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February 12, 2025

Miller Thomson LLP (Toronto)
40 King Street West, Scotia Plaza, Suite 5800
Toronto, Ontario
M5H 3S1

Attention: Tara Piurko **VIA E-MAIL**
tpiurko@millerthomson.com

Re: UPS Toronto Hub, 2900 Steeles Avenue West
Noise Impact Assessment
Vaughan, Ontario
VCL File: 123-0036-100

1.0 INTRODUCTION AND BACKGROUND

United Parcel Service Canada Ltd. (UPS) operates its Greater Toronto Area Hub goods distribution facility at 2900 Steeles Avenue West, in the City of Vaughan.

The UPS facility, being a goods distribution facility, does not require approval under Section 9 or 20.21 of the Environmental Protection Act (EPA). That is, neither an Environmental Compliance Approval (ECA) nor registration on the Environmental Activity and Sector Registry (EASR) are required for this site. Noise emissions from the existing UPS facility are regulated by the City of Vaughan Noise By-law 121-2021, as may be amended. Currently, the UPS facility is in compliance with the requirements of the By-law, as there are no noise sensitive receptors in close proximity to the site. However, Zancor Homes has proposed a high-rise residential development at 2600-2700 Steeles Avenue West, which has the potential to affect UPS's compliance status. The Ministry of Environment Conservation and Parks (MECP) noise guideline in Publication NPC-300 clearly states that in situations such as this, where there is an existing noise source and noise sensitive uses are proposed in proximity, it is the onus of the proponent of the new noise sensitive use to ensure compatibility and compliance with the noise guidelines. Any mitigation that is required to achieve compatibility would be the responsibility of the proponent of the new noise sensitive use.

To address the noise emissions from the UPS facility, Zancor Homes has proposed that their site be deemed Class 4, per Publication NPC-300 and our understanding is that Vaughan Council has endorsed this request at its April 22, 2024 meeting. The Class 4 status affords the use of higher sound level limits than what would typically apply at the proposed residential site, i.e. Class 1 sound level limits. With the use of Class 4, physical (or administrative) noise control measures would not be required at either the residential development or at UPS.

Regardless of the above, once the development is built, if there were noise complaints from the new residents about operations at UPS, the City Noise By-law would be relied upon to investigate the complaints. There are several sections in the Noise By-law that are relevant.

These are Sections 4.0 Prohibitions, 6.0 Unusual Noise, Noise Likely to Disturb and 11.0 Loading and Unloading. Given the higher noise limits afforded by the Class 4 usage, there is increased risk for UPS that a charge could be laid under these sections.

The Noise By-law recognizes the issues related to Class 4 and the higher sound level limits and attempts to address this by allowing an exemption for certain facilities in proximity to Class 4 areas. Given that the proposed residential development will be granted the Class 4 status, UPS has applied to be exempted from the Noise By-law. As part of this application, the City requested a Letter Report detailing the operations at UPS that generate sound, as well as the predicted sound levels at the Zancor Homes site. Thus, this Letter Report has been prepared to fulfill the documentation requirement from the City of Vaughan for this purpose.

2.0 UPS OPERATIONS

The UPS facility operates 24 hours a day, 7 days a week, 365 days a year. The UPS facility receives incoming parcels via truck, re-distributes the parcels and then ships them out via truck to the end users.

The site currently includes:

- Two connected buildings used to receive and sort parcels as well as to load package trucks for shipping (the loading of package trucks and some receiving occurs internally within the buildings). The main receiving occurs via tractor trailer at loading docks around the perimeter of the buildings;
- A fueling station for the trucks;
- A maintenance building for trucks;
- A wash building for trucks;
- Employee parking area; and
- Truck trailer staging/parking areas.

The site plan dated October 30, 2015 is included as Attachment A.

3.0 PROPOSED RESIDENTIAL SITE

A mixed-use high-rise residential development has been proposed by Zancor Homes at 2600-2700 Steeles Avenue West in the form of four blocks with seven residential towers (Towers A, B, C1, C2, D, E and F) up to 59 storeys in height. The development is approximately 400 m east of the UPS site. The concept for the full development were based on the Site Plan dated October 21, 2022 prepared by Rafael + Bigauskas Architect Inc. (obtained from the City of Vaughan's Development Application website).

