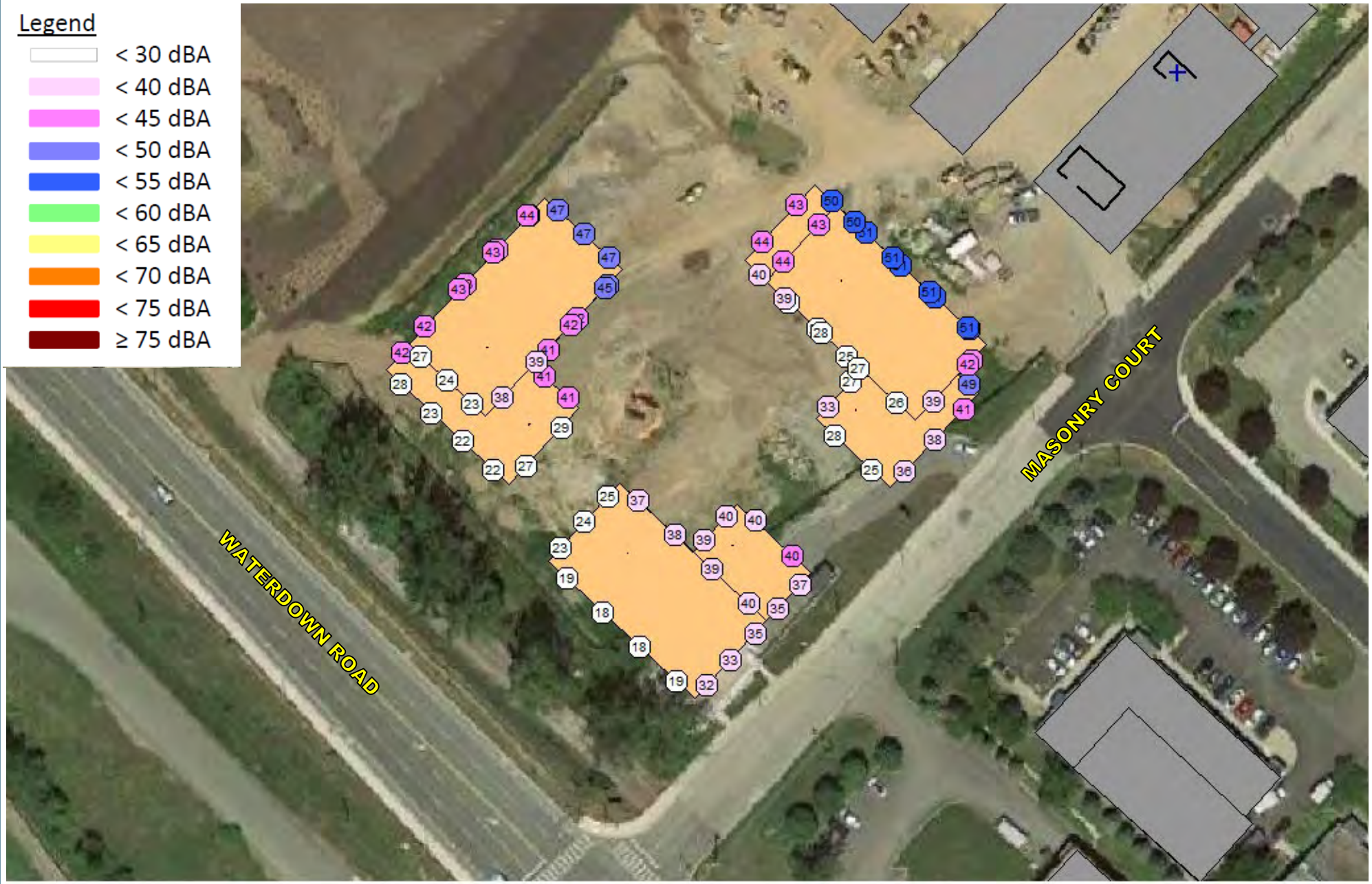
ADI	True North	Scale: 1:1000	METRES	SLR global environmental solutions
1120 COOKE BOULEVARD		Date: Feb, 10, 2023 Rev 0.0	Figure No. **9**	
MODELLED STATIONARY NOISE IMPACTS – OLA (CONTINUOUS)		Project No. 241.30122.00000		



ADI	True North	Scale: 1:1000	METRES	SLR global environmental solutions
1120 COOKE BOULEVARD		Date: Feb, 10, 2023 Rev 0.0	Figure No. **10**	
MODELLED STATIONARY NOISE IMPACTS (IMPULSIVE) – DAYTIME/NIGHTTIME		Project No. 241.30122.00000		



ADI	True North	Scale: 1:1000	METRES	SLR global environmental solutions
1120 COOKE BOULEVARD		Date: Feb, 10, 2023 Rev 0.0	Figure No. **11**	
MODELLED STATIONARY NOISE IMPACTS – OLA (IMPULSIVE)		Project No. 241.30122.00000		



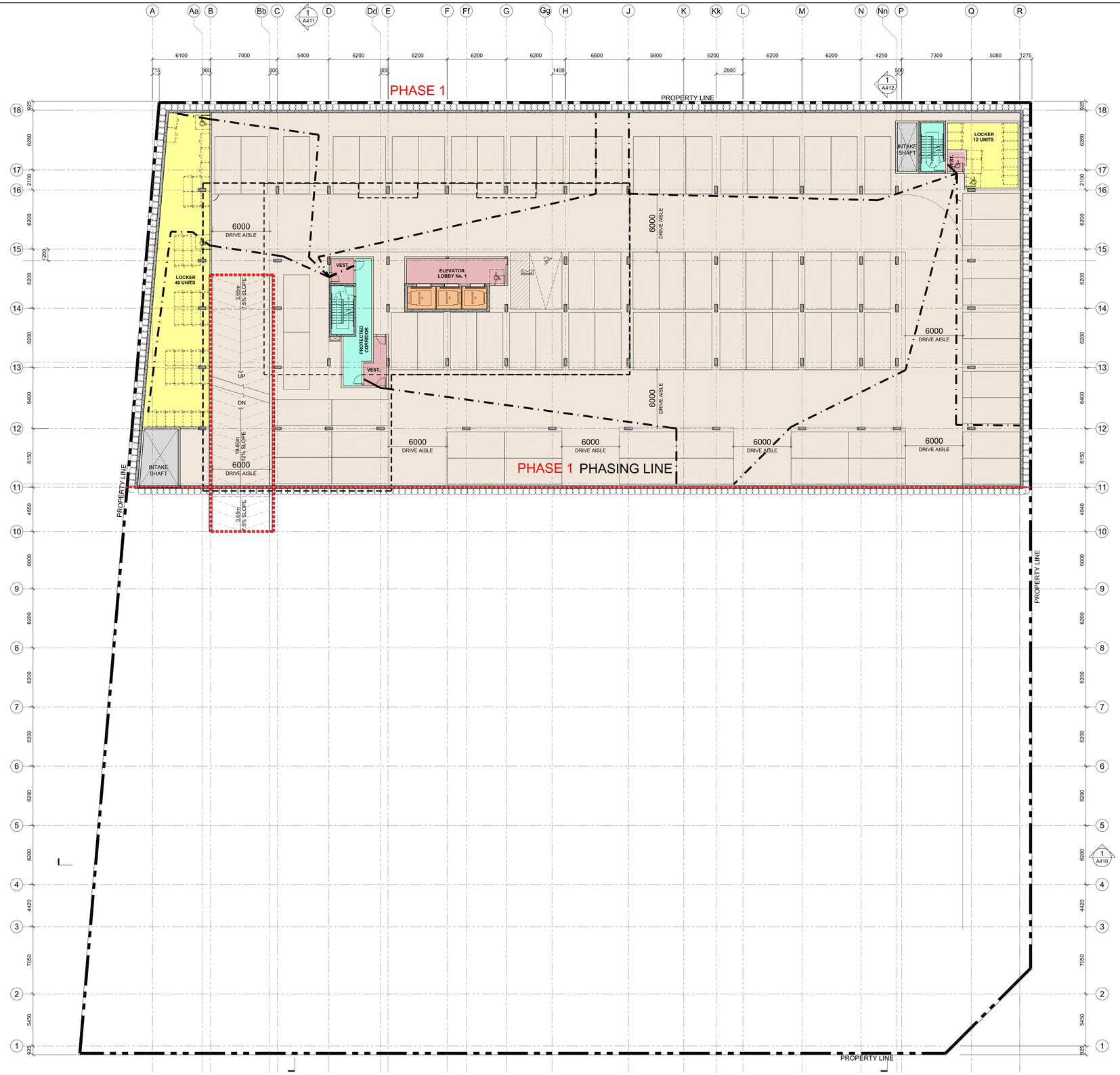
ADI	True North	Scale: 1:1000	METRES	SLR global environmental solutions
1120 COOKE BOULEVARD		Date: Feb, 10, 2023 Rev 0.0	Figure No. **12**	
MODELLED STATIONARY NOISE IMPACTS – GENERATOR TESTING		Project No. 241.30122.00000		



