REPORT

795 BRANT STREET

BURLINGTON, ONTARIO

NOISE AND VIBRATION IMPACT STUDY

RWDI #2205164

August 12, 2022

SUBMITTED TO

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VERSION HISTORY

Index	Date	Description	Prepared by	Reviewed by
1	2022-07-26	Draft	KD	EMJI/SVG
2	2022-08-12	Final	KD	SVG

STATEMENT OF LIMITATIONS

This report entitled 795 Brant Street was prepared by Rowan, William, Davies, and Irwin (RWDI") for Camarro Developments Inc. ("Client"). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein 795 Brant Street ("Project"). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared. Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final stages of the project to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.

EXECUTIVE SUMMARY

RWDI was retained to prepare a Noise and Vibration Impact Study (NVIS) for the proposed development located at 795 Brant Street in Burlington, Ontario. The proposed development will consist of a 30-storey residential tower. This assessment was completed to support the Official Plan amendment (OPA) and Zoning By-Law Amendment (ZBA) submission as required by the City of Burlington.

The following noise control measures are recommended for the proposed development:

1. Installation of central air-conditioning so that all suites' windows can remain closed.
2. The inclusion of noise warning clauses related to:
    a. Transportation sound levels at the building façade and in the outdoor amenity areas
    b. Proximity to commercial/industrial land-use
3. Minimum sound isolation performance:
    a. Suite bedroom window glazing with minimum sound isolation performance of STC-29.
4. Construction of perimeter noise barriers along the outdoor amenity areas if feasible, with the applicable warning clause.

The potential noise impact from stationary sources of sound were evaluated. Based on the noise modeling results and setback distances, the land use compatibility of the proposed development with respect to the nearby industrial land-uses is considered acceptable from the noise impact perspective. However, due to the proximity of the proposed development to the commercial and industrial facilities, a warning clause is recommended to inform prospective occupants of the potential for audible noise from these facilities.

At this stage in design the impact of the development on itself and its surroundings could not be quantitatively assessed. However, the impact on both the building itself and its surroundings is expected to be feasible to meet the applicable criteria. We recommend that the building design is evaluated prior during detailed design to ensure that the acoustical design is adequately implemented in order to meet the applicable criteria.

Based on the results of the analysis including implementation of the recommendations included with this assessment, the proposed development is feasible to meet the applicable sound and vibration criteria.

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1 INTRODUCTION

RWDI was retained to prepare a Noise and Vibration Impact Study (NVIS) for the proposed 795 Brant Street development located in Burlington, Ontario. The proposed development site is on the corner of Brant Street and Prospect Street.

The proposed development will consist of a 30-storey tower with retail space on the ground floor and underground parking. The context site plan is shown in **Figure 1**.

The site is exposed to noise from road traffic on Brant Street to the west and Fairview and Prospect Street to the north.

The site is exposed to noise from rail traffic on the GO Lakeshore and CN railway to the north.

A screening level assessment of nearby stationary sources was conducted. Conservative assumptions for potential noise emissions from Class I and Class II facilities within 70-meters from the development property line were included in the stationary source assessment. No Class III facilities were identified within the potential 300-meter zone of influence.

This assessment was completed to support the Official Plan amendment (OPA) and Zoning By-Law Amendment (ZBA) submission as required by the City of Burlington. This assessment was based on design drawings dated July 20th, 2022.

2 APPLICABLE CRITERIA

Applicable criteria for transportation noise sources (road and rail), and stationary noise sources are adopted from the Ontario Ministry of the Environment, Conservation and Parks (MECP) NPC-300 Environmental Noise Guideline (MOE, 2013), with a summary of the applicable criteria included with **Appendix A**.

The proposed development site would be characterized as a “Class 1 Area”, which is defined according to NPC-300 as an area with an acoustical environment typical of a major population centre, where the background sound level is dominated by the activities of people, usually road traffic, often referred to as "urban hum."

3 IMPACT OF THE ENVIRONMENT ON THE PROPOSED DEVELOPMENT

3.1 Transportation Source Assessment

3.1.1 Road Traffic Volume Data

Brant Street, Prospect Street and Fairview Street traffic volumes were obtained from The City of Burlington. An 85%/15% daytime/nighttime arterial road split was applied for Brant Street, and Fairview Street, and a 90%/10% daytime/nighttime local road split for Prospect Street.

Turning Movement Counts (TMCs) at the intersection of Brant Street and Prospect Street and Fairview Street and Brant Street provided detailed traffic volumes for the two peak time periods: 08:00 to 09:00 and 16:30 to 17:30. The PM peak for Brant Street at Prospect Street was considered during 16:30 to 17:30 rather than 16:15 to 17:15 as the detailed data showed higher traffic volumes during this peak time period. The TMCs were used to determine the traffic volume and types of vehicles on each link during the AM and PM peaks and 8-hour interval which were assumed to be 9%, 10% and 60% of the Annual Average Daily Traffic (AADT), respectively.

The maximum AADTs obtained from the approximation of each of these three time periods was used for the AADT for the respective roadway.

The traffic volumes for each of the respective roadways were increased at a rate of 2% per year to represent the predicted 10-year horizon volumes.

A summary of the traffic data used is included in **Table 1** below with more detailed information included in **Appendix D**.

Table 1: Road Traffic Volumes

Roadway	2032 Future Traffic (AADT)	% Day/Night	Speed Limit (km/hr)	% Trucks
Brant Street	28,358	85% / 15%	50	2.4
Prospect Street	5,412	90% / 10%	60	1.9
Fairview Street	39,952	85% / 15%	60	2.0

3.1.2 Rail Traffic Volume Data

Metrolinx GO transit commuter trains and CN Rail freight trains travel along the CN Oakville Subdivision rail corridor, approximately 530m north of the proposed development site. Future Transit Lakeshore West (GO Lakeshore) commuter line rail volume data was obtained from Metrolinx. Freight rail volumes were requested but

were not provided by the rail authorities (CN and CP), as such, typical volumes based on rail line type (e.g. principal main line, secondary line) have been assumed as a basis for the analysis.

The data used for the analysis is summarized in **Table 2**, with details of the data used included in **Appendix E**.

Table 2: Rail Volumes and Configuration

Train Type	Daytime	Nighttime	Type of Locomotive	No of Locomotives	No of Cars	Speed (km/h)
GO Lakeshore	60	8	Diesel	2	12	153
GO Lakeshore	11	4	Diesel	2	12	153
Go Lakeshore	129	19	Diesel	1	12	153
Go Lakeshore	38	4	Diesel	2	12	153
CN Freight	16	8	Diesel	4	100	80

3.1.3 Representative Receptors

The selection of receptors affected by transportation noise sources was based on the drawings reviewed for this assessment. Using the "building evaluation" feature of Cadna/A, each façade of the residential buildings was assessed.

Outdoor Living Areas (OLAs) would include outdoor areas intended and designed for the quiet enjoyment of the outdoor environment and which are readily accessible from the building. OLAs may include any common outdoor amenity spaces associated with a multi-unit residential development (e.g. courtyards, roof-top terraces), and/or private backyards and terraces with a minimum depth of 4m provided they are the only outdoor living area for the occupant. Daytime sound levels were assessed at the following identified OLAs:

- OLA_01: Sixth Floor Outdoor Living Area
- OLA_02: Seventh Floor Outdoor Living Area
- OLA_03: Eighth Floor Outdoor Living Area

The OLAs are indicated in **Figure 2**.

3.1.4 Transportation Source Assessment - Analysis and Results

Sound levels due to the adjacent transportation (road and rail) sources were predicted using the RLS-90 standard (RLS,1990) and FTA method (FTA, 2018) as implemented in the Cadna/A software package.

To assess the impact of transportation noise on suites, the maximum sound level at the worst-case façade was determined with the results summarized in **Table 3**.

Table 3: Predicted Ground Transportation Source Sound Levels – Plane of Window

Building	Road		Rail		Road + Rail		Notes
	Day L_{EQ}, 16hr	Night L_{EQ}, 8hr	Day L_{EQ}, 16hr	Night L_{EQ}, 8hr	Day L_{EQ}, 16hr	Night L_{EQ}, 8hr	
Worst Case Façade - Proposed Development	66	62	61	59	67	62	1

Notes:
1. Applicable for low and medium density developments: Provision for future installation of air-conditioning, warning clause "Type C". Applicable for high density developments: Installation of air-conditioning to allow for windows and doors to remain closed, warning clause "Type D". Refer to **Appendix C** for guidance regarding air-conditioning as a noise mitigation measure.

To assess the impact of transportation noise on the qualifying OLAs for the development, predicted sound level results are summarized in **Table 4**.

Table 4: Transportation Sound Levels in Outdoor Living Areas (OLAs)

Receptor	Description	Daytime L_{EQ}, 16hr	Notes
OLA_01	Sixth Floor Outdoor Living Area	62	2
OLA_02	Seventh Floor Outdoor Living Area	56	1
OLA_03	Eighth Floor Outdoor Living Area	61	2

Notes:
1. For OLA sound levels >55 dBA and ≤60 dBA, noise controls may be applied to meet the 55 dBA criterion. If noise control measures are not provided, a warning clause "Type A" is recommended.
2. Noise mitigation is recommended to meet the ≤55 dBA OLA sound level criterion. If noise controls are not feasible to meet the 55 dBA criterion for technical, economic or administrative reasons, an exceedance of 5 dB may be acceptable (to a maximum sound level of 60 dBA). In this case, a warning clause "Type B" is recommended.

3.2 Stationary Source Assessment

Stationary sources could be grouped into two categories: Those that have a permit with the MECP an Environmental Compliance Approval (ECA) or Environmental Activity and Sector Registry (EASR); and those that are exempt from ECA or EASR permit requirements.

In the case where a stationary source has an ECA or EASR permit with the MECP, and would be put in a position where it is no longer in compliance with the applicable sound level criteria due to the encroachment of the proposed new development, source specific mitigation and/or formal classification of the proposed development lands as a "Class 4 Area" (refer to C.4.4.2 "Class 4 Area" in NPC-300) would be required. In this case, coordination and agreements between the stationary source owner, proposed new development owner, the land-use planning authority and potentially the MECP would be needed.

In the case where a stationary source is exempt from ECA or EASR permit requirements with the MECP, the noise provisions of the applicable Municipal Code and guidance from NPC-300 would be applicable. In this case, mitigation of sound levels due to stationary sources would be from a due diligence perspective to avoid nuisance complaints from future occupants of the proposed new development. Mitigation could be in the form of mitigation

at the source (with agreement from the stationary source owner) and/or mitigation at the receptor through site and building element design (building orientation, acoustical barriers, façade sound insulation design).

3.2.1 Land-Use Compatibility Review (D-6 Guideline Assessment)

The MECP Guideline D-6 (MOE, 1995) was used as a tool to classify the identified industries and asses their potential influence on the proposed development. The classifications and setback guidelines are summarized in **Appendix A**.

3.2.1.1 Class III Industries

No facilities within the 1000m radius of the proposed development were identified as Class III.

3.2.1.2 Class II Industries

There is one facility located within the 1000m radius of the proposed development and is summarized in **Table 5**.

3.2.1.3 Class I Industries

There are several industries within the 1000 m area surrounding the proposed development that have been classified as Class I. There facilities identified as Class I within 70m potential influence area of the proposed development. These industries are summarized in **Table 5** below. The stationary source environmental compliance ECA and EASR registrations are included in **Appendix F**.

Table 5: Industries within the minimum recommended separation distance of the proposed development

Name	Address	Type of Operation	Industry Class	Potential Influence Area	Actual Separation Distance	ECA or EASR Registration #
Ashland Canada Corp.	942 Brant St., Burlington, ON	Chemical Facility	Class II	300m	550m	3448-8PJRH9
Smitt Auto Body	1400 Grahams Ln., Burlington, ON	Auto Shop	Class I	70m	275m	2361-5PFQ9L

The class II industry, Ashland Chemicals, is beyond the potential are of influence for the proposed development. Ashland Chemicals is a medium sized chemical manufacturing facility There is minimal outdoor storage of goods noted from aerial imagery, and infrequent movement of products and/or heavy trucks were noted. Furthermore, there are existing receptors to the Southeast, within 150 m of the facility, which further supports the Class II classification.

3.2.2 Stationary Source Modeling

Stationary sources of noise surrounding the proposed development were identified using a combination of a site review of publicly available aerial and street-level imagery, and MECP's Access Environment database. Classes were assessed using the noise impact perspective, as an air quality review was not considered for this study.

The results of the D-6 assessment indicate that the proposed development would be in the potential influence area of some facilities.

Due to the proximity of nearby non-permitted facilities within 70m of the proposed development supplementary noise modeling has been conducted to further inform the stationary sources assessment.

3.2.2.1 Representative Receptors

Using the "building evaluation" feature of Cadna/A, each façade of the residential building was assessed to determine the worst-case receptor location. Additionally, outdoor points of receptions (OPORs) for this development were assessed at the residential outdoor amenity space.

The outdoor PORs are displayed in **Figure 2.**

3.2.2.2 Assumed Sources and Sound Power Levels

Stationary sources of noise surrounding the proposed development were identified using a combination of site publicly available aerial imagery and street-level imagery.

The sound power levels for the stationary sources were based on data on-file at RWDI. The sources included in the stationary source modelling are illustrated in **Figure 3** with assumed power levels presented in **Table 6.**

Table 6: Stationary Source Sound Power Level Assumptions

Source	Proxy Data / Calculation	Sound Power Level (dBA)	Duty Cycle	
			Daytime and Evening (07:00h – 23:00h)	Nighttime (23:00h – 07:00h)
HVAC_1Fan	Proxy Data	80	Continuous	30 min/hour
HVAC_2Fan	Proxy Data	82	Continuous	30 min/hour
Car Wash	Proxy Data	88	Continuous	Off Duty

The assumed sound power level values and duty-cycles for the stationary sources are based on reasonable assumptions for the source type. Continuous operation of the HVAC units at area facilities and car wash represents the worst-case hour for the daytime and evening periods.

3.2.2.3 *Analysis and Results*

Stationary source noise modelling was carried out using the Cadna/A software package, a commercially available implementation of the ISO 9613 (ISO, 1994 and ISO, 1996) algorithms. The predicted sound levels are assessed against both the Class 1 Area limits (refer to **Appendix A**).

The predicted sound levels during the worst-case 1-hour from existing stationary sources are presented in **Table 7**.