Attachment B shows the proposed development.

The design of the residential site is not yet final, and it is expected that it could change over the course of the development process. Thus, for the purposes of this assessment, three worst-case points of reception were used. These receptors represent the facades of the western-most towers in the development, receptors R1, R2, and R3 representing Towers D, E, and F, respectively. The receptors chosen represent the worst case locations where the highest sound levels would be expected. The other Towers are farther removed from UPS and thus, the sound levels would be expected to be less due to increased distance attenuation.

4.0 MECP NOISE GUIDELINE LIMITS

The UPS Facility is considered a stationary source under the MECP noise guideline and City of Vaughan Noise By-law. Stationary sources are treated differently than transportation sources of noise. The sound limits apply at the exterior planes of windows associated with noise sensitive spaces as well as at outdoor areas amenable for use. Unlike for transportation sources, there are no indoor noise criteria.

For stationary sources, the descriptor used for assessment is the one-hour L_{eq} in dBA for non-impulse sources and the L_{LM} in dBAI for impulse sources. The stationary source sound limits are the higher of the minimum exclusion limits or the existing ambient (typically due to road traffic). The minimum exclusion limits for Class 1 and Class 4 areas are shown in Tables 1 and 2 below. Non-impulsive sources are for example rooftop mechanical equipment or idling of trucks, etc., and impulsive sources are things such as the coupling of tractors to trailers (i.e. banging sounds). Regardless of ambient, a stationary source does not have to attenuate below the minimum exclusion limits in Tables 1 and 2.

TABLE 1: MINIMUM EXCLUSION SOUND LEVEL LIMITS (DBA) – NON-IMPULSE SOURCES

Time of Day	Outdoor Points of Reception		Plane of Window Receptor	
	Class 1 Area	Class 4 Area	Class 1 Area	Class 4 Area
Day (0700 – 1900)	50	55	50	60
Eve (1900 – 2300)	50	55	50	60
Night (2300 – 0700)	N/A(1)	N/A(1)	45	55

Note:

(1) There are no sound level limits for outdoor points of reception at night

For impulse sources, the sound level limits are based on the number of impulse events occurring in an hour. For the UPS site, the impulses are considered frequent, meaning there are 9 or more events occurring in an hour. Thus, only the sound level limits for frequent impulsive sources are presented, see Table 2 below.

TABLE 2: MINIMUM EXCLUSION SOUND LEVEL LIMIT VALUES (DBAI) – IMPULSE SOURCES

Time of Day	Actual # of Impulses in Period of One-Hour	Outdoor Points of Reception		Plane of Window Receptors	
		Class 1 Area	Class 4 Area	Class 1 Area	Class 4 Area
Day/Eve (0700 – 2300)	Frequency Impulses (9 or more)	50	55	50	60
Night (2300 – 0700)		N/A	N/A	45	55

Note:

(1) There are no sound level limits for outdoor points of reception at night

5.0 UPS NOISE SOURCES

The regular operations of UPS' goods distribution facility that produce noise include:

- Vehicle idling, movements, brake air release, back-up beepers and sounding of horns;
- Loading and unloading of trucks and coupling and uncoupling of truck cabs from trailers;
- Operation of rooftop HVAC equipment and emergency generators; and
- Operations at on-site vehicle maintenance, fueling, and car wash facilities.

To determine the potential noise impact from the UPS operations off site, an acoustical model was created. The acoustical model was done in the CadnaA software V2024 MR1, which follows the protocols of ISO-9613-2 (1996). The noise sources were entered in as either point sources (such as for the rooftop mechanical equipment) or line sources (such as for the moving of trucks).

The specific sources are shown in Table 1 and shown in Figure 1.