ADI	True North	Scale: 1:1000	METRES	SLR global environmental solutions
1120 COOKE BOULEVARD		Date: Feb, 10, 2023 Rev 0.0	Figure No. **13**	
MODELLED STATIONARY NOISE IMPACTS – GENERATOR TESTING - OLA		Project No. 241.30122.00000		

APPENDIX A
Development Drawings

Environmental Noise Assessment
1120 Cook Blvd
SLR Project No.: 241.30122.00000



LEGEND

- REGULATION PARKING
- BARRIER FREE PARKING
- HORIZONTAL BICYCLE PARKING
- VERTICAL BICYCLE PARKING
- TYPICAL CONVEX MIRROR
- ELECTRICAL CHARGING STATION
- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT
- DEDUCTABLE - FOYER AND LOBBY
- DEDUCTABLE - PARKING

No.	Revisions	Date
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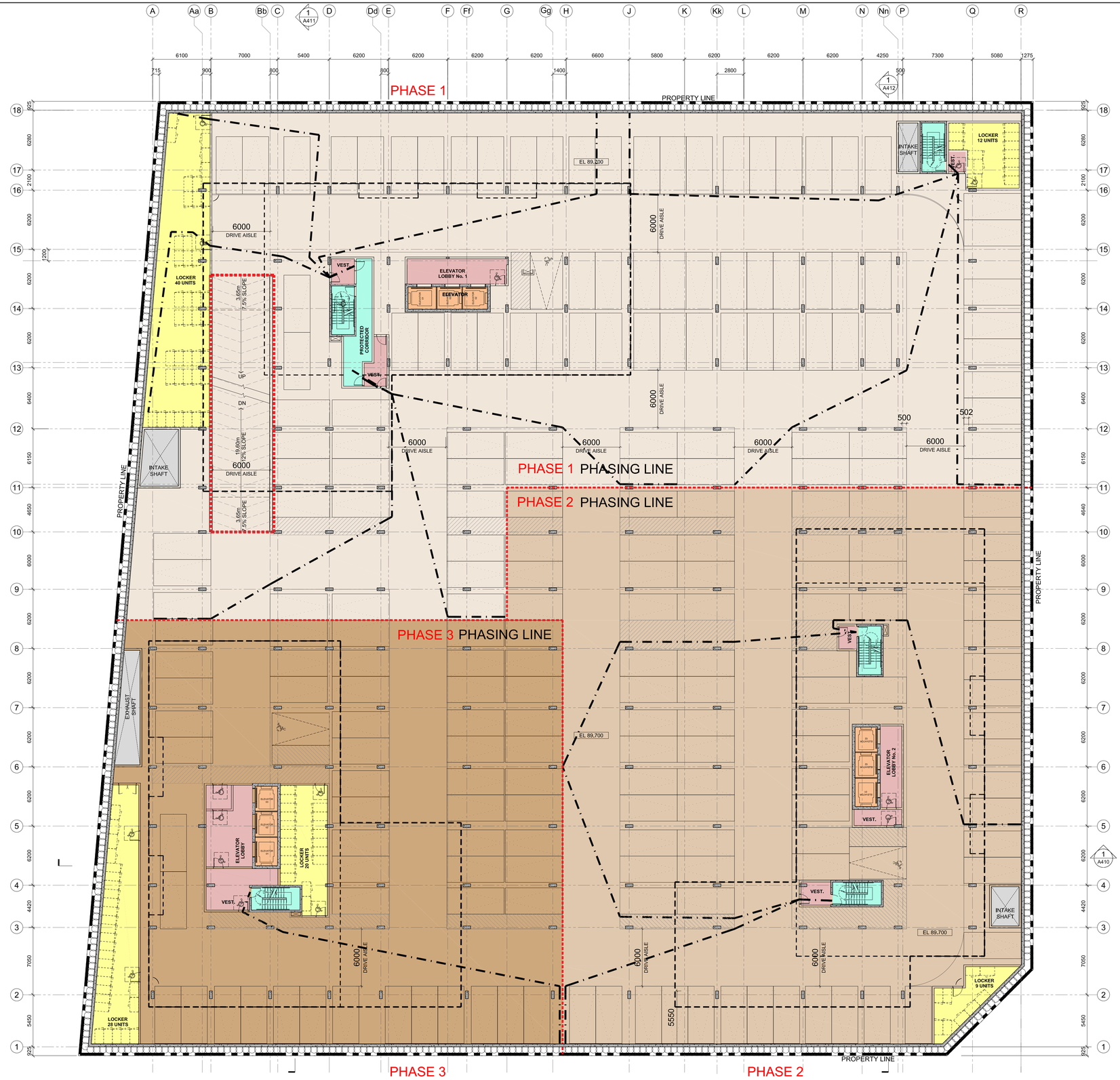
1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: AZ	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: PARKING LEVEL 6