Table 7: Predicted Sound Levels at Worst-case Receptor Locations – Continuous Stationary Sources

Receptor	Evaluation Location	Stationary Source Sound Level, L_{EQ}, 1_{hr}		Class 1 Sound Level Criteria L_{EQ}, 1_{hr}	Meets Criteria ?
		Daytime-Evening 0700-2300h	Nighttime 2300–0700h [1]	Daytime-Evening/Nighttime	
Proposed Development	Worst-case facade	48 dBA	45 dBA	50 / 45 dBA	Yes
OPOR_01	Sixth Floor OPOR	35	--	50 / -- dBA	
OPOR_02	Seventh Floor OPOR	43	--	50 / -- dBA	
OPOR_03	Eight Floor OPOR	48	--	50 / -- dBA	

Notes:
1. Outdoor areas are not assessed during the nighttime period.

As shown in **Table 7**, the daytime-evening and nighttime continuous sound levels at the sound levels at the façade due to existing stationary sources are predicted to meet the applicable Class 1 sound level criteria based on screening level noise modelling analysis.

3.3 Recommendations

Based on the noise and vibration impact assessment results, the following recommendations were determined for the project. Recommendations are provided for both transportation sources and stationary sources.

3.3.1 Transportation Sources

The following recommendations are provided to address transportation sources.

3.3.1.1 *Building Façade Components*

Due to the elevated transportation sound levels in the area, acoustical design of the façade components including spandrel, window glazing, and exterior doors, are recommended to be specified for the proposed development.

To assess the development's feasibility, preliminary window glazing, and exterior balcony door sound isolation requirements were determined. These were based on following assumptions:

- Typical residential living room:
  - Glazing 60% of façade, Door: 20% of façade
  - 55% Façade to floor area Ratio
- Typical residential bedroom:
  - Glazing 80% of façade, Door: N/A
  - 81% Façade to floor area Ratio
- Acoustical character of rooms: High absorption finishes/furniture for bedrooms and intermediate absorption finishes/furniture for living rooms.

Based on the predicted plane of window sound levels and the assumptions listed above, recommendations for the minimum sound insulation ratings for the building components were determined using the National Research Council of Canada "BPN-56 method" (NRCC, 1985). The reported results are in terms of Sound Transmission Class (STC) ratings as summarized in **Table 8**.

Table 8: Recommended Facade Component Minimum Sound Insulation Rating

Portion of Development	Window Glazing	Exterior Door	Façade Wall
Proposed Development	STC-29	OBC	OBC

Notes:
1. 1. "OBC" denotes that the noise insulation design is not required to be specified. Building envelope assemblies meeting the minimum Ontario Building Code (OBC) requirements will also exhibit sufficient noise reduction to meet the interior sound level criteria.

The maximum requirement for the window glazing was determined to be STC-29 which is considered feasible as this can be achieved by various double-glazed configurations of insulated glazing units.

STC-29 is typically met with typical condominium windows and with taking into account the assumptions used as a basis to determine the glazing requirements, the applicable indoor transportation source sound level criteria are predicted to be achieved.

We recommend that the façade construction is reviewed during detailed design to ensure that the indoor sound level limits will be met, and that the window/door supplier is requested to provide STC laboratory test reports as part of shop drawing submittal to confirm that the glazing/door components will meet the minimum STC requirements.

3.3.1.2 Ventilation Recommendations

Due to the transportation sound levels at the plane of the façade, central air conditioning is recommended for the proposed development to allow for windows and doors to remain closed as a noise mitigation measure. Further, prospective purchasers or tenants should be informed by a warning clause "Type D".

3.3.1.3 Outdoor Living Areas

Due to exposure to transportation sources along Brant Street, Prospect Street, Fairview Street, and Metrolinx GO, sound levels in OLAs are predicted to be elevated. The combined (rail and road) daytime average sound levels for

the OLAs included in the assessment are in the range of 56-62 dBA. To reduce the transportation sound levels in OLAs to meet the applicable criteria, noise barriers are recommended.

The recommended geometry of the noise barriers are included with **Figure 4a** (to meet 55 dBA) and **Figure 4b** (to meet 60 dBA). The barrier heights are summarized in **Table 9**. General guidance with respect to noise barrier design is included with **Appendix C**. As landscaping is further refined, a detailed assessment of the outdoor amenity spaces to better quantify the sound levels, and the heights and locations of the barrier walls, is recommended as part of the Site Plan Approval.

Table 9: Barrier Height Recommendations for OLAs

Receptor	Description	Predicted OLA Sound Level	Barrier Height (m) to Meet Sound Level Criterion	
		Daytime L_{EQ}, 16hr	≤ 55 dBA[1]	≤ 60 dBA[2]
OLA_01	Sixth Floor Outdoor Living Area	62 dBA	3.0m	1.7m
OLA_02	Seventh Floor Outdoor Living Area	56 dBA	0.7m [3]	--
OLA_03	Eighth Floor Outdoor Living Area	61 dBA	2.2m	1.1m

Notes:
1. Refer to Figure 4a for barrier geometry to meet 55 dBA.
2. Refer to Figure 4b for barrier geometry to meet 60 dBA. A warning clause "Type B" is recommended in cases where the OLA sound level is >55 dBA (to a maximum of 60 dBA).
3. If noise control measures are not provided, a warning clause "Type A" is recommended.

3.3.2 Stationary Sources

Based on the noise modeling results and setback distances, the proposed development is not anticipated to infringe on the compliance of any commercial or industrial operations with environmental noise permits (ECA or EASR), nor cause infractions against the local noise by-law (By-Law 19-2003). As such, the land use compatibility of the proposed development with respect to the nearby industries is considered acceptable from the noise impact perspective.

Due to the proximity of the proposed development to the commercial and industrial facilities, a warning clause "Type E" is recommended to inform prospective occupants of the potential for audible noise from these facilities.

3.3.3 Warning Clauses

The following warning clauses are recommended for the proposed development:

1. NPC-300 Type A or B to address transportation sound levels in Outdoor Living Areas (OLAs)
2. NPC-300 Type C or D to address transportation sound levels at the plane of window
3. NPC-300 Type E to address proximity to commercial/industrial facilities

Warning clauses are recommended to be included on all development agreements, offers of purchase and agreements of purchase and sale or lease. The wording of the recommended warning clauses is included with **Appendix B**.

4 IMPACT OF THE PROPOSED DEVELOPMENT ON ITS SURROUNDINGS AND ON ITSELF

On-site stationary sources for the development are expected to consist of HVAC related equipment in the roof-top mechanical penthouse as well as various exhaust fans. Further, consideration should be given to control airborne and structure-borne noise generated within the proposed development.

Within the development itself the main sources of noise that are likely to affect the uses of the building are the mechanical systems. The potential noise impact of the commercial component of the development is recommended to be reviewed during detailed design, to ensure the applicable criteria will be met.

Provided that best practices for the acoustical design of the building are followed, noise from building services equipment associated with the development are expected to be feasible to meet the applicable sound level criteria due to the nature (residential/mixed-use) of the proposed development.

We recommend that the potential noise impact of the proposed development is reviewed during detailed design to ensure the applicable sound level criteria will be achieved.

5 CONCLUSIONS

RWDI was retained to prepare a Noise and Vibration Impact Study (NVIS) for the proposed development located at 795 Brant Street in Burlington, Ontario.

The following noise control measures are recommended for the proposed development:

1. Installation of central air-conditioning so that all suites' windows can remain closed.
2. The inclusion of noise warning clauses related to:
    a. Transportation sound levels at the building façade and in the outdoor amenity areas
    b. Proximity to commercial/industrial land-use
3. Minimum sound isolation performance:
    a. Suite bedroom window glazing with minimum sound isolation performance of STC-29.
4. Construction of perimeter noise barriers along the outdoor amenity areas if feasible, with the applicable warning clause.

The potential noise impact from stationary sources of sound were evaluated. Based on the noise modeling results and setback distances, the land use compatibility of the proposed development with respect to the nearby industrial land-uses is considered acceptable from the noise impact perspective. However, due to the proximity of

the proposed development to the commercial and industrial facilities, a warning clause is recommended to inform prospective occupants of the potential for audible noise from these facilities.

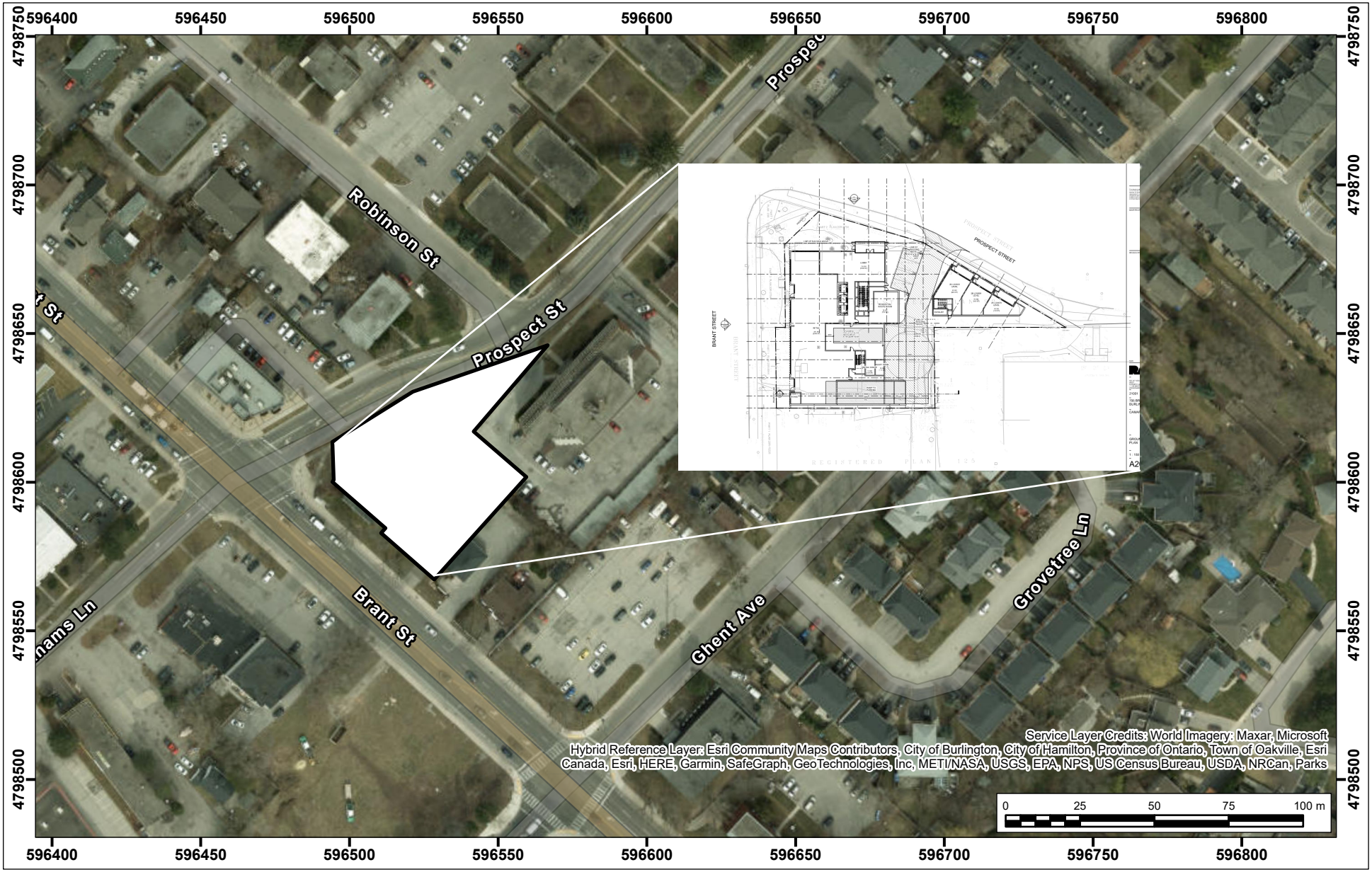
At this stage in design the impact of the development on itself and its surroundings could not be quantitatively assessed. However, the impact on both the building itself and its surroundings is expected to be feasible to meet the applicable criteria. We recommend that the building design is evaluated prior to building permit to ensure that the acoustical design is adequately implemented in order to meet the applicable criteria.

Based on the results of the analysis including implementation of the recommendations included with this assessment, the proposed development is feasible to meet the applicable sound and vibration criteria.

6 REFERENCES

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FIGURES



Site Context Plan

True North

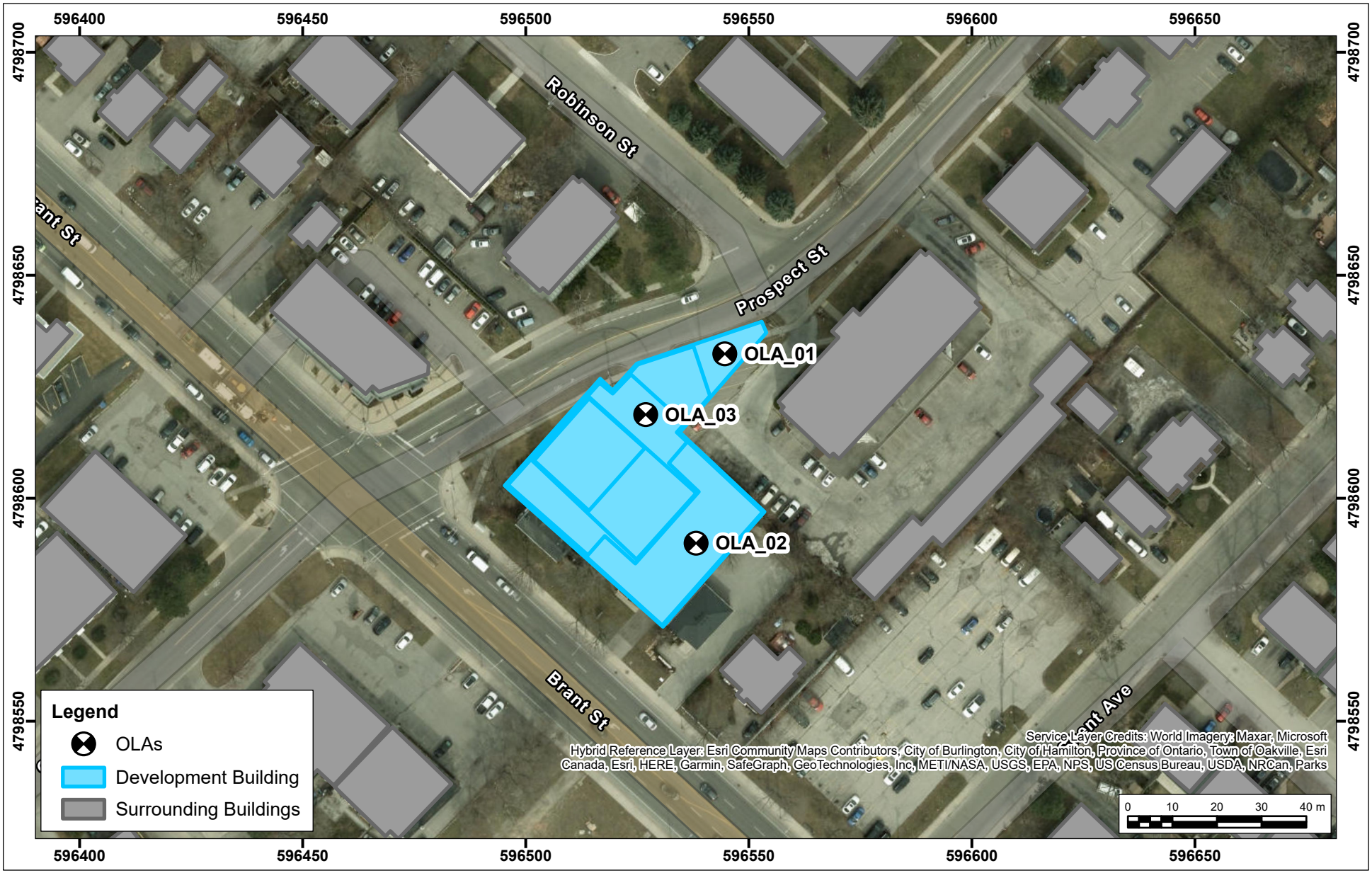
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Date Revised:	Jul 25, 2022		