Five non-impulse operating scenarios and one impulse scenario, corresponding to the time periods and sound level limits outlined in MECP Publication NPC-300 were used for assessment. The majority of sources at the UPS Facility operate at all times. The main difference between the non-impulse scenarios is the number of truck movements occurring on site and the operations of the rooftop mechanical equipment (which operate at lesser duty cycles at night due to the reduced heat loads). For the impulse sources, the activity could occur at any time and thus, only one scenario was used and compared to the most-stringent nighttime sound level limits. The scenarios are:

NON-IMPULSE

- Daytime – period between 0700 and 1900 with worst-case traffic volumes outside the peak hour of package truck movements;
- Peak Daytime – hour when the highest volume of package trucks depart from the site;
- Evening – period between 1900 and 2300 with worst-case traffic volumes outside the peak hour of package truck movements;
- Peak Evening – hour when the highest volume of package trucks arrive at the site;

- Nighttime – period between 2300 and 0700 with the highest number of truck movements (both trailers and package trucks).

IMPULSE

- One scenario was used which represents the expected sound levels during the daytime, evening or nighttime hours. The predicted sound levels were compared to the most stringed nighttime sound levels only for simplicity.

6.0 PREDICTED SOUND LEVELS

Using the acoustical model described above, sound levels have been predicted at three receptor locations, representing the western facades of the closest proposed towers to UPS. Receptor R1 represents Tower D, Receptor R2 represents Tower E and Receptor R3 represents Tower F.

The predicted sound levels at the proposed development due to noise sources at the UPS facility are shown on Figure 2.

The results show that the predicted sound levels at the Zancor Homes site exceed the Class 1 minimum exclusion sound level limits. However, all predicted sound levels comply with the Class 4 minimum exclusion sound level limits. Table 3 shows the predicted sound levels from the three receptor locations.

Highest Predicted Sound Levels at Zancor Site

Scenario/ Time Period	**Predicted Sound Levels (dBA/dBAI)**			**Class 1 Sound Level Limit (dBA/dBAI) (1)**	**Class 4 Sound Level Limit (dBA/dBAI)(1)**
	R1	**R2**	**R3**		
Non-Impulse Scenarios(2)					
Daytime (D1)	45	45	45	50	60
Peak Daytime (D2)	44	44	44	50	60
Evening (E1)	47	47	47	50	60
Peak Evening (E2)	46	46	45	50	60
Nighttime (N)	***46(3)***	***46(3)***	***46(3)***	45	55
Impulse Scenarios(2)					
Impulses (day/eve/night) (I)	***55(3)***	***55(3)***	***55(3)***	45(4)	55(4)

Notes:

(1) Minimum exclusions limits used to be conservative.

(2) Operating scenarios used in assessment. ID shown in parenthesis corresponds to the scenario designator used on Figure 3.

(3) Bold numbers indicate sound levels that exceed the Class 1 sound level limits but meet the Class 4 minimum sound limits

(4) Most stringent nighttime minimum exclusion limit shown for simplicity.

7.0 CONCLUSION

As requested, this Letter Report has been prepared to summarize the operations at the UPS facility located at 2900 Steeles Avenue West and the predicted sound levels at the proposed Zancor Homes development site to the east.

The predicted sound levels from UPS exceed the Class 1 sound level limits but meet the Class 4 minimum exclusion sound level limits at the Zancor Homes site.

As the Class 4 status will be granted for the Zancor Homes site, UPS will require an exemption from the City of Vaughan Noise By-law to ensure the higher sound level limits afforded by the use of Class 4 do not result in any adverse impact to the UPS facility operations.

It is noted that the acoustical model and assessment completed here are specific to the proposed Zancor Homes site. The assessment and results should not be used to infer impacts or mitigation at any other noise sensitive site for which this assessment was not intended.