Project No.	Drawing No.
20-129	A200



LEGEND

- REGULATION PARKING
- BARRIER FREE PARKING
- HORIZONTAL BICYCLE PARKING
- VERTICAL BICYCLE PARKING
- TYPICAL CONVEX MIRROR
- ELECTRICAL CHARGING STATION
- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT
- DEDUCTABLE - FOYER AND LOBBY
- DEDUCTABLE - PARKING

No.	Revisions	Date
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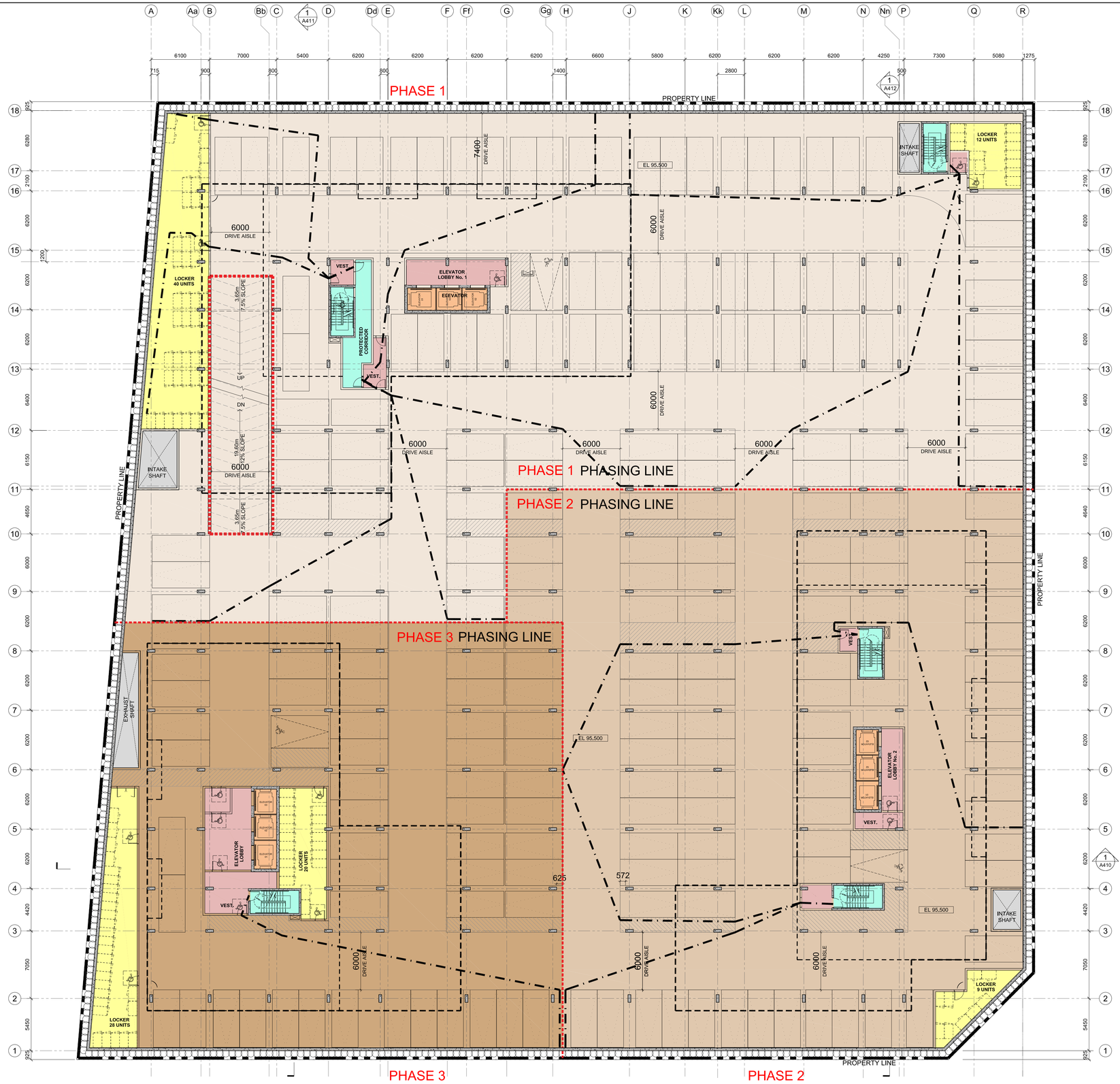
1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: AZ	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: PARKING LEVEL 5

Project No.	Drawing No.
20-129	A201



LEGEND

- REGULATION PARKING
- BARRIER FREE PARKING
- HORIZONTAL BICYCLE PARKING
- VERTICAL BICYCLE PARKING
- TYPICAL CONVEX MIRROR
- EV — ELECTRICAL CHARGING STATION
- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT
- DEDUCTABLE - FOYER AND LOBBY
- DEDUCTABLE - PARKING

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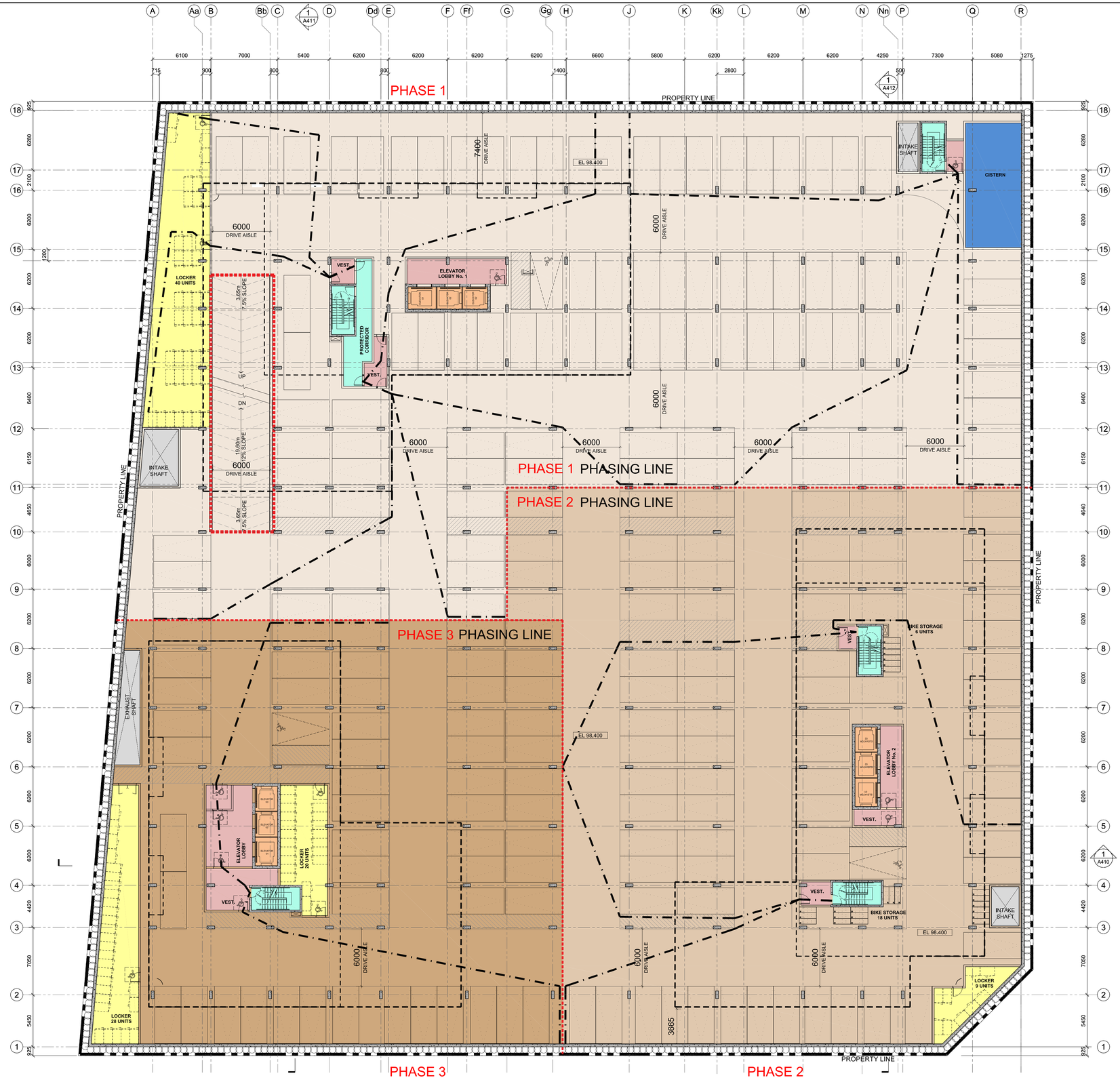
1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: AZ	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: PARKING LEVELS 3 & 4