Map Projection: NAD 1983 UTM Zone 17N

795 Brant Street - Burlington, Ontario

Project #: 2205164

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Outdoor Living Areas (OLAs) Locations

Location of Common Outdoor Amenity Areas

Map Projection: NAD 1983 UTM Zone 17N

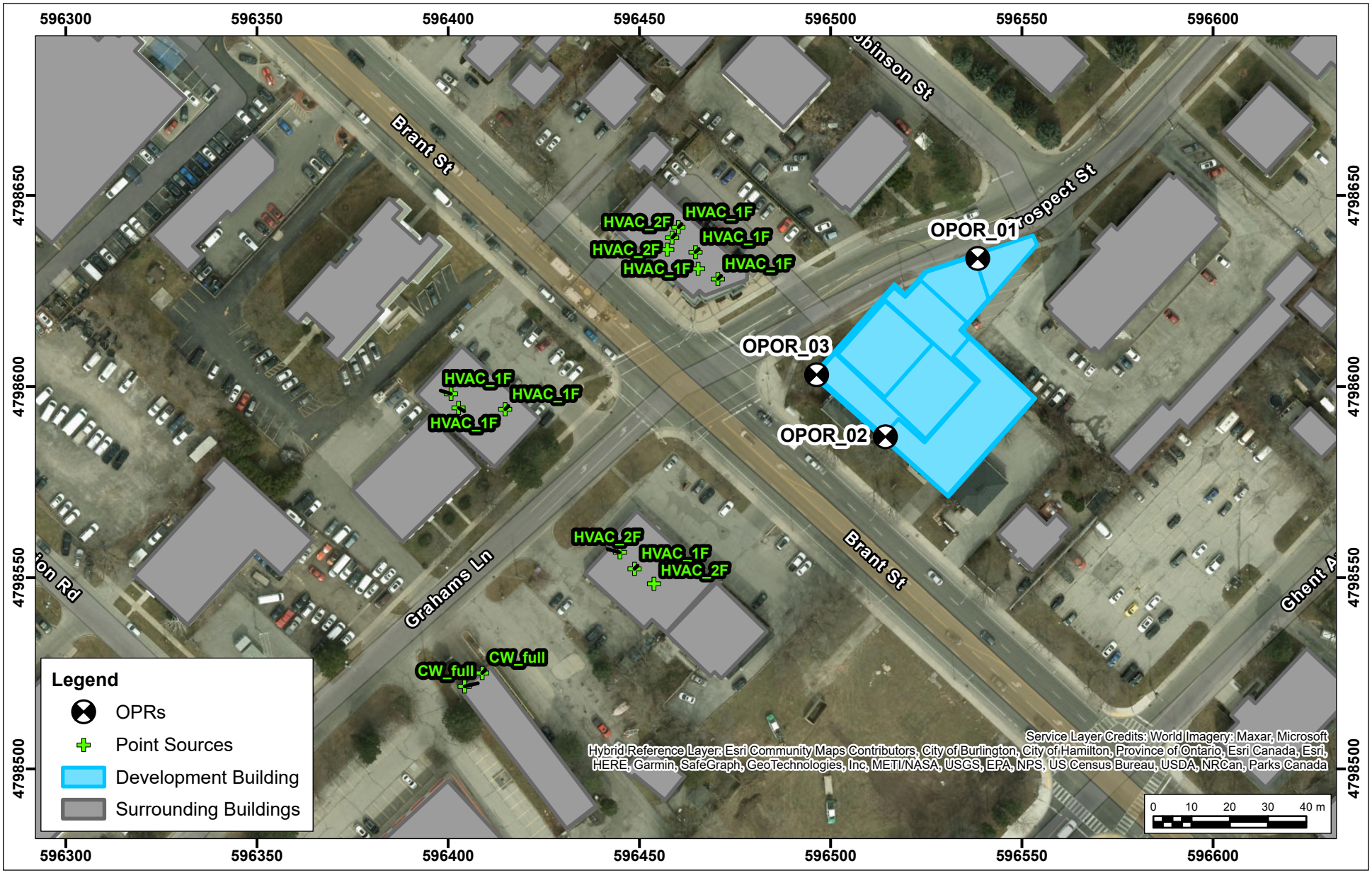
795 Brant Street - Burlington, Ontario

True North

Project #: 2205164

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Date Revised:	Jul 26, 2022		

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Stationary Sources

Location of Stationary Sources in Relation to the Proposed Development

Map Projection: NAD 1983 UTM Zone 17N

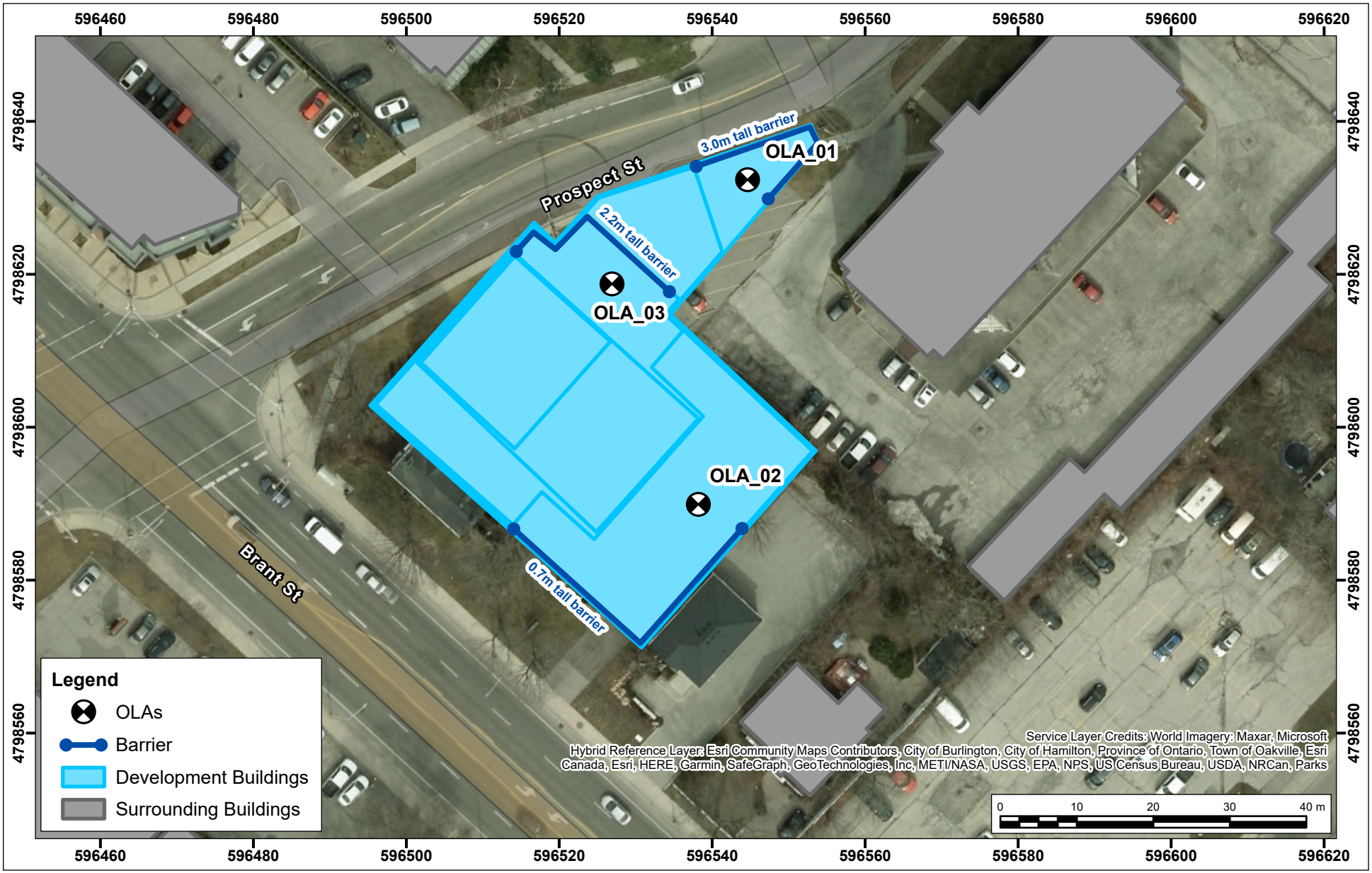
795 Brant Street - Burlington, Ontario

True North

Project #: 1234567

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Date Revised:	Jul 25, 2022		

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Outdoor Living Areas (OLAs) Mitigation to 55 dBA

Recommended Barrier Geometry and Height to meet 55 dBA

Map Projection: NAD 1983 UTM Zone 17N

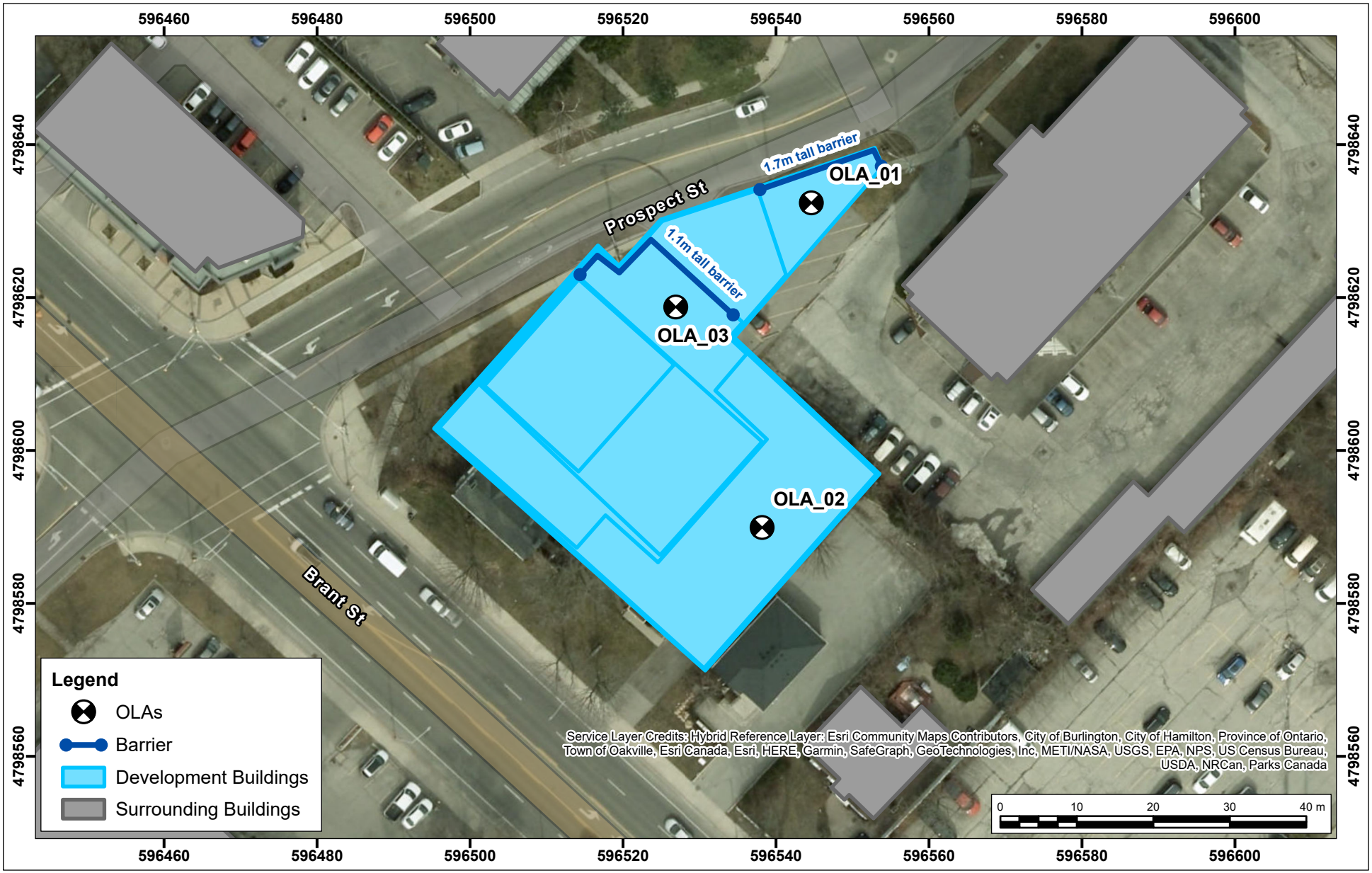
795 Brant Street - Burlington, Ontario

True North

Project #: 2205164

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Approx. Scale:	1:700		
Date Revised:	Jul 26, 2022		

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Outdoor Living Areas (OLAs) Mitigation to 60 dBA

Recommended Barrier Geometry and Height to meet 60 dBA

Map Projection: NAD 1983 UTM Zone 17N

795 Brant Street - Burlington, Ontario

True North

Project #: 2205164

Drawn by:	KD	Figure:	4b
Approx. Scale:	1:700		
Date Revised:	Jul 26, 2022		

Map Document: C:\Users\Kristina.DalBello\OneDrive - RWDI\Desktop\05ArcGIS\795Brant.aprx

APPENDIX A

APPENDIX A: CRITERIA

A.1 Transportation Sources

Guidance from the Ontario Ministry of the Environment, Conservation and Parks (MECP) NPC-300 Environmental Noise Guideline was used to assess environmental noise generated by transportation-related sources. There are three aspects to consider, which include the following:

i. Transportation source sound levels in indoor living areas (living rooms and sleeping quarters), which determines building façade elements (windows, exterior walls, doors) sound insulation design recommendations.
ii. Transportation source sound levels at the plane of the window, which determines air-conditioning and ventilation system recommendations and associated warning clauses which inform the future occupants that windows and doors must be closed in order to meet the indoor sound level criteria.
iii. Transportation source sound levels in Outdoor Living Areas (OLAs), which determines OLA noise mitigation and related warning clause recommendations.