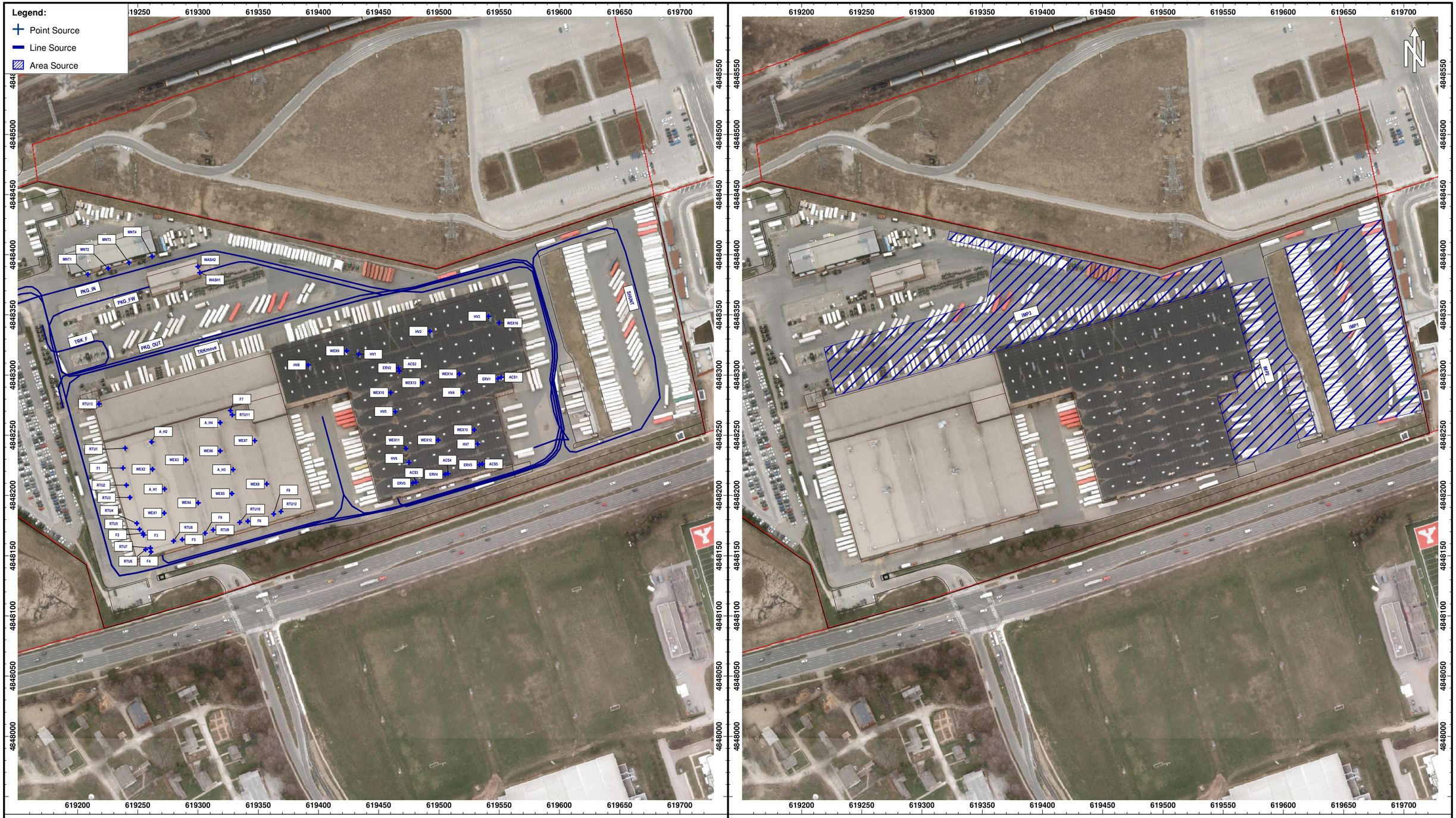
Yours truly,

VALCOUSTICS CANADA LTD.

Per: _____

Mark Levkoe, B.Sc.E., P.Eng.