Project No.	Drawing No.
20-129	A202



LEGEND

- REGULATION PARKING
- BARRIER FREE PARKING
- HORIZONTAL BICYCLE PARKING
- VERTICAL BICYCLE PARKING
- TYPICAL CONVEX MIRROR
- EV — ELECTRICAL CHARGING STATION
- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT
- DEDUCTABLE - FOYER AND LOBBY
- DEDUCTABLE - PARKING

No.	Revisions	Date
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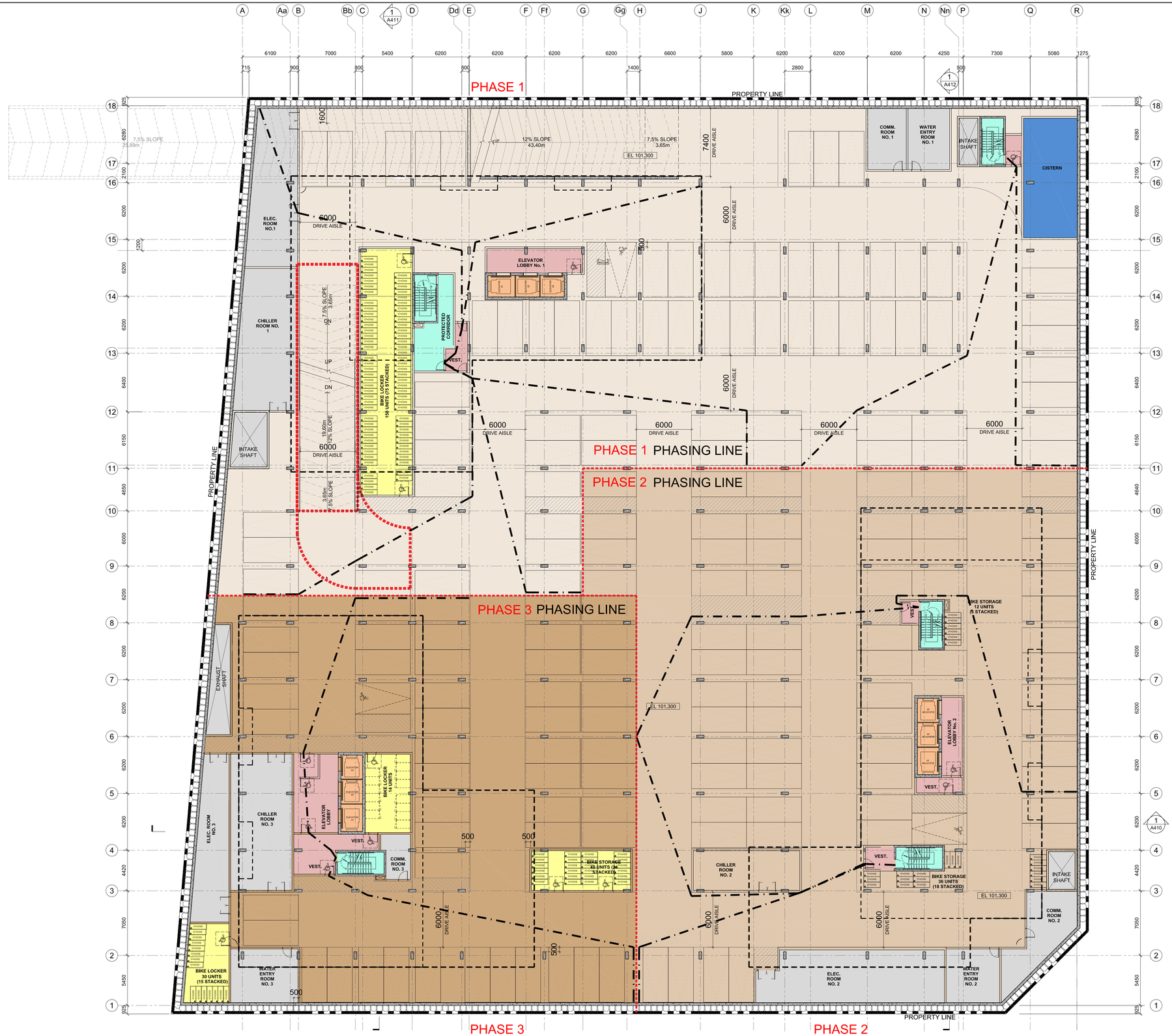
1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: AZ	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: PARKING LEVEL 2

Project No.	Drawing No.
20-129	A203



LEGEND

- REGULATION PARKING
- BARRIER FREE PARKING
- HORIZONTAL BICYCLE PARKING
- VERTICAL BICYCLE PARKING
- TYPICAL CONVEX MIRROR
- ELECTRICAL CHARGING STATION
- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - FOYER AND LOBBY
- DEDUCTABLE - PARKING

No.	Revisions	Date
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1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: AZ	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: PARKING LEVEL 1

Project No.	Drawing No.
20-129	A204

WATERDOWN ROAD

COOKE BLVD.

PHASE 1

PROPERTY LINE

48650

46665

8625

20040

32260

2100

3495

3000

DASHED LINE DENOTES ROOF ABOVE

TYP. ON SECTIONAL FLOOR

7.5% SLOPE 25,89m

12% SLOPE 43,40m

7.5% SLOPE 3,65m

BUILDING A

AMENITY

MOVING ROOM

ELEVATOR LOBBY No. 1

LOBBY

EL 105.06

CACF ROOM

VEST.