A.1.1 Road and Rail

A.1.1.1 Indoor Sound Level Criteria

For assessing sound originating from transportation sources, NPC-300 defines sound level criteria as summarized in Table 1 for indoor areas of sensitive uses. The specified values are maximum sound levels and apply to the indicated indoor spaces with the windows and doors closed.

Table 1: Indoor Sound Level Criteria for Road and Rail Sources

Type of Space	Source	Sound Level Criteria (Indoors)	
		Daytime $L_{eq,16\text{-}hr}$ 07:00h – 23:00h	Nighttime $L_{eq,8\text{-}hr}$ 23:00h – 07:00h
Living Quarters Examples: Living, dining and den areas of residences, hospitals, nursing homes, schools and daycare centres	**Road**	45 dBA	
	Rail	40 dBA	
Sleeping Quarters	**Road**	45 dBA	40 dBA
	Rail	40 dBA	35 dBA

NPC-300 also provides guidelines for acceptable indoor sound levels that are extended to land uses and developments which are not normally considered noise sensitive. The guideline sound level criteria presented in Table 2 are provided to inform good-practice design objectives.

Table 2: Supplementary Indoor Sound Level Criteria for Road and Rail Sources

Type of Space	Source	Sound Level Criteria (Indoors)	
		Daytime $L_{eq,16\text{-}hr}$ 07:00h – 23:00h	Nighttime $L_{eq,8\text{-}hr}$ 23:00h – 07:00h
General offices, reception areas, retail stores, etc.	**Road**	50 dBA	-
	Rail	45 dBA	-
Theatres, places of worship, libraries, individual or semi-private offices, conference rooms, reading rooms, etc.	**Road**	45 dBA	-
	Rail	40 dBA	-
Sleeping quarters of residences, hospitals, nursing/retirement homes, etc.	**Road**	-	40 dBA
	Rail	-	35 dBA
Sleeping quarters of hotels/motels	**Road**	-	45 dBA
	Rail	-	40 dBA

A.1.1.2 Outdoor Living Areas (OLAs)

Outdoor Living Areas (OLAs) would include outdoor areas intended and designed for the quiet enjoyment of the outdoor environment and which are readily accessible from the building.

OLAs may include any common outdoor amenity spaces associated with a multi-unit residential development (e.g. courtyards, roof-top terraces), and/or private backyards and terraces with a minimum depth of 4m provided they are the only outdoor living area for the occupant. The sound level criteria for outdoor living areas is summarized in Table 3.

Table 3: Sound Level Criteria – Outdoor Living Area

Assessment Location	Sound Level Criteria (Outdoors)	
	Daytime $L_{eq,16\text{-}hr}$ 07:00h – 23:00h	Nighttime $L_{eq,8\text{-}hr}$ 23:00h – 07:00h
Outdoor Living Area (OLA) (Combined Road and Rail)	55 dBA	-

A.1.1.3 Outdoor and Plane of Window Sound Levels

In addition to the sound level criteria, noise control measures and requirements for ventilation and warning clauses requirements are recommended for residential land-uses based on predicted transportation source sound levels incident in the plane of window at bedrooms and living/dining rooms, and/or at outdoor living areas. These recommendations are summarized in Table 4 below.

Table 4: Ventilation, Building Component, and Warning Clauses Recommendations for Road/Rail Sources

Assessment Location	Transportation Sound Level (Outdoors)		Recommendations
	Daytime $L_{eq,16\text{-}hr}$ 07:00h – 23:00h	Nighttime $L_{eq,8\text{-}hr}$ 23:00h – 07:00h	
Plane of Window (Road)	> 65 dBA	> 60 dBA	Installation of air conditioning to allow windows to remained closed. The sound insulation performance of building components must be specified and designed to meet the indoor sound level criteria. Warning clause “Type D” is recommended.
	> 55 dBA	> 50 dBA	Applicable for low and medium density development: Forced-air ventilation system to allow for the future installation of air-conditioning. Warning clause “Type C” is recommended. Applicable for high density development: Air conditioning to allow windows to remained closed. Warning clause “Type D” is recommended.

Assessment Location	Transportation Sound Level (Outdoors)		Recommendations
	Daytime $L_{eq,16\text{-}hr}$ 07:00h – 23:00h	Nighttime $L_{eq,8\text{-}hr}$ 23:00h – 07:00h	
Plane of Window (Rail [1, 2])	> 60 dBA	> 55 dBA	The acoustical performance of building façade components should be specified such that the indoor sound level limits are predicted to be achieved. Warning clause "Type D" is recommended.
	> 60 dBA ($L_{eq,\ 24hr}$) and < 100m from tracks		Exterior walls consisting of a brick veneer or masonry equivalent for the first row of dwellings. Warning clause "Type D" is recommended.
Outdoor Living Area (Combined Road and Rail [3])	≤ 60 dBA > 55 dBA	-	If sound levels are predicted to exceed 55 dBA, but are less than 60 dBA, noise controls may be applied to reduce the sound level to 55 dBA. If noise control measures are not provided, a warning clause "Type A" is recommended.
	> 60 dBA	-	Noise controls (barriers) should be implemented to meet the 55 dBA criterion. If mitigation is not feasible to meet the 55 dBA criterion for technical, economic or administrative reasons, an exceedance of 5 dB may be acceptable (to a maximum sound level of 60 dBA). In this case a warning clause "Type B" would be recommended.

Notes:

1. Whistle noise is included (if applicable) in the determination of the sound level at the plane of window.
2. Some railway companies (e.g. CN, CP) may require that the exterior walls include a brick veneer or masonry equivalent for the façade facing the railway line, regardless of the sound level.
3. Whistle noise is not included in the determination of the sound level at the OLA.

A.1.1.4 Rail Layover Sites

NPC-300 provides a sound level limit for rail layover sites to be the higher of the background sound level or 55 dBA $L_{eq,1\text{-}hr,}$ for any one-hour period.

A.1.1.5 Rail Vibration Criteria

An assessment of rail vibration is generally recommended for developments within 75m of a rail corridor or rail yard, and adjacent to or within a setback of 15m of a transit (subway or light-rail) rail line.

The generally accepted vibration criterion for sensitive land-uses is the threshold of perception for human exposure to vibration, being a vibration velocity level of 0.14 mm/s RMS in any one-third octave band centre frequency in the range of 4 Hz to 200 Hz.

This vibration criterion is based on a one-second exponential time-averaged maximum hold root-mean-square (RMS) vibration velocity level and is consistent with the Railway Associations of Canada (RAC, 2013) guideline, the U.S. Federal Transit Authority (FTA, 2018) criterion for residential land-uses, the Toronto Transit Commission (TTC) guidelines for the assessment of potential vibration impact of future expansion (MOEE/TTC, 1993).

A.1.2 Aircraft

Land-use compatibility in the vicinity of airports is addressed in Ministry of the Environment, Conservation, and Parks (MECP) Guideline NPC-300 (MOE, 2013). The guideline provides recommendations for ventilation, and noise control for different Noise Exposure Forecast (NEF) values, which would be based on NEF contour maps available from the airport authority. The NEF values can be expressed as $L_{A,eq,24hr}$ sound levels by using the expression NEF = $L_{Aeq,24hr}$ -32 dBA.

Table 5: Indoor Sound Level Criteria for Aircraft Sources

Assessment Location	Indoor Sound Level Criteria NEF ($L_{eq,\ 24hr}$) [1]
Living/dining/den areas of residences, hospitals, schools, nursing/retirement homes, daycare centres, etc.	NEF- 5 (37 dBA)
Sleeping quarters	NEF-0 (32 dBA)

NPC-300 also provides guidelines for acceptable indoor sound levels that are extended to land uses and developments which are not normally considered noise sensitive. The guideline sound level criteria presented in Table 6 are provided to inform good-practice design objectives.

Table 6: Supplementary Indoor Sound Level Criteria for Aircraft Sources

Assessment Location	Indoor Sound Level Criteria[1]
General offices, reception areas, retail stores, etc.	NEF-15 (47 dBA)
Individual or semi-private offices, conference rooms, etc.	NEF-10 (42 dBA)
Sleeping quarters of hotels/motels, theatres, libraries, places of worship, etc.	NEF-5 (37 dBA)

Table 7: NPC-300 Sound Level Criteria for Aircraft (Outdoors)

Assessment Location	Outdoor Sound Level Criteria[1]
Outdoor areas, including OLA	NEF-30 (62 dBA)

Table 8: Ventilation, Building Component, and Warning Clauses Recommendations for Aircraft Sources

Assessment Location	Aircraft Sound Level	NPC-300 Requirements
	NEF ($L_{EQ,24\text{-}hr}$)	
Outdoors	≥NEF 30	Air conditioning to allow windows to remained closed. The sound insulation performance of building components must be specified and designed to meet the indoor sound level criteria. Warning clauses “Type D” and “Type B” are recommended.
	< NEF 30 ≥ NEF 25	The sound insulation performance of building components must be specified and designed to meet the indoor sound level criteria. Applicable for low and medium density development: Forced-air ventilation system to allow for the future installation of air-conditioning. Warning clause “Type C” is recommended. Applicable for high density development: Air conditioning to allow windows to remained closed. Warning clause “Type D” is recommended.
	< NEF 25	Further assessment not required

A.2 Stationary Sources

A.2.1 NPC-300 Sound Level Criteria – Stationary Sources

Guidance from the MECP NPC-300 Environmental Noise Guideline is used to assess environmental noise generated by stationary sources, for example industrial and commercial facilities.

Noise from stationary sources is treated differently from transportation sources and requires sound levels be assessed for the predictable worst-case one-hour average sound level (L_{eq}) for each period of the day. For assessing sound originating from stationary sources, NPC-300 defines sound level criteria for two types of Points of Reception (PORs): outdoor and plane of window.

The assessment criteria for all PORs is the higher of either the exclusion limit per NPC-300 or the minimum background sound level that occurs or is likely to occur at a POR. The applicable exclusion limit is determined based on the level of urbanization or "Class" of the area. The NPC-300 exclusion limits for continuously operating stationary sources are summarized in Table 9.

Table 9: NPC-300 Exclusion Limits – Continuous and Quasi-Steady Impulsive Stationary Sources (LAeq-1hr)

Time Period	Class 1 Area		Class 2 Area		Class 3 Area		Class 4 Area	
	Outdoor	Plane of Window	Outdoor	Plane of Window	Outdoor	Plane of Window	Outdoor	Plane of Window
Daytime 0700-1900h	50 dBA	50 dBA	50 dBA	50 dBA	45 dBA	45 dBA	55 dBA	60 dBA
Evening 1900-2300h	50 dBA	50 dBA	45 dBA	50 dBA	40 dBA	40 dBA	55 dBA	60 dBA
Nighttime 2300-0700h	--	45 dBA	--	45 dBA	--	40 dBA	--	55 dBA

Notes:

1. The applicable sound level criterion is the background sound level or the exclusion limit, whichever is higher.
2. Class 1, 2 and 3 sound level criteria apply to a window that is assumed to be open.
3. Class 4 area criteria apply to a window that is assumed closed. Class 4 area requires formal designation by the land-use planning authority.
4. Sound level criteria for emergency backup equipment (e.g. generators) operating in non-emergency situations such as testing or maintenance are 5 dB greater than the applicable sound level criteria for stationary sources.

For impulsive sound, other than quasi-steady impulsive sound, from a stationary source, the sound level criteria at a POR is expressed in terms of the Logarithmic Mean Impulse Sound Level (L_{LM}), and is summarized in Table 10.

Table 10: NPC-300 Exclusion Limits – Impulsive Stationary Sources (L_{LM})

Time Period	Number of Impulses in Period of One-Hour	Class 1 and 2 Areas		Class 3 Areas		Class 4 Areas	
		Outdoor	Plane of Window	Outdoor	Plane of Window	Outdoor	Plane of Window
Daytime (0700-2300h)	9 or more	50 dBAI	50 dBAI	45 dBAI	45 dBAI	55 dBAI	60 dBAI
Nighttime (2300–0700h)		-	45 dBAI	-	40 dBAI	-	55 dBAI
Daytime (0700-2300h)	7 to 8	55 dBAI	55 dBAI	50 dBAI	50 dBAI	60dBAI	65 dBAI
Nighttime (2300–0700h)		-	50 dBAI	-	45 dBAI	-	60 dBAI
Daytime (0700-2300h)	5 to 6	60 dBAI	60 dBAI	55 dBAI	55 dBAI	65 dBAI	70 dBAI
Nighttime (2300–0700h)		-	55 dBAI	-	50 dBAI	-	65 dBAI
Daytime (0700-2300h)	4	65 dBAI	65 dBAI	60 dBAI	60 dBAI	70 dBAI	75 dBAI
Nighttime (2300–0700h)		-	60 dBAI	-	55 dBAI	-	70 dBAI
Daytime (0700-2300h)	3	70 dBAI	70 dBAI	65 dBAI	65 dBAI	75 dBAI	80 dBAI
Nighttime (2300–0700h)		-	65 dBAI	-	60 dBAI	-	75 dBAI
Daytime (0700-2300h)	2	75 dBAI	75 dBAI	70 dBAI	70 dBAI	80 dBAI	85 dBAI
Nighttime (2300–0700h)		-	70 dBAI	-	65 dBAI	-	80 dBAI
Daytime (0700-2300h)	1	80 dBAI	80 dBAI	75 dBAI	75 dBAI	85 dBAI	90 dBAI
Nighttime (2300–0700h)		-	75 dBAI	-	70 dBAI	-	85 dBAI

Notes:

1. The applicable sound level criterion is the background sound level or the exclusion limit, whichever is higher.

A.2.2 D-Series Guidelines

The MECP D-series guidelines (MOE, 1995) provide direction for land use planning to maximize compatibility of industrial uses with adjacent land uses. The goal of Guideline D-6 is to minimize encroachment of sensitive land uses on industrial facilities and vice versa, in order to address potential incompatibility due to adverse effects such as noise, odour and dust.

For each class of industry, the guideline provides an estimate of potential influence area and states that this influence area shall be used in the absence of the recommended technical studies. Guideline D-6 also recommends a minimum separation distance between each class of industry and sensitive land uses (see Table 11). Section 4.10 of D-6 identifies exceptional circumstances with respect to redevelopment, infill and mixed-use areas. In these cases, the guideline suggests that separation distances at, or less than, the recommended minimum separation distance may be acceptable if a justifying impact assessment is provided.