ML\mv\sk
L#2 - UPS Operations and Predicted Noise Impact V2_0.docx



Non-Impulse Sources

Impulse Sources

VALCOUSTICS
Canada Ltd.
consulting acoustical engineers

Title
Noise Source IDs and Locations

Date
2025-01-30

Figure
1

Project Name
UPS Toronto Hub

Project No.
123-0036-100

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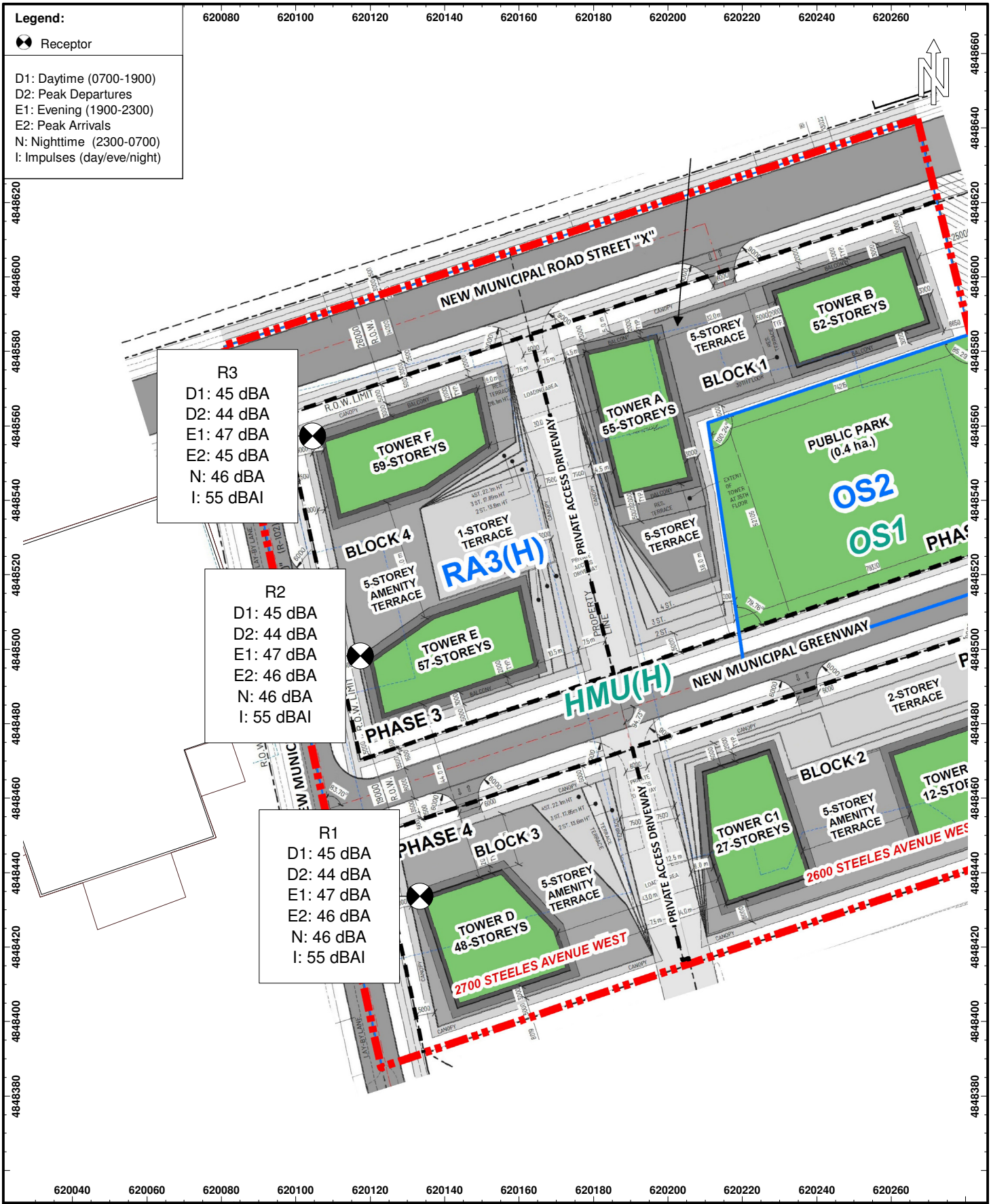
Date Plotted: 12.02.25



VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: **Predicted Sound Levels (dBA) at 2600 Steeles Ave W**	Date: **2025-01-30**	Figure: **2**
	Project Name: **UPS Toronto Hub**	Project No.: **123-0036-100**	