RESIDENTIAL ENTRANCE

EXIT

GARBAGE ROOM 127 m2 1365 SQ.FT

BULK STORAGE 12 m2 135 SQ.FT

MAIL ROOM

LOADING 74 m2 800 SQ.FT

LOADING SPACE TYPE C

RESIDENTIAL LONG TERM BIKE STORAGE 112 UNIT (56 STACKS)

INTAKE SHAFT

DN

31195

12180

TRUCK SPACE

3.5m (W) x 18.0m (L) x 7.5m (H) MIN. CLEARANCE

DROP OFF AREA

DASHED LINE DENOTES CANOPY @ GROUND LEVEL.

PHASE 1 PHASING LINE

23685

19705

5100

PHASE 2 PHASING LINE

19750

OUTDOOR AMENITY

12% SLOPE 27,92m

7.5% SLOPE 3.65m

PARKING ENTRANCE

20065

12135

PHASE 3 PHASING LINE

3730

INDOOR AMENITIES

EL 104.90

LOBBY

CACF ROOM

MAIL ROOM & PARCEL ROOM

ELEVATOR LOBBY No. 3

MOVING ROOM

BULK STORAGE 12,42 m2 134 SQ.FT

LOADING & SERVICES 282,16 m2 3022 SQ.FT

SERVICE CORRIDOR

RETAIL LOADING/ GARBAGE 26,31 m2 283 SQ.FT

LOADING SPACE TYPE C

RETAIL BOH

RESIDENTIAL LONG-TERM BIKE STORAGE 140 UNITS (70 STACKED)

BUILDING C

RETAIL ENTRANCE

38330

6915

5100

19040

TRUCK SPACE

3.5m (W) x 18.0m (L) x 7.5m (H) MIN. CLEARANCE

DROP OFF AREA

FIRE DEPARTMENT CONNECTION @ GROUND FLOOR

RETAIL PLAZA

19300

5100

BUILDING B

AMENITY

OUTDOOR AMENITY

DASHED LINE DENOTES CANOPY @ GROUND LEVEL.

12200

RESIDENTIAL ENTRANCE

FIRE DEPARTMENT CONNECTION @ GROUND FLOOR

VEST.

CACF ROOM

MAIL ROOM

MOVING ROOM

ELEVATOR LOBBY No. 2

EL 105.36

VESTIBULE

AMENITY

BULK STORAGE 11,89 m2 128 SQ.FT

RESIDENTIAL LONG-TERM BIKE STORAGE 44 UNITS (22 STACKED)

INFORMAL LOADING SPACE TYPE C

RETAIL LOADING/ GARBAGE 35,14 m2 378 SQ.FT

RETAIL

EL 105.210

RETAIL ENTRANCE

INTAKE SHAFT

4950

4605

6355

50065

5100

PROPERTY LINE

PHASE 3

PHASE 2

MASONRY COURT

LEGEND

- REGULATION PARKING
- BARRIER FREE PARKING
- HORIZONTAL BICYCLE PARKING
- VERTICAL BICYCLE PARKING
- TYPICAL CONVEX MIRROR
- EV — ELECTRICAL CHARGING STATION
- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT
- DEDUCTABLE - FOYER AND LOBBY
- DEDUCTABLE - PARKING
- MASONRY COURT PHASE 1

No.	Revisions	Date
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1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: CW	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: GROUND LEVEL

Project No.	Drawing No.
20-129	A205



LEGEND

- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT

No.	Revisions	Date
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1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: CW	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: LEVEL 2

Project No.	Drawing No.
20-129	A206



LEGEND

- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT

No.	Revisions	Date
01	ISSUED FOR OPA/ZBA	07 OCTOBER 2021

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1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: CW	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: LEVEL 3

Project No.	Drawing No.
20-129	A207



LEGEND

- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT

No.	Revisions	Date
01	ISSUED FOR OPA/ZBA	07 OCTOBER 2021

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1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: CW	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: LEVEL 4-6

Project No.: 20-129
Drawing No.: A208



LEGEND

- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT

No	Revisions	Date
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1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: CW	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: LEVEL 7

Project No.	Drawing No.
20-129	A209



LEGEND

- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT

No.	Revisions	Date
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1120 COOKE BLVD

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BURLINGTON ONTARIO

Drawn: CW	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: LEVEL 8-12

Project No.: 20-129
Drawing No.: A210



LEGEND

- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT

No.	Revisions	Date
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Drawn: CW	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: LEVEL 13

Project No.: 20-129

Drawing No.: A211



LEGEND

- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT

No	Revisions	Date
01	ISSUED FOR OPA/ZBA	07 OCTOBER 2021

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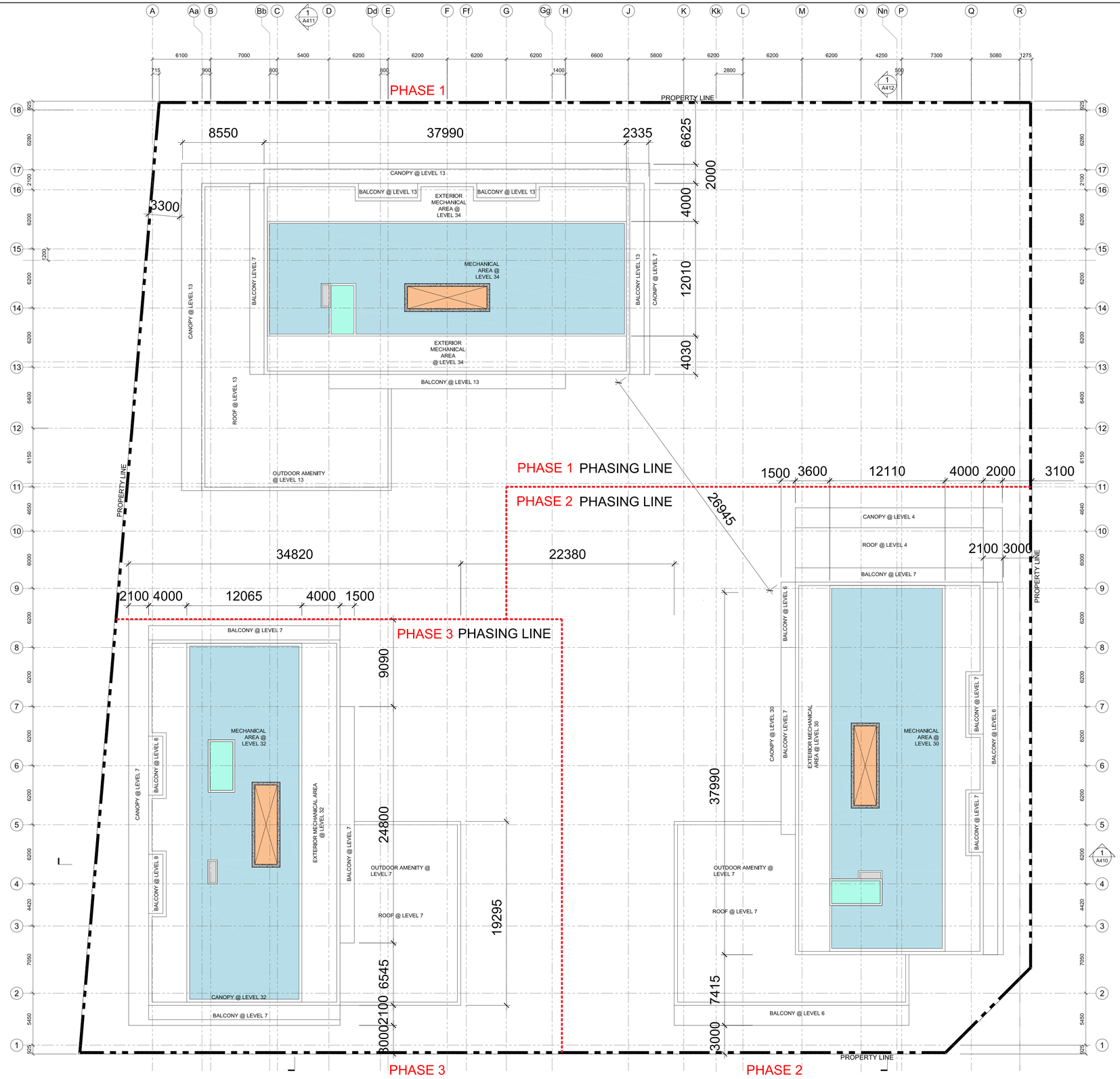
1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: CW	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: TYPICAL TOWER