Table 11: Summary of Guideline D-6

Industry Class	Definition	Potential Influence Area	Recommended Minimum Separation Distance (property line to property line)
Class I	Small scale, self-contained, daytime only, infrequent heavy vehicle movements, no outside storage.	70 m	20 m
Class II	Medium scale, outdoor storage of wastes or materials, shift operations and frequent heavy equipment movement during the daytime.	300 m	70 m
Class III	Large scale, outdoor storage of raw and finished products, large production volume, continuous movement of products and employees during daily shift operations.	1000 m	300 m

Guideline D-6 provides criteria for classifying industrial land uses, based on their outputs, scale of operations, processes, schedule and intensity of operations. Table 12 provides the classification criteria and examples.

Table 12: Guideline D-6 Industrial Categorization Criteria

Criteria	Class I	Class II	Class III
Outputs	• Sound not audible off property • Infrequent dust and/ or odour emissions and not intense • No ground-borne vibration	• Sound occasionally audible off property • Frequent dust and/ or odour emissions and occasionally intense • Possible ground-borne vibration	• Sound frequently audible off property • Persistent and intense dust and/ or odour emissions • Frequent ground-borne vibration
Scale	• No outside storage • Small scale plant or scale is irrelevant in relation to all other criteria	• Outside storage permitted • Medium level of production	• Outside storage of raw and finished products • Large production levels
Process	• Self-contained plant or building which produces / stores a packaged product • Low probability of fugitive emissions	• Open process • Periodic outputs of minor annoyance • Low probability of fugitive emissions	• Open process • Frequent outputs of major annoyances • High probability of fugitive emissions
Operation / Intensity	• Daytime operations only • Infrequent movement of products and/or heavy trucks	• Shift operations permitted • Frequent movements of products and/or heavy trucks with majority of movements during daytime hours	• Continuous movement of products and employees • Daily shift operations permitted
Examples	• Electronics Manufacturing • Furniture refinishing • Beverage bottling • Auto parts • Packaging services • Dairy distribution • Laundry and linen supply	• Magazine printing • Paint spray booths • Metal command • Electrical production • Dairy product manufacturing • Feed packing plant	• Paint and varnish manufacturing • Organic chemicals manufacturing • Breweries • Solvent recovery plant • Soap manufacturing • Metal manufacturing

APPENDIX B

APPENDIX B: WARNING CLAUSES

Warning clauses are recommended to be included on all development agreements, offers of purchase and agreements of purchase and sale or lease. Warning clauses may be used individually or in combination.

The following warning clauses are recommended based on the applicable guidelines; however, wording may be modified/customized during consultation with the planning authority to best suit the proposed development:

B.1 Transportation Sources

NPC-300 Type A: Recommended to address surface transportation sound levels in OLAs if sound level is in the range of >55 dBA but ≤ 60 dBA, and noise controls have not been provided.

"Purchasers/tenants are advised that sound levels due to increasing road traffic (rail traffic) (air traffic) may occasionally 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."

NPC-300 Type B: Recommended to address surface transportation sound levels in OLAs if the sound level is in the range of >55 dBA but ≤ 60 dBA, and noise controls have been provided. Recommended to address outdoor aircraft sound levels ≥NEF 30.

"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."

NPC-300 Type C: Applicable for low and medium density developments only, recommended to address transportation sound levels at the plane of window.

"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."

NPC-300 Type D: Recommended to address transportation sound levels at the plane of window.

"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."

Proximity to Railway Line: Metrolinx/CN/CP/VIA Warning Clause for developments that are within 300 metres of the right-of-way

"Warning: [Canadian National Railway Company] [Metrolinx / GO] [Canadian Pacific Railway Company] [VIA Rail Canada Inc.] or its assigns or 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 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/Metrolinx/GO/CPR/VIA will not responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid right-of-way."

B.2 Stationary Sources

NPC-300 Type E: Recommended to address proximity to commercial/industrial land-use

"Purchasers/tenants are advised that due to the proximity of the adjacent industrial/commercial land-uses, noise from the industrial/commercial land-uses may at times be audible."

NPC-300 Type F: Recommended to for Class 4 Area Notification

"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."

APPENDIX C

APPENDIX C: NOISE MITIGATION GUIDANCE

C.1 Acoustic/Noise Barrier

Generally, noise controls to attenuate transportation sound levels at Outdoor Living Areas (OLAs) would consist of the implementation of acoustic/noise barriers with materials that would meet the guidance included in NPC-300, for example:

- A wall, berm, wall/berm combination or similar structure, used as a noise control measure, and high enough to break the line-of-sight between the source and the receptor.
- The minimum surface density (face weight) is 20 kg/m^2
    - Many materials could satisfy the surface density requirement, e.g. wood, glass, concrete, Plexiglas, Acrylite.
    - The required thickness can be determined by dividing the 20 kg/m^2 face weight by the material density (kg/m^3). Typically, this would imply:
        - 50 mm (2") thickness of wood
        - 13 mm (0.5") thickness of lighter plastic (like Plexiglas or PVC)
        - 6 mm (0.25") thickness of heavier material (like aluminum, glass, concrete)
- The barrier should be structurally sound, appropriately designed to withstand wind and snow load, and constructed without cracks or surface gaps. Joints between panels may need to be overlapped to ensure surfaces are free of gaps, particularly for wood construction.
- Any gaps under the barrier that are necessary for drainage purposes should be minimized and localized, so that the acoustical performance of the barrier is maintained.
- If a sound absorptive face is to be included in the barrier design, the minimum noise reduction coefficient is recommended to be NRC 0.7.

C.2 Building Ventilation and Air Conditioning

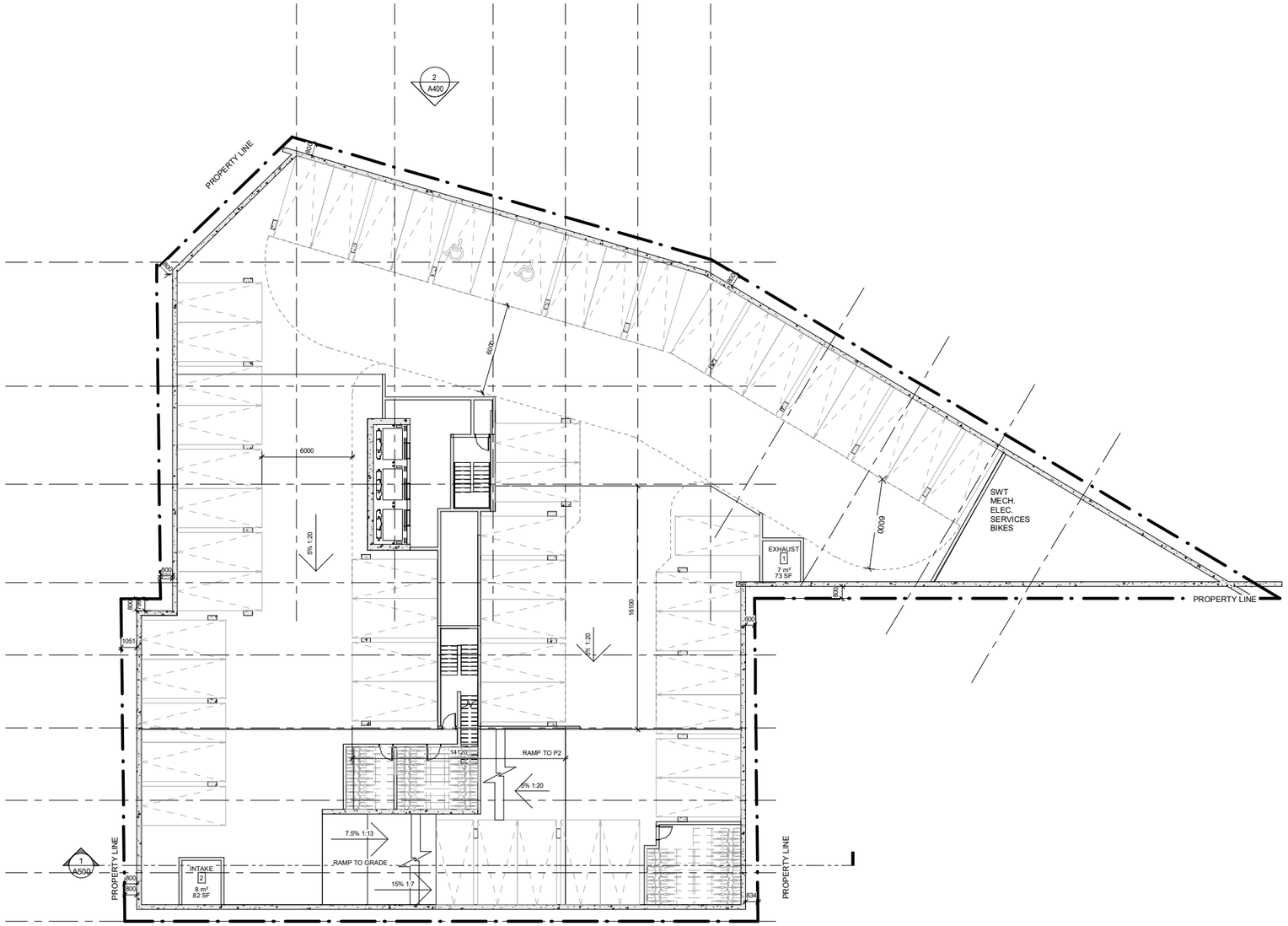
The use of air conditioning itself is not a noise control measure; however, it allows for windows and doors to remain closed, thereby reducing the indoor sound levels.

NPC-300 provides the following guidance with respect to implementation of building ventilation and air conditioning:

a. the noise produced by the proposed ventilation system in the space served does not exceed 40 dBA. In practice, this condition usually implies that window air conditioning units are not acceptable;
b. the ventilation system complies with all national, provincial and municipal standards and codes;
c. the ventilation system is designed by a heating and ventilation professional; and
d. the ventilation system enables the windows and exterior doors to remain closed.

Air conditioning systems also need to comply with Publication NPC-216, and/or any local municipal noise by-law that has provisions relating to air conditioning equipment.

APPENDIX D



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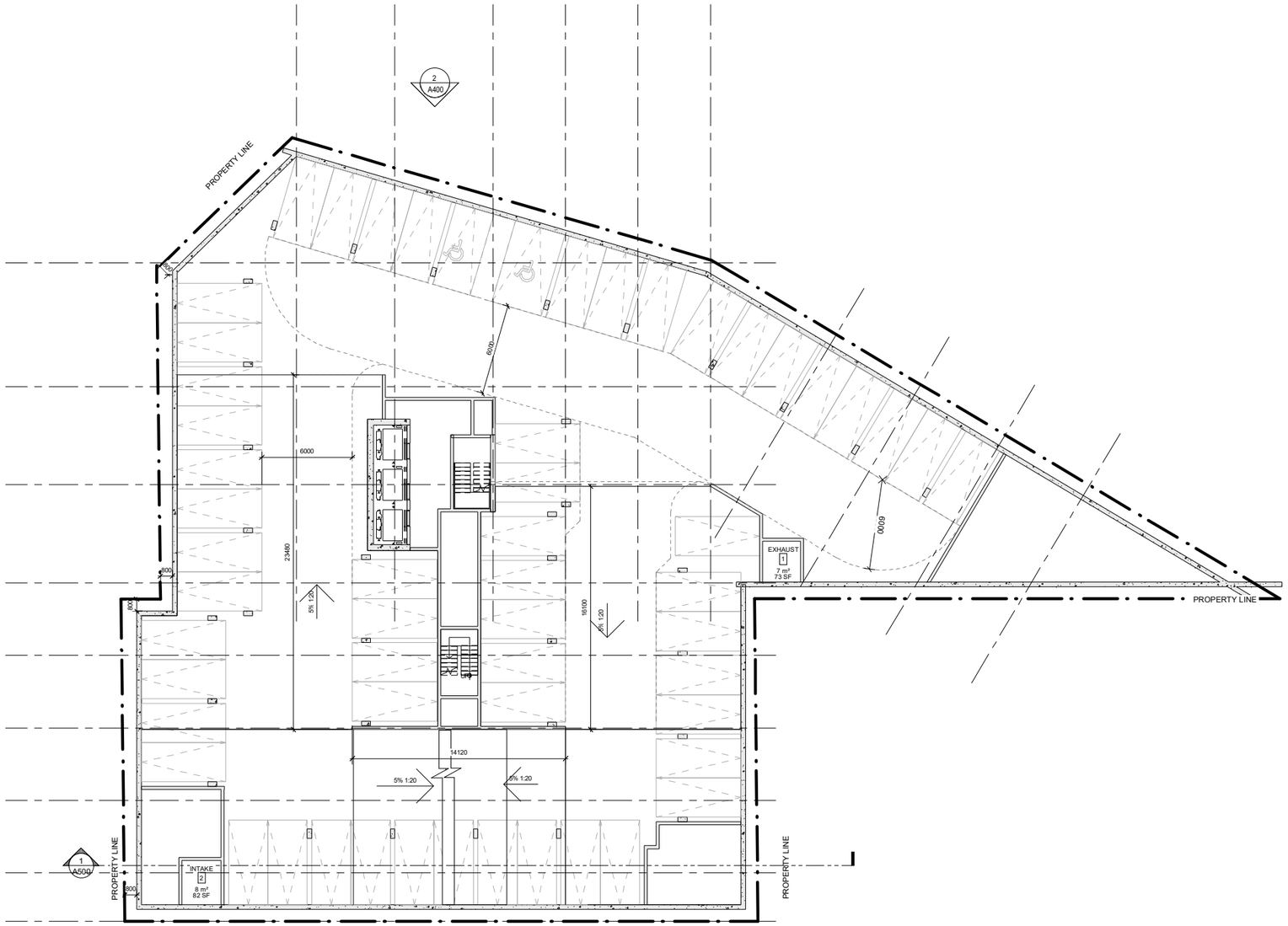
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BELOW GRADE
LEVELS -P1