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Date Plotted: 12.02.25

Table 3: NOISE SOURCE SUMMARY

Source ID	Description	Sound Power Level (dBA)	Operating Time (mins per hour)		
			Daytime	Evening	Nighttime
RTU1, 5 to 12	2.5 to 4-ton Lennox units	76	60	60	30
RTU2 to 4	8.5-ton Lennox units	88	60	60	30
RTU13	15-ton Lennox unit	86	60	60	30
A_H1 to 4	Warehouse heating units	90	60	60	60
HV1 to 8	Warehouse heating units	82	60	60	60
WEX1 to 8	Warehouse exhaust fans	85	60	60	60
WEX9, 10, 13, 14, 16	Carnes VEBK36	84	60	60	60
WEX11, 12, 15	Carnes VEBK30	83	60	60	60
F1, 7, 8	PennBarry DX14B	75	60	60	60
F2, 3	Small domex fans	73	60	60	60
F4	Carnes VEBK08	80	60	60	60
F5	Exhaust fan	84	60	60	60
F6, 9	Domex exhaust fans	80	60	60	60
ERV1	ERV units	80	60	60	60
ACS1	Lennox TGA180	93	60	60	30
ACS2 to 5	Lennox TGA060	81	60	60	30
WASH1 & 2	Wash bay doors	95	0	60	60
MNT1 to 4	Maintenance bay overhead doors	108	30	30	15

Table 3: NOISE SOURCE SUMMARY

TRUCK MOVEMENTS							
Source ID	**Description**	**Sound Power Level (dBA)**	**# of Movements per Hour**				
			Day	**Eve**	**Night**	**Peak Day**	**Peak Eve**
TRKmove	Trailers arriving/departing	106(2)	35	83	76	25	37
PKG_OUT	Package trucks departing	96(3)	1	2	0	352	1
PKG_IN	Package trucks arriving	96(3)	95	85	4	2	157
PKG_FW	Package trucks to fuel stations/wash bays	96(3)	0	45	45	0	45
SHUNT	Shunt trucks working	98(4)	59	82	80	36	64
TRK_F	Trailers to fuel stations	106(2)	2	4	14	2	4
IMPULSES							
Source ID	**Description**	**Sound Power Level (dBA)**	**Operating Scenario/Distribution**				
IMP1	Coupling/uncoupling at east staging area	119	Occurs day/eve/night; 55% of impulses				
IMP2	Coupling/uncoupling at east parking	119	Occurs day/eve/night; 12% of impulses				
IMP3	Coupling/uncoupling at north parking	119	Occurs day/eve/night; 33% of impulses				

Notes:

(1) See Figure 1.