Project No.: 20-129
Drawing No.: A212



LEGEND

- NON-SALABLE GFA
- SALABLE GFA
- DEDUCTABLE - STORAGE
- DEDUCTABLE - STAIRWAY
- DEDUCTABLE - AIR HANDLING
- DEDUCTABLE - ELEVATOR SHAFT

No.	Revisions	Date
01	ISSUED FOR OPA/ZBA	07 OCTOBER 2021

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1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: CW	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: MECHANICAL PENTHOUSE

Project No.	Drawing No.
20-129	A213

PHASE 1

PROPERTY LINE

38340

8625

CANOPY @ LEVEL 13

CANOPY

CANOPY

3185

EXTERIOR MECHANICAL AREA @ LEVEL 34

BUILDING A

CANOPY

CANOPY

CANOPY @ LEVEL 13

ROOF @ LEVEL 13

32225

20040

CANOPY

1500

7155

41340

INTAKE SHAFT

PROPERTY LINE

PHASE 1 PHASING LINE

19705

5100

27860

PHASE 2 PHASING LINE

CANOPY @ LEVEL 4

ROOF @ LEVEL 4

CANOPY

CANOPY @ LEVEL 6

20065

3705

CANOPY

2100

PHASE 3 PHASING LINE

INTAKE SHAFT

CANOPY @ LEVEL 7

CANOPY

CANOPY

BUILDING C

EXTERIOR MECHANICAL AREA @ LEVEL 32

38335

CANOPY

CANOPY

ROOF @ LEVEL 7

20795

2100

33070

BUILDING B

EXTERIOR MECHANICAL AREA @ LEVEL 30

CANOPY

CANOPY @ LEVEL 7

CANOPY

1500

CANOPY

ROOF @ LEVEL 7

19295

8935

INTAKE SHAFT

CANOPY

5100

PROPERTY LINE

PHASE 3

PHASE 2

F.R.

STOP

LP

No.	Revisions	Date
01	ISSUED FOR OPA/ZBA	07 OCTOBER 2021

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1120 COOKE BLVD

PHASE 2
BURLINGTON ONTARIO

Drawn: CW	Scale: 1:200
Checked: DL	Date: 13 SEPT 2022

Title: ROOF PLAN

Project No.	Drawing No.
20-129	A214

APPENDIX B
Traffic Data and Calculations

Environmental Noise Assessment
1120 Cook Blvd
SLR Project No.: 241.30122.00000

Roadway Name	Link Description	Speed (kph)	Period (h)	Total Traffic Volumes	Auto %	Med %	Hvy %	Auto	Med	Heavy	Road Gradient (%)	Cadna/A Ground Absorption G	PWL (dBA)	Source Height, s (m)
Masonry Court	Daytime Impacts	50	16	3487	87.5%	8.3%	4.2%	3051	289	146	0	0.00	**77.3**	**1.4**
Masonry Court	Nighttime Impacts	50	8	387	87.5%	8.3%	4.2%	339	32	16	0	0.00	**70.8**	**1.4**
Masonry Court	Daytime Impacts	50	16	1795	87.5%	8.3%	4.2%	1571	149	75	0	0.00	**74.4**	**1.4**
Masonry Court	Nighttime Impacts	50	8	199	87.5%	8.3%	4.2%	175	17	8	0	0.00	**67.9**	**1.4**
Waterdown Road	Daytime Impacts	50	16	26611	85.0%	10.0%	5.0%	22619	2661	1331	0	0.00	**86.7**	**1.5**
Waterdown Road	Nighttime Impacts	50	8	2957	85.0%	10.0%	5.0%	2513	296	148	0	0.00	**80.2**	**1.5**
Highway 403	Daytime Impacts	100	16	102503	91.5%	2.1%	6.4%	93790	2153	6560	0	0.00	**98.0**	**1.6**
Highway 403	Nighttime Impacts	100	8	18089	91.5%	2.1%	6.4%	16551	380	1158	0	0.00	**93.5**	**1.6**

Dylan Diebolt

From: Rail Data Requests <RailDataRequests@metrolinx.com>
Sent: February 06, 2023 12:11 PM
To: Dylan Diebolt
Subject: RE: Rail Traffic Request - southwest of Aldershot Go station, Burlington

Hi Dylan,

Further to your request dated February 2, 2023, the subject lands (1120 Cooke Boulevard, Burlington) are located within 300 metres of the CN Oakville Subdivision (which carries Lakeshore West GO rail service).

It's anticipated that GO rail service on this Subdivision will be comprised of diesel trains. The GO rail fleet combination on this Subdivision will consist of up to 2 locomotives and 12 passenger cars. The typical GO rail weekday train volume forecast near the subject lands, including both revenue and equipment trips is in the order of 153 trains. The planned detailed trip breakdown is listed below:

	1 Diesel Locomotive	2 Diesel Locomotives		1 Diesel Locomotive	2 Diesel Locomotives
Day (0700-2300)	132	0	Night (2300-0700)	21	0

The current track design speed near the subject lands is 95 mph (153 km/h).

There are no *anti-whistling by-laws* in affect near the subject lands.
Operational information is subject to change and may be influenced by, among other factors, service planning priorities, operational considerations, funding availability and passenger demand.

It should be noted that this information only pertains to Metrolinx rail service. It would be prudent to contact other rail operators in the area directly for rail traffic information pertaining to non-Metrolinx rail service.