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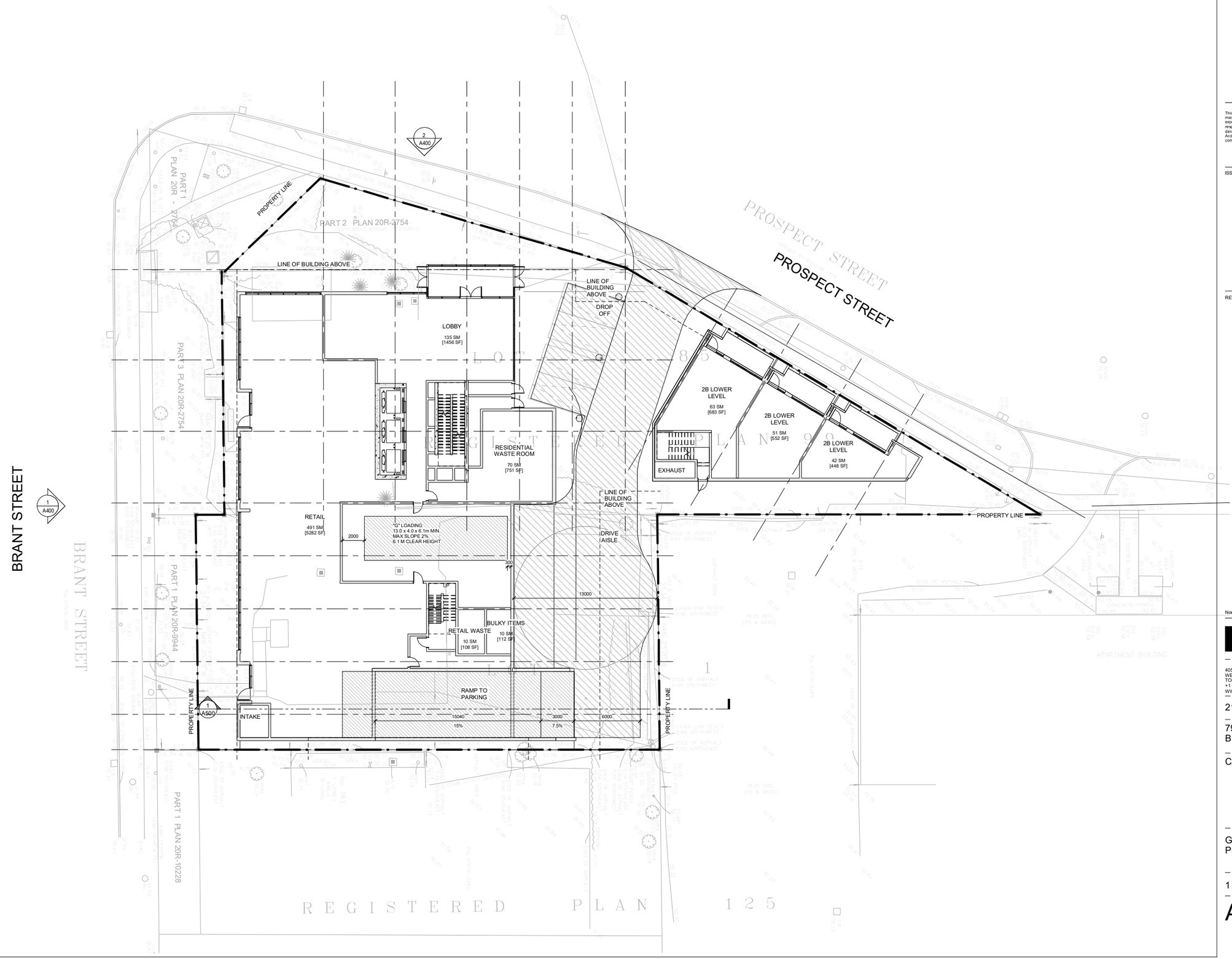
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BELOW GRADE
LEVELS - TYPICAL

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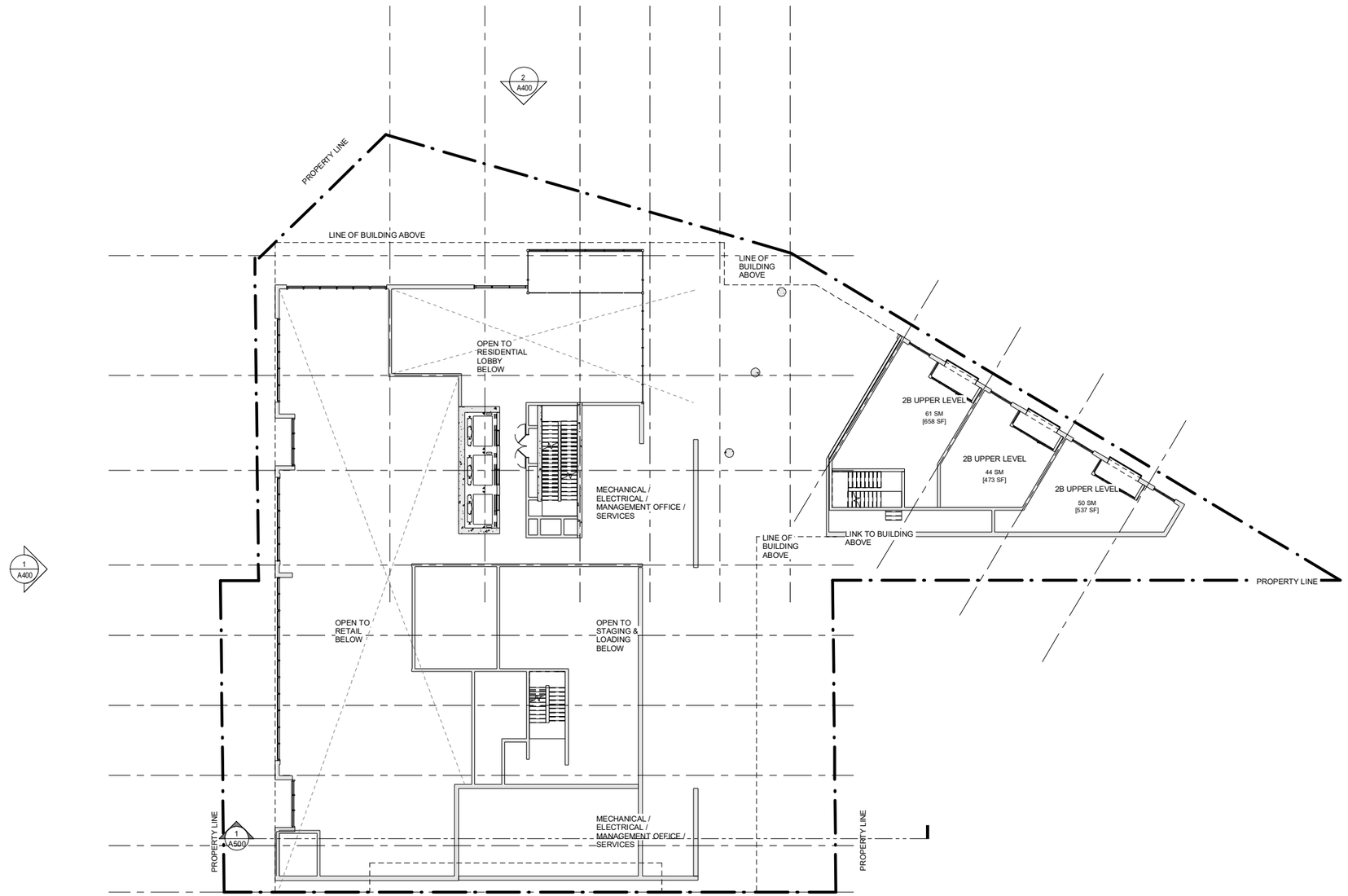
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GROUND FLOOR PLAN

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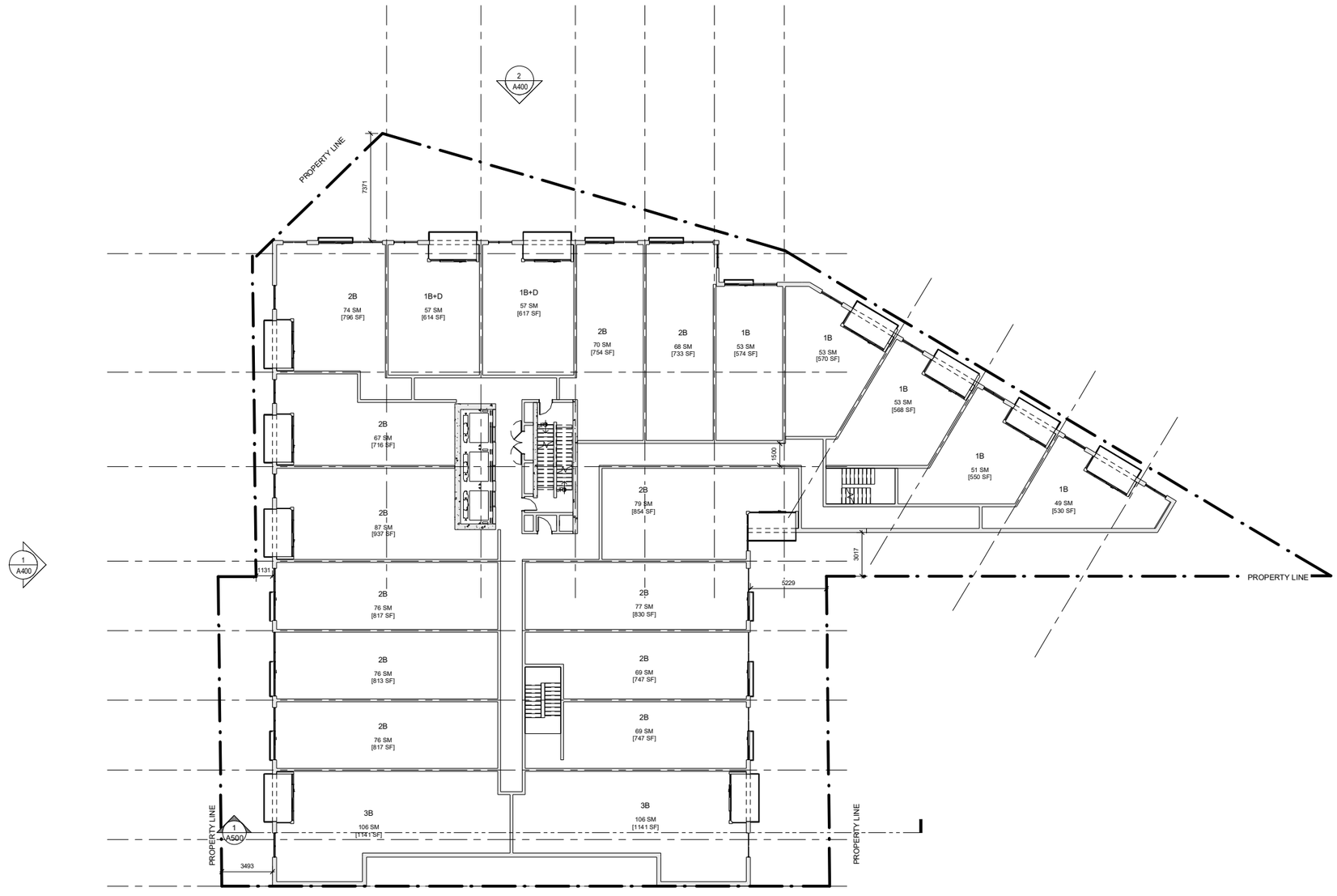
CAMARRO