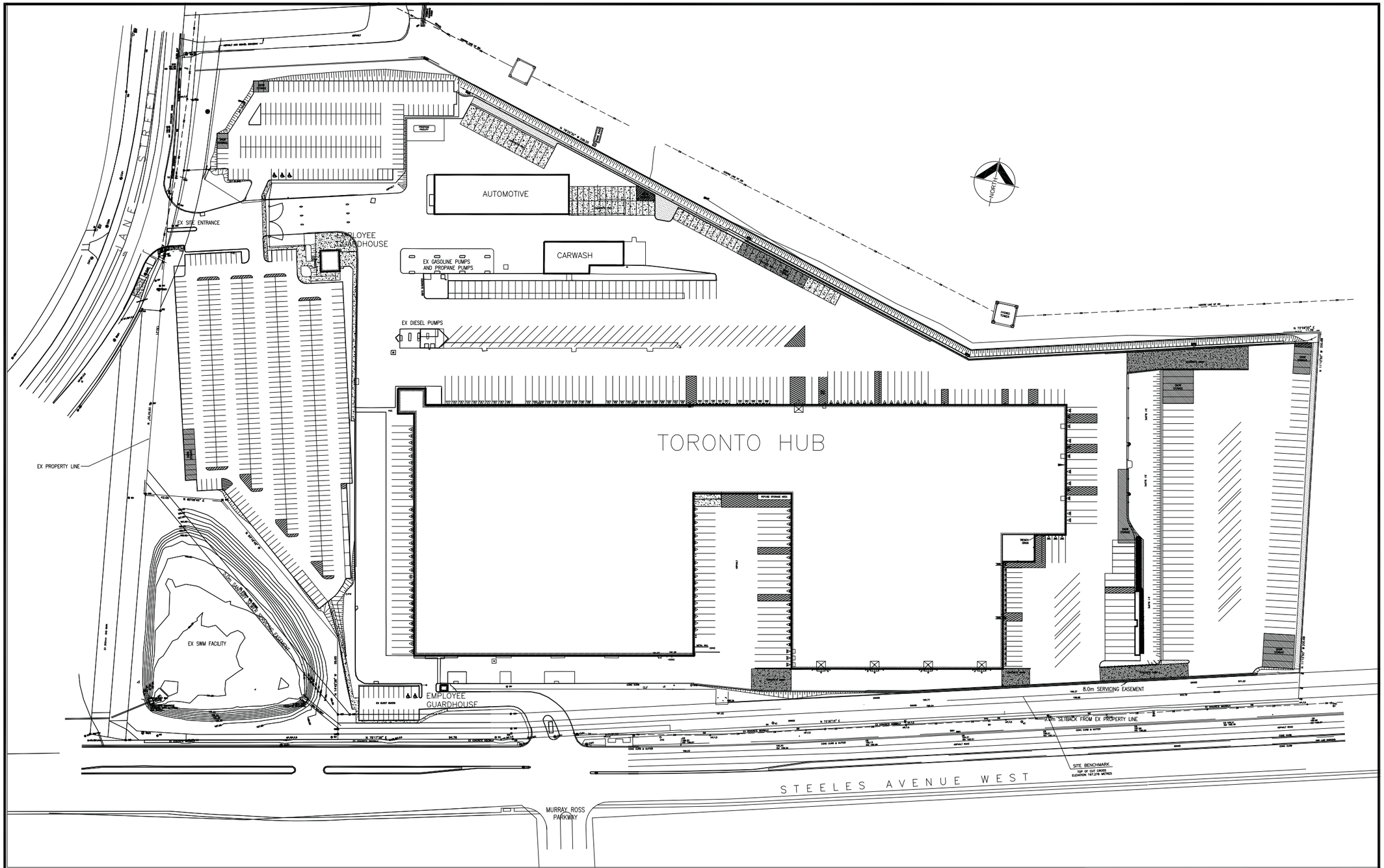
(2) Sound power level of one heavy truck travelling at 15 km/hr.

(3) Sound power level of one package truck travelling at 15 km/hr.

(4) Sound power level of one shunt truck travelling at 15 km/hr.

ATTACHMENT A

UPS TORONTO HUB SITE PLAN



REV.	REVISION RECORD	BY	DATE

TORONTO HUB
2900 STEELES WEST, CONCORD, ON.