I trust this information is useful. Should you have any questions or concerns, please do not hesitate to contact me.
Regards,
Tara

Tara Kamal Ahmadi
Junior Analyst
Third Party Projects Review, Capital Projects Group
Metrolinx | 20 Bay Street | Suite 600 | Toronto | Ontario | M5J 2W3

METROLINX

From: Dylan Diebolt <ddiebolt@slrconsulting.com>
Sent: February 1, 2023 9:06 AM
To: Rail Data Requests <RailDataRequests@metrolinx.com>
Subject: FW: Rail Traffic Request - southwest of Aldershot Go station, Burlington

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

System Engineering
Engineering Services

1 Administration Road
Concord, ON, L4K 1B9
T: 905.669.3264
F: 905.760.3406

Train Count Data

TRANSMITTAL

To: *Destinataire :*	Novus Environmental 150 Research Lane, Suite 105, Guelph, ON N1G 4T2	*Project :*	OAK-34.61 – 101 Masonry Court, Burlington, ON
Att'n:	Jafar Al-Khalaf	*Routing:*	jafara@novusenv.com
From: *Expéditeur :*	Michael Vallins	*Date:*	01/31/2018
Cc:	Adjacent Development CN via e-mail		

☐ Urgent ☐ For Your Use ☐ For Review ■ For Your Information ☐ Confidential

Re: Train Traffic Data – CN Oakville Subdivision near Masonry Court in Burlington, ON

Please find attached the requested Train Traffic Data; this data does not reflect GO Metrolinx Traffic. The application fee in the amount of **$500.00** +HST will be invoiced.

Should you have any questions, please do not hesitate to contact the undersigned at 905-669-3264.

Sincerely,
CN Design & Construction

Michael Vallins P.Eng
Manager of Public Works
public_works_gld@cn.ca

Dear Jafar Al-Khalaf:

Re: Train Traffic Data – CN Oakville Subdivision near Masonry Court in Burlington, ON

The following is provided in response to Lucas Arnolds 2018/01/29 request for information regarding rail traffic in the vicinity of Masonry Court, Burlington, ON at approximately Mile 34.61 on CN's Oakville Subdivision.

Typical daily traffic volumes are recorded below. However, traffic volumes may fluctuate due to overall economic conditions, varying traffic demands, weather conditions, track maintenance programs, statutory holidays and traffic detours that when required may be heavy although temporary. For the purpose of noise and vibration reports, train volumes must be escalated by 2.5% per annum for a 10-year period.

Typical daily traffic volumes at this site location are as follows:

***Maximum train speed is given in Miles per Hour**

	0700-2300			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	10	140	60	4
Way Freight	8	25	60	4
Passenger	12	10	95	2

	2300-0700			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	6	140	60	4
Way Freight	3	25	60	4
Passenger	0	10	95	2

The volumes recorded reflect westbound and eastbound freight and passenger operations on CN's Oakville Subdivision.

Except where anti-whistling bylaws are in effect, engine-warning whistles and bells are normally sounded at all at-grade crossings. There are no at-grade crossing in the immediate vicinity of the study area at Mile 34.61. Anti-whistling bylaws are not in effect at this crossing. Please note that engine warning whistles may be sounded in cases of emergency, as a safety and or warning precaution at station locations and pedestrian crossings and occasionally for operating requirements.

With respect to equipment restrictions, the gross weight of the heaviest permissible car is 286,000 lbs.

The double mainline track is considered to be continuously welded rail throughout the study area. The presence of eight (8) switches located at Mile 32.48-32.08 may exacerbate the noise and vibration caused by train movements.

The Canadian National Railway continues to be strongly opposed to locating developments near railway facilities and rights-of-way due to potential safety and environmental conflicts. Development adjacent to the Railway Right-of-Way is not appropriate without sound impact mitigation measures to reduce the incompatibility. For confirmation of the applicable rail noise, vibration and safety standards, Adjacent Development, Canadian National Railway Properties at Proximity@cn.ca should be contacted directly.

I trust the above information will satisfy your current request.

Sincerely,

Michael Vallins P.Eng
Manager of Public Works
public_works_gld@cn.ca

STAMSON 5.0 NORMAL REPORT Date: 06-02-2023 11:14:46
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 23cooke.te Time Period: 16 hours
Description:

Road data, segment # 1: 403EB

Car traffic volume : 93790 veh/TimePeriod
Medium truck volume : 2153 veh/TimePeriod
Heavy truck volume : 6560 veh/TimePeriod
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: 403EB

Angle1 Angle2 : -75.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 465.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Road data, segment # 2: 403WB

Car traffic volume : 93790 veh/TimePeriod
Medium truck volume : 2153 veh/TimePeriod
Heavy truck volume : 6560 veh/TimePeriod
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: 403WB

Angle1 Angle2 : -75.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 490.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Road data, segment # 3: Waterdown

```
--------------------------------
Car traffic volume  : 22619 veh/TimePeriod
Medium truck volume :  2661 veh/TimePeriod
Heavy truck volume  :  1331 veh/TimePeriod
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 3: Waterdown
------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  44.00 m
Receiver height           :   1.50 m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

↟
Road data, segment # 4: Masonry
------------------------------
Car traffic volume  :  3051 veh/TimePeriod
Medium truck volume :   289 veh/TimePeriod
Heavy truck volume  :   146 veh/TimePeriod
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 4: Masonry
------------------------------
Angle1   Angle2           :   0.00 deg   70.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  21.00 m
Receiver height           :   1.50 m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

↟
Results segment # 1: 403EB
--------------------------

Source height = 1.59 m

ROAD (0.00 + 64.25 + 0.00) = 64.25 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -75      0   0.00  82.97   0.00 -14.91  -3.80   0.00   0.00   0.00  64.25
```

Segment Leq : 64.25 dBA

↟
Results segment # 2: 403WB

Source height = 1.59 m

ROAD (0.00 + 64.02 + 0.00) = 64.02 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	0	0.00	82.97	0.00	-15.14	-3.80	0.00	0.00	0.00	64.02

Segment Leq : 64.02 dBA

↟
Results segment # 3: Waterdown

Source height = 1.50 m

ROAD (0.00 + 67.00 + 0.00) = 67.00 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	71.67	0.00	-4.67	0.00	0.00	0.00	0.00	67.00

Segment Leq : 67.00 dBA

↟
Results segment # 4: Masonry

Source height = 1.43 m

ROAD (0.00 + 56.65 + 0.00) = 56.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.00	62.22	0.00	-1.46	-4.10	0.00	0.00	0.00	56.65

Segment Leq : 56.65 dBA

Total Leq All Segments: 70.28 dBA

↟

TOTAL Leq FROM ALL SOURCES: 70.28



ADI	True North	Scale: 1:4000	METRES	SLR global environmental solutions
1120 COOKE BOULEVARD		Date: Feb, 10, 2023 Rev 0.0	Figure No. **B-1**	
COMPARISON OF STAMSON TO CADNAA ORNAMENT IMPLEMENTATION		Project No. 241.30122.00000		

APPENDIX C
Warning Clauses

Environmental Noise Assessment
1120 Cook Blvd
SLR Project No.: 241.30122.00000

Warning Clauses

The following Warning Clauses should be registered on Title and/or included in all agreements of purchase and sale and/or leases and/or disclosure statements and declarations for the development:

MECP Type B – All units

> “Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic (rail traffic) (air traffic) may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment.”