MEZZANINE FLOOR PLAN

1 : 150

A201

2022-07-20 4:10:14 PM



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REVISION RECORD

North

RAW

405-317 ADELAIDE STREET WEST
TORONTO CANADA M5V 1P9
+1 416 599 9729
WWW.RAWDESIGN.CA

21001

795 BRANT ST
BURLINGTON

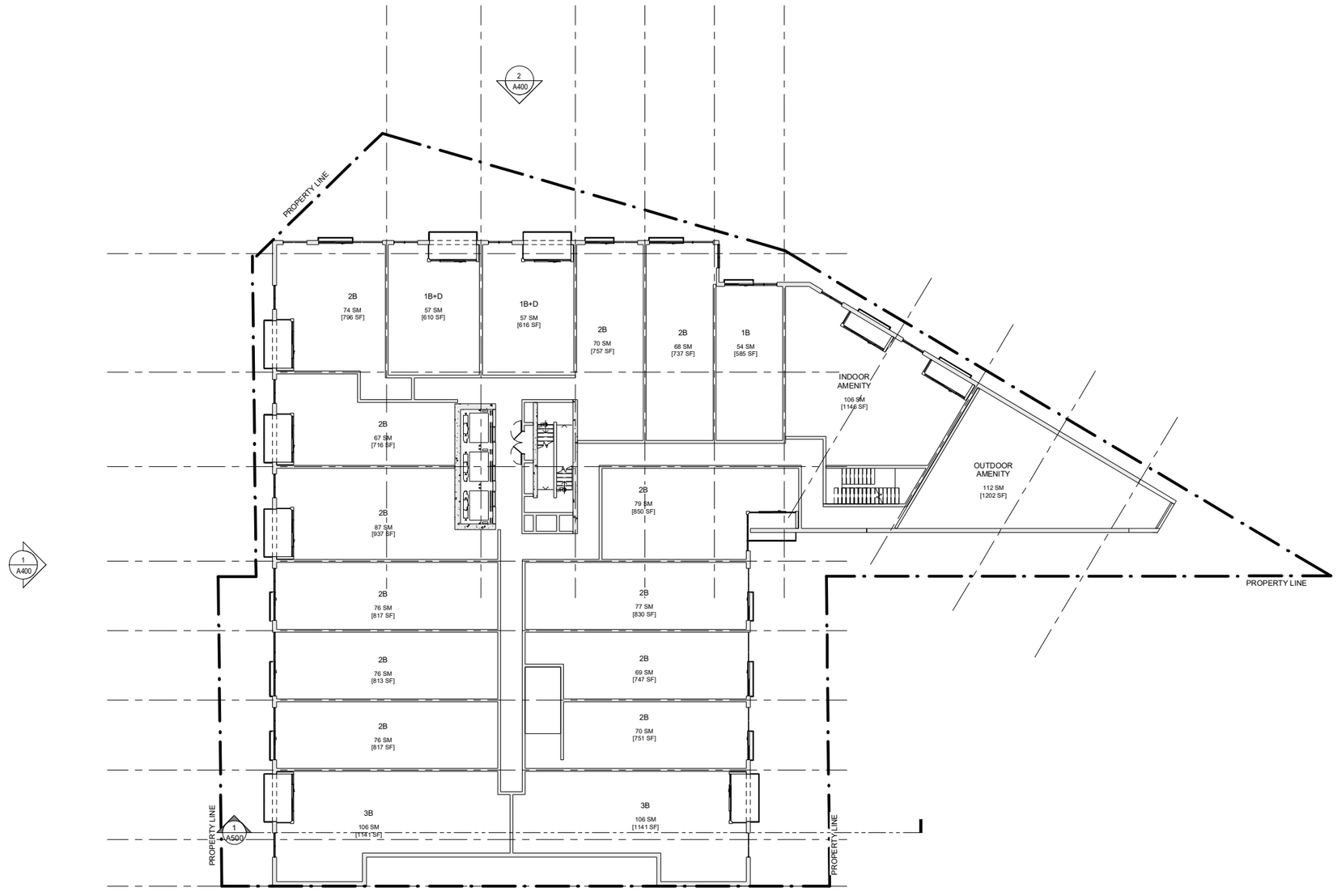
CAMARRO

SECOND TO SIXTH FLOOR PLAN

1 : 150

A202

2022-07-20 4:10:16 PM



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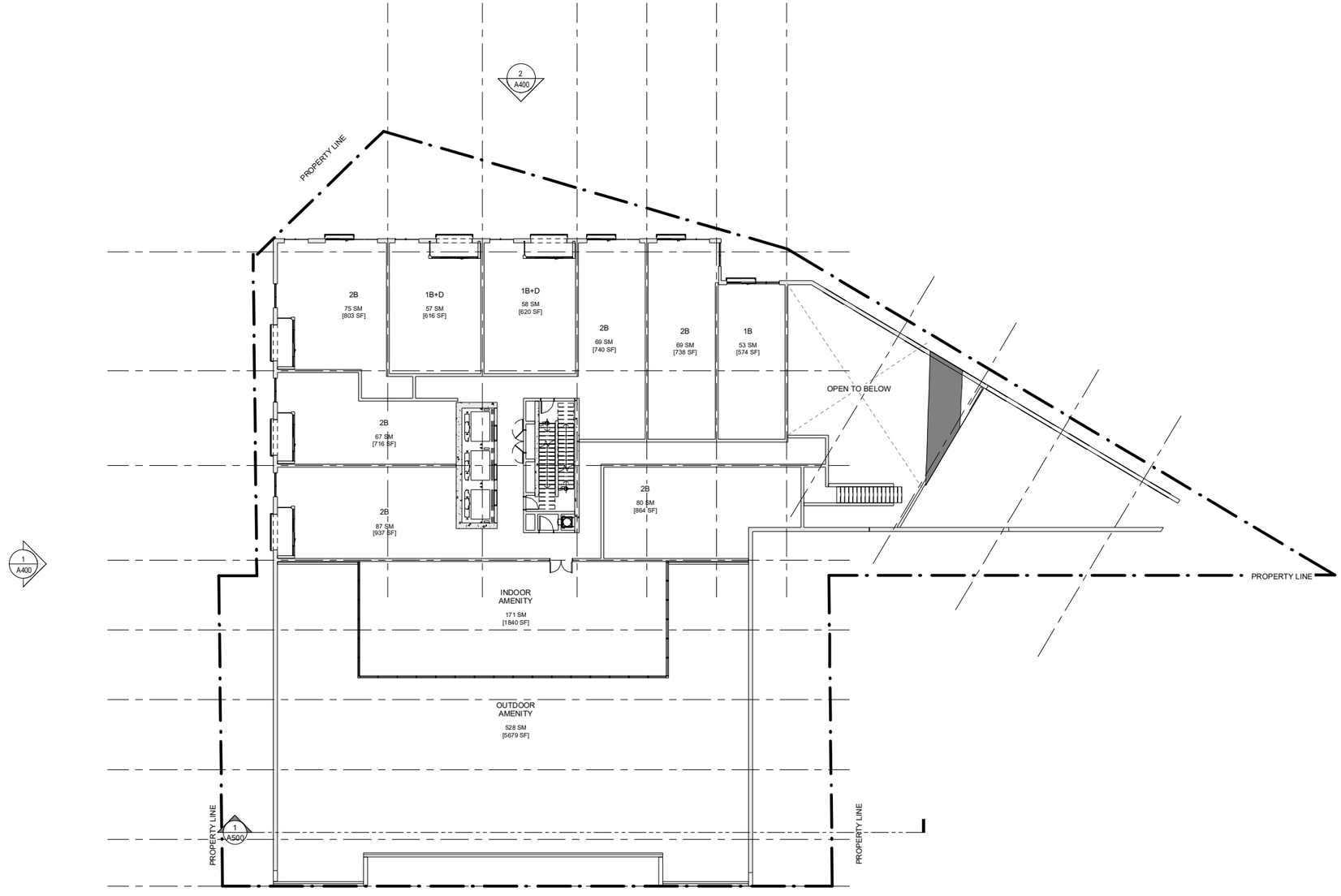
CAMARRO

SIXTH FLOOR PLAN

1 : 150

A206

2022-07-20 4:10:18 PM



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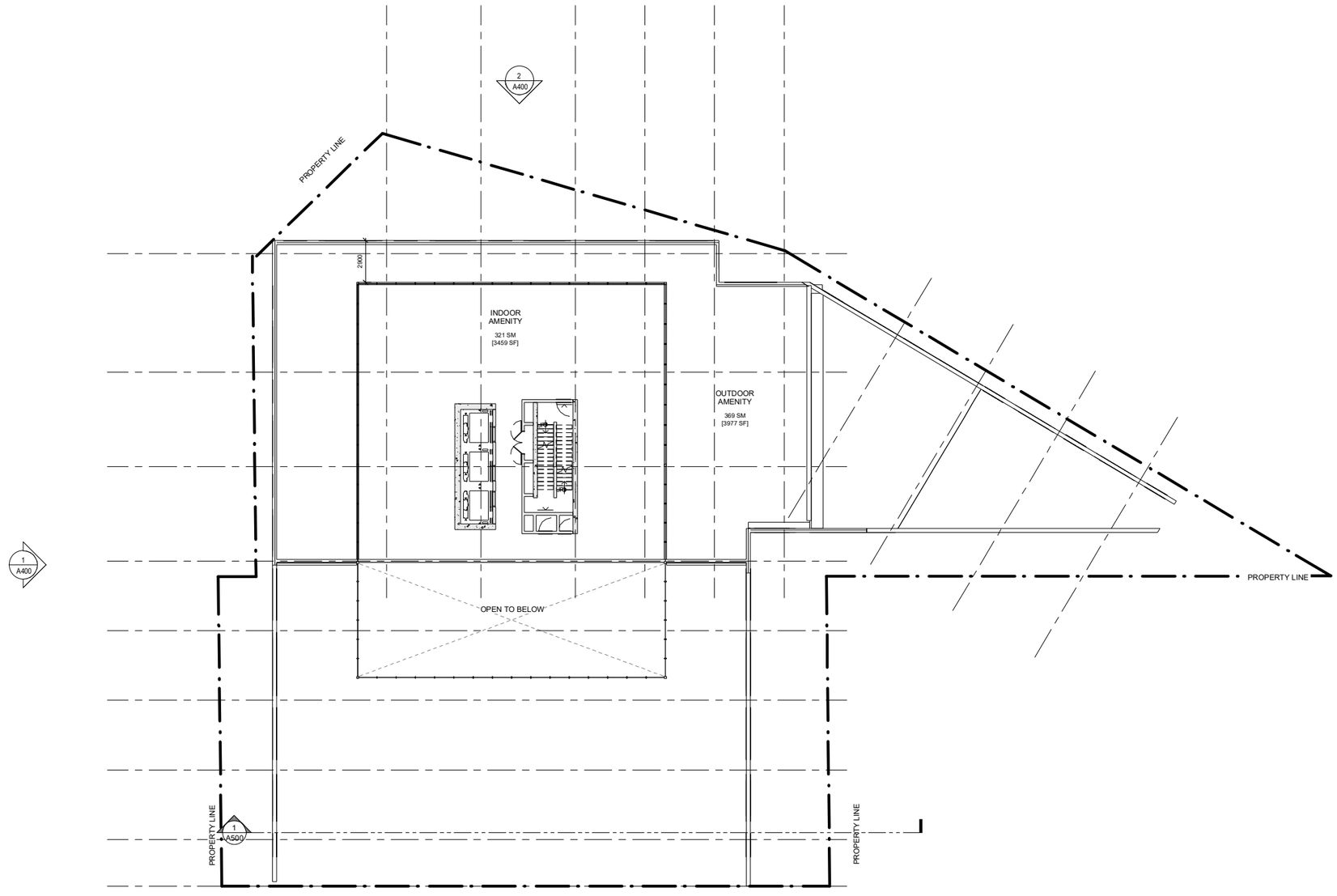
CAMARRO

SEVENTH FLOOR PLAN

1 : 150

A207

2022-07-20 4:10:21 PM



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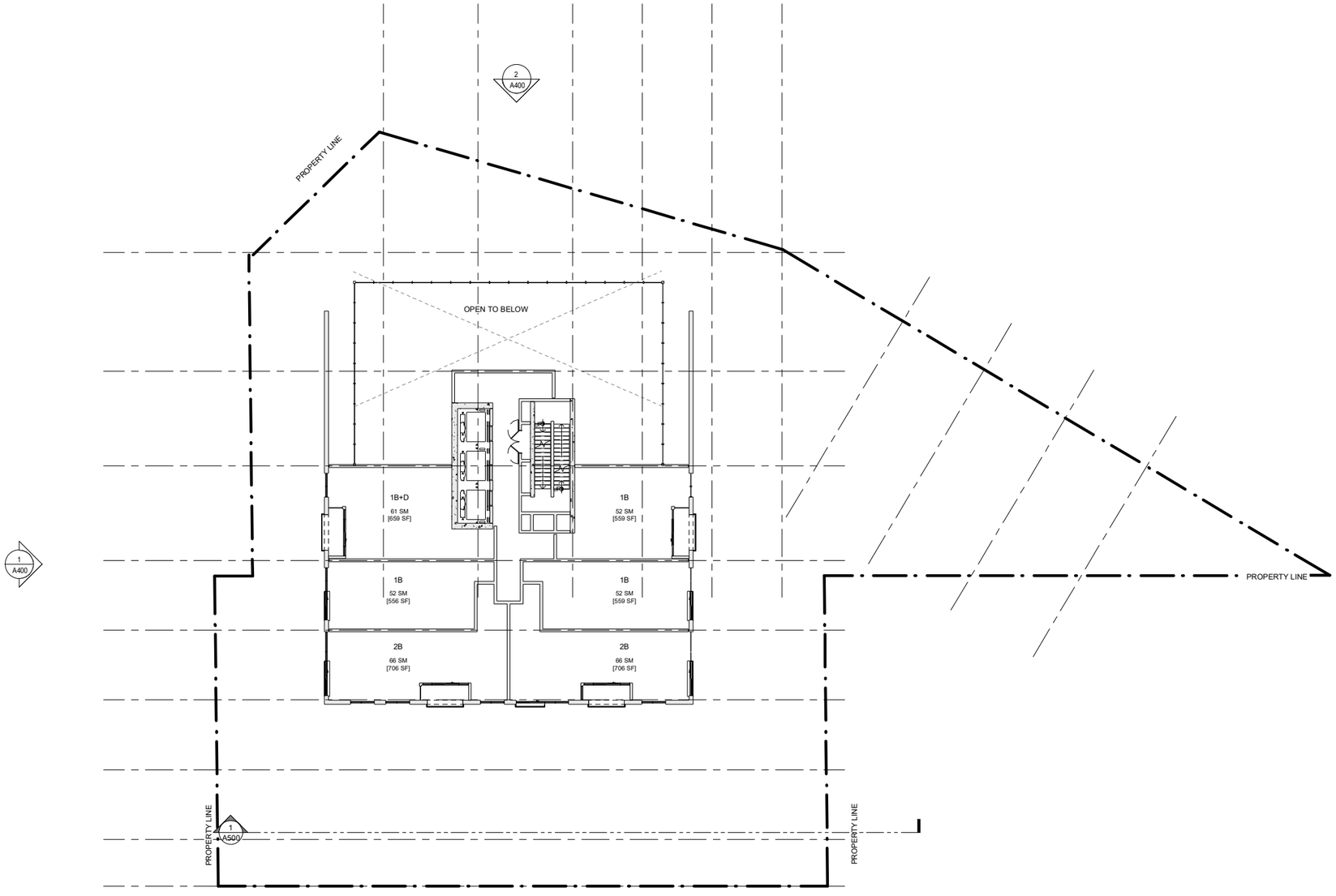
CAMARRO

EIGHT FLOOR PLAN

1 : 150

A208

2022-07-20 4:10:22 PM



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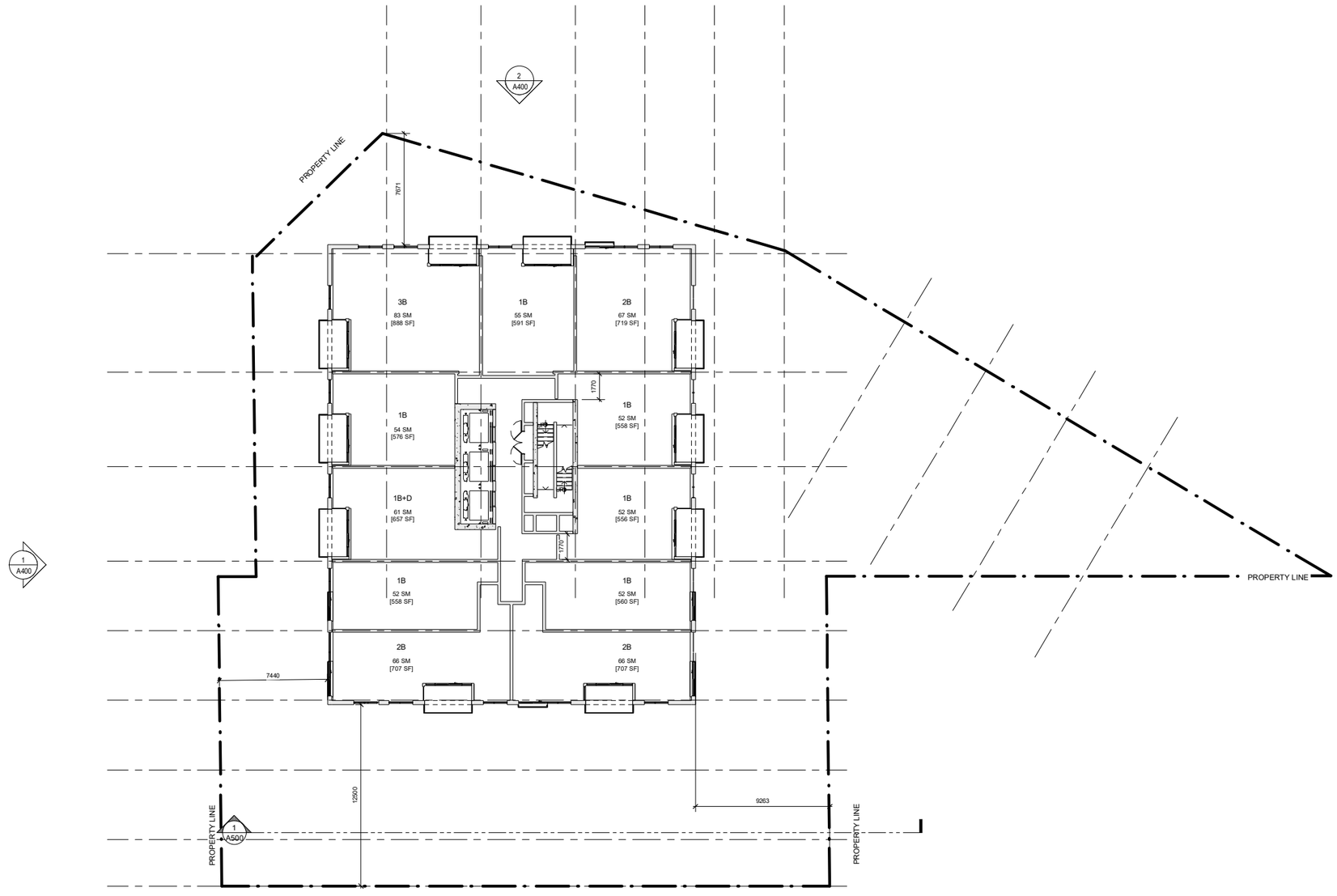
CAMARRO