UPS SORTING FACILITY
TORONTO HUB

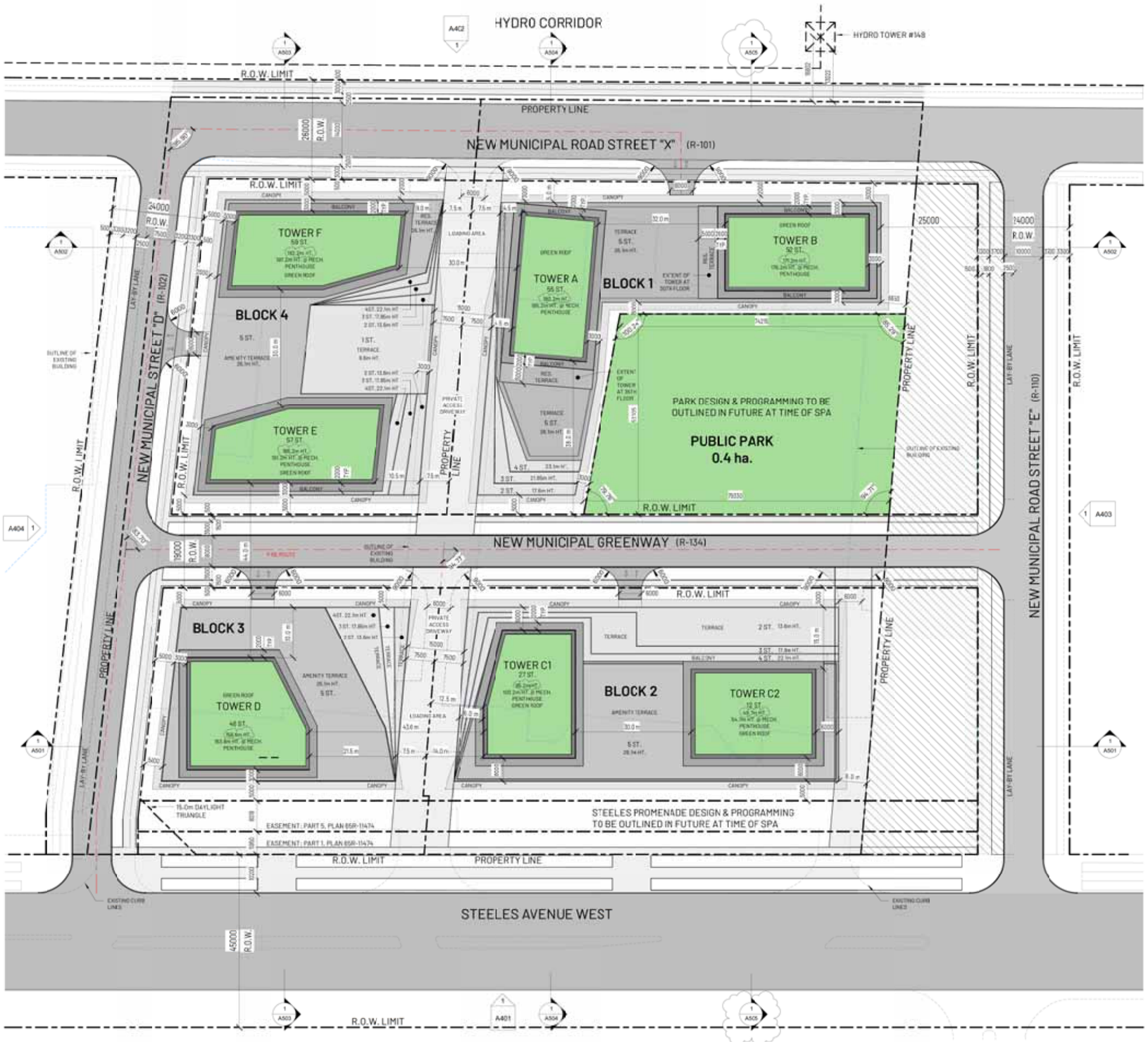
DATE:	SCALE:
10-30-15	NTS

DRAWN BY:	CHECKED BY:	APPROVED BY:

DRAWING ID:	SHEET NO.:	REV NO.:
YARD LAYOUT.DWG		1

ATTACHMENT B

2600-2700 STEELES AVE W SITE PLAN



REZONING/OPA DRAWINGS CONCEPTUAL AND SUBJECT TO CHANGE IN FUTURE SUBMISSIONS.

THIS DRAWING IS NOT TO BE SCALED

ALL DIMENSIONS AND AREAS TO BE CONFIRMED ON SITE BY ONTARIO LAND SURVEYOR.

NO	DATE	ISSUED	BY
4	OCT 21, 2022	REZONING / OPA SUBMISSION 3	B.G.
3	OCT 17, 2022	REZONING / OPA SUBMISSION 3	B.G.
2	JUN. 28, 2022	REZONING / OPA SUBMISSION 2	B.G.
1	NOV. 15, 2021	REZONING / OPA SUBMISSION 1	A.C.

ONTARIO ASSOCIATION OF ARCHITECTS
BOJANA IVANOVA
LICENCE
5876

project title

ZANCOR HOMES

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SHEET TITLE
SITE PLAN

SCALE	PROJECT NO.
1 : 500	20-128
DATE	
DRAWN BY: Author / CHECKED BY: Checker	DRAWING NO.
DATE PLOTTED: 2022-10-21 11:36:19 AM	A101
DATE PRINTED	

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