MECP Type C – Multiple units across each building, as outlined in **Section 2.5.2**

> "This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."

MECP Type D – Multiple units across each building, as outlined in **Section 2.5.2**

> "This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."

MECP Type E – All units

> “Purchasers are advised that due to the proximity of the adjacent industrial and commercial facilities, sound levels from these facilities may at times be audible.”

MECP Type F – All units

> “Purchasers/tenants are advised that sound levels due to the adjacent industry (facility) (utility) are required to comply with sound level limits that are protective of indoor areas and are based on the assumption that windows and exterior doors are closed. This dwelling unit has been supplied with a ventilation/air conditioning system which will allow windows and exterior doors to remain closed.”

Metrolinx – All units

> "Metrolinx, carrying on business as GO Transit, and its assigns and successors in interest has or have a right-of-way within 300 metres from the land the subject hereof. There may be alterations to or expansions of the rail facilities on such right-of-way in the future including the possibility that GO Transit or any railway entering into an agreement with GO Transit to use the right-of-way or their assigns or successors as aforesaid may expand their operations, which expansion may affect the living environment of the residents in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating measures in the design of the development and individual dwelling(s). Metrolinx will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid right-of-way."

CN – All units

> "Purchasers are advised that Canadian National Railway Company or its assigns or successors in interest has or have a right-of-way within 300 metres from the land the subject thereof. There may be alterations to or expansions of the rail facilities on such right-of-way in the future, including the possibility that the railway or its assigns or successors as aforesaid may expand its operations, which expansion may affect the living environment of the residents in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating measures in the design of the development and individual dwelling(s). CNR will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid right-of-way."

APPENDIX D
Stationary Source Data

Environmental Noise Assessment
1120 Cook Blvd
SLR Project No.: 241.30122.00000

Table D.1: Summary of Noise Source Sound Power Levels

Source Description	Maximum Sound Power Levels (1/1 Octave Band Levels)									Total PWL	Notes
	32 (dBA/ dBAI)	63 (dBA/ dBAI)	125 (dBA/ dBAI)	250 (dBA/ dBAI)	500 (dBA/ dBAI)	1000 (dBA/ dBAI)	2000 (dBA/ dBAI)	4000 (dBA/ dBAI)	8000 (dBA/ dBAI)	(dBA/ dBAI)	
Surrounding Commercial											
HVAC (5-ton)	77	80	81	81	80	78	74	70	64	83	- based on SLR historical data - In Continuous Operation during daytime evening, with 50% duty cycling during nighttime hours
HVAC (10-ton)	80	83	84	84	83	81	77	73	67	86	- based on SLR historical data - In Continuous Operation during daytime evening, with 50% duty cycling during nighttime hours
HVAC (15-ton)	87	90	91	91	90	88	84	80	74	93	- based on SLR historical data - In Continuous Operation during daytime evening, with 50% duty cycling during nighttime hours
HVAC (20-ton)	89	92	93	93	92	90	86	82	76	95	- based on SLR historical data - In Continuous Operation during daytime evening, with 50% duty cycling during nighttime hours
HVAC (30-ton)	91	94	95	95	94	92	88	84	78	96	- based on SLR historical data - In Continuous Operation during daytime evening, with 50% duty cycling during nighttime hours
Heavy Truck Idle	93	96	97	97	96	94	90	86	80	98	- based on SLR historical data - Assumed to idle for 5 minutes/hour during daytime and evening hours
101 Masonry Court Mechanical Equipment											
Packaged Rooftop System	0	0	94	91	89	89	85	83	82	93	- based on Received Mechanical Report for 101 Masonry Court - In Continuous Operation during daytime with 30-minute duty cycling during nighttime
AGZ-D Air-Cooled Scroll Chiller	0	92	88	89	89	86	82	80	74	91	- based on Received Mechanical Report for 101 Masonry Court - In Continuous Operation during daytime with 30-minute duty cycling during nighttime
Large Emergency Generator	59	72	85	91	92	90	88	84	79	97	- based on Received Mechanical Report for 101 Masonry Court - Only during daytime hours for 30 minutes
100GGHH Rooftop Generator	58	72	88	90	91	91	91	92	90	97	- based on Received Mechanical Report for 101 Masonry Court - Only during daytime hours for 30 minutes
Aberdeen GO Station											
Idling Locomotive - GO Train	117	127	114	110	103	98	97	95	90	108	- based on SLR historical data for MP40 locomotives. - two (2) locomitives included in noise model: - idling during stop (10 min dur., 3 trains/hr during daytime; 10 min dur, 2 trains/hr during night) - idling during refueling (1 hr dur assumed, 1 train/hr, daytime/evening hours only).
Idling Fuel Truck	98	101	101	97	96	96	92	84	78	100	- based on SLR historical data - 1 hr duration assumed - operation during daytime / evening hours only.
Aberdeen GO Station											
Idling Locomotive - GO Train	117	127	114	110	103	98	97	95	90	108	- based on SLR historical data for MP40 locomotives. - two (2) locomitives included in noise model: - idling during stop (10 min dur., 3 trains/hr during daytime; 10 min dur, 2 trains/hr during night) - idling during refueling (1 hr dur assumed, 1 train/hr, daytime/evening hours only).
Idling Fuel Truck	98	101	101	97	96	96	92	84	78	100	- based on SLR historical data - 1 hr duration assumed - operation during daytime / evening hours only.

Aberdeen Rail Yard											
Idling Locomotive - Freight Train	117	113	109	97	103	102	99	92	89	106	- based on historical data for studies completed in the area. - three (3) locomotives assumed to be idling on west side of Rail Yard. - 24/7 operation assumed.
Knuckle Thump (impulse)	-	117	111	109	108	107	104	100	93	111	- based on SLR historical data - 24/7 operation assumed.
KPM Industries											
Crushing Area - Excavator, Front end loader, Grinder	117	122	118	116	111	111	106	100	88	115	- based on historical data for studies completed in the area. - 24/7 operation assumed.
Asphalt Plant	123	125	125	124	111	107	103	101	96	118	- based on SLR historical data - 24/7 operation assumed.
St. Mary's Cement / CBM											
Ready-Mix Plant - Truck Loadout	105	109	108	109	104	101	100	95	87	107	- based on SLR historical data - continuous flow of 7.5 trucks per hour (approx based on historical data) - duration at high idle assessed based on a historical 5 min/truck. - operations assumed during all periods of the day.
Ready-Mix Plant - Truck Wash and Mix	105	109	108	109	104	101	100	95	87	107	- based on SLR historical data - continuous flow of 7.5 trucks per hour (approx based on historical data) - duration at high idle assessed based on a historical 8 min/truck. - operations assumed during all periods of the day
Ready-Mix Plant - Pneumatic Unlaoding of Cement Powder	116	118	111	110	108	107	102	95	86	111	- based on historical SLR data - non-tonal at receptor (approx.750 m) - duration anticipated to be 1 hr or longer - daytime filling only