NINTH FLOOR PLAN

1 : 150

A209

2022-07-20 4:10:24 PM



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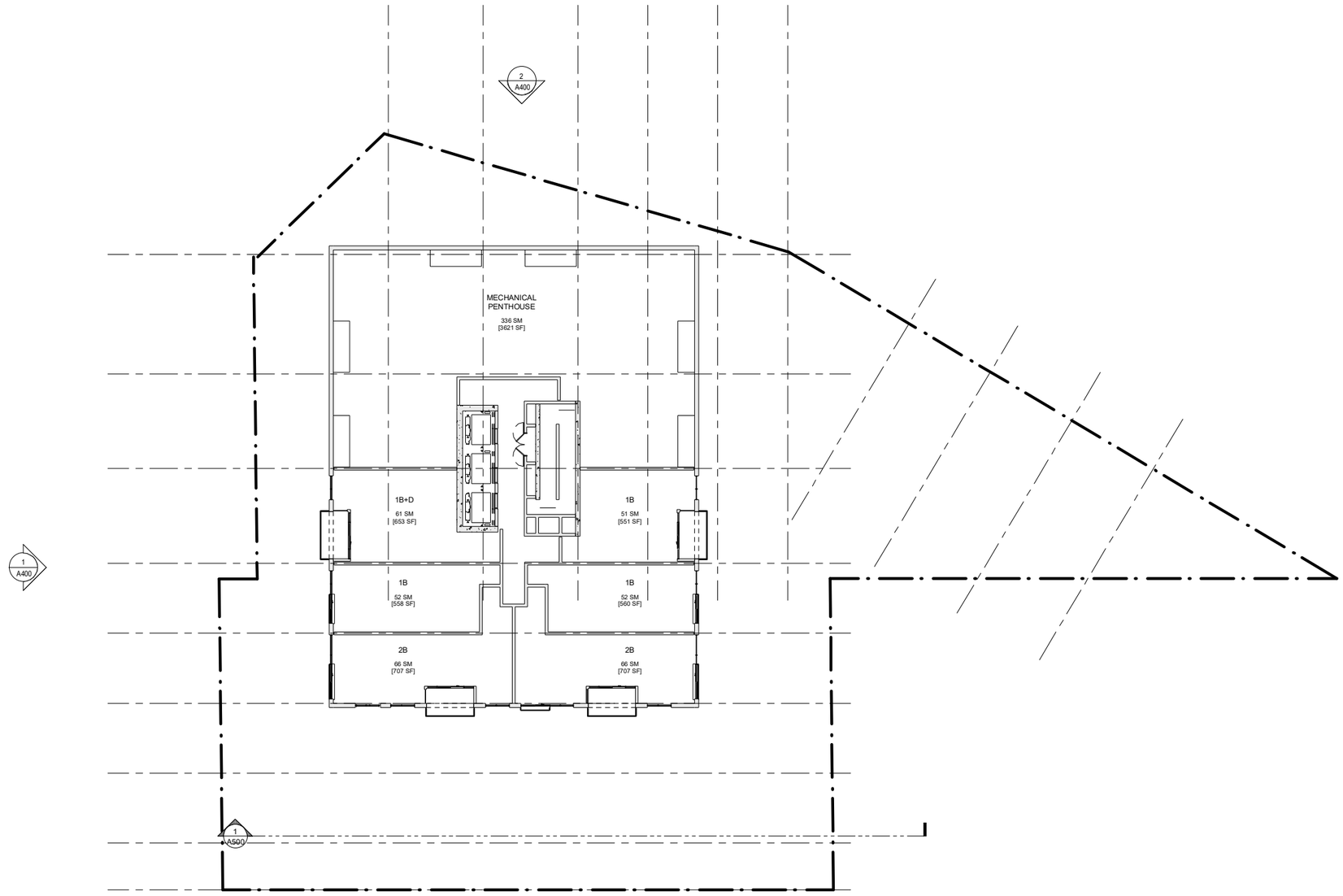
CAMARRO

TENTH TO THIRTIES
FLOOR PLAN

1 : 150

A210

2022-07-20 4:10:26 PM



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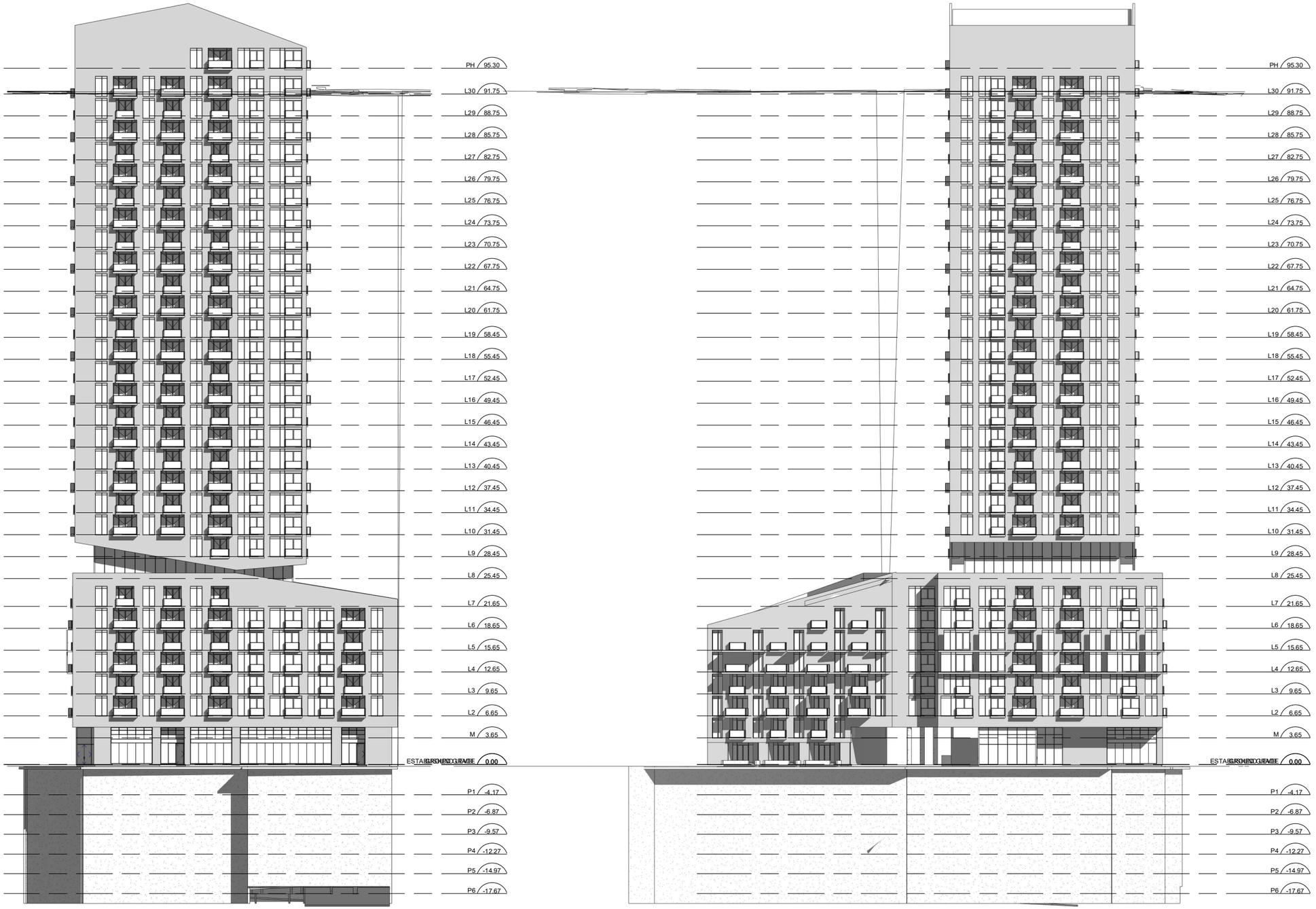
CAMARRO

PENTHOUSE
MECHANICAL FLOOR
PLAN

1 : 150

A231

2022-07-20 4:10:27 PM



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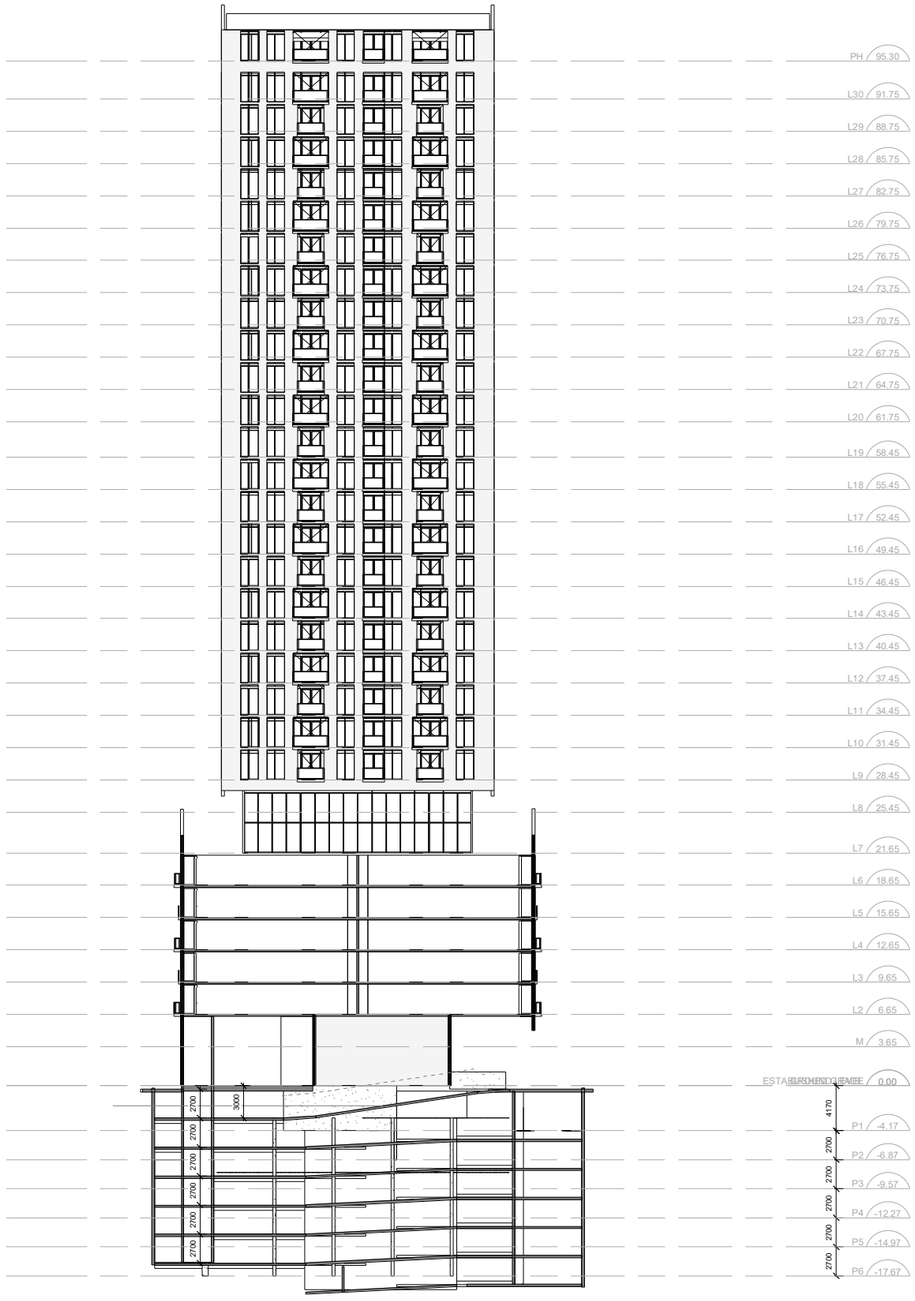
CAMARRO

BUILDING ELEVATIONS

1 : 250

A400

2022-07-20 4:10:52 PM



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CAMARRO

BUILDING SECTIONS

1 : 250

A500

2022-07-20 4:10:54 PM

APPENDIX E

E.1 Rail Volumes

Freight Rail Line Class	Characteristics	Freight Train Modelling Assumptions
Principal Main Line	• Traffic volume generally exceeds 10 trains per day • High speeds, usually exceeding 80 kph (50 mph) • Includes heavy trains with 3 or 4 locomotives per train, commuter and passenger trains	• Assume one freight train per hour, or 16 trains per 16-hour day and 8 trains per 8-hour night (24 total per 24 hours) • Continuously welded rail • 100 kph speed • Assume 4 locomotives per train
Secondary Main Line	• Traffic volume generally exceeds 10 trains per day • High speeds, usually exceeding 80 kph (50 mph) • Trains generally of light to moderate weight with 3 or 4 locomotives per train • Majority of traffic may be commuter and passenger trains	• Assume one freight train per 2 hours, or 8 trains per 16-hour day and 4 trains per 8-hour night (12 total per 24 hours) • Continuously welded rail • 80 kph speed • Assume 3 locomotives per train
Principal Branch Line	• Regular scheduled traffic, usually less than 5 trains per day • Low speeds, generally limited to 50 kph (30 mph) • Trains generally of light to moderate weight with 1 or 2 locomotives per train but may include heavier trains with more units	• Assume one freight train per 4 hours, or 4 trains per 16-hour day and 2 trains per 8-hour night (6 total per 24 hours) • Continuously welded rail • 50 kph speed • Assume 2 locomotives per train
Secondary Branch Line	• Intermittent, unscheduled traffic, usually less than 1 train per day • Low speeds, generally limited to 50 kph (30 mph) • Trains generally of light to moderate weight with 1 locomotive per train	• Assume one freight train per 8 hours, or 2 trains per 16-hour day and 1 train per 8-hour night (3 total per 24 hours) • Continuously welded rail • 50 kph speed • Assume 1 locomotive per train
Spur Line	• Unscheduled traffic on a demand basis • Low speeds, limited to 24kph (15 mph)	• Assume one freight train per 12 hours, or 1 train per 16-hour day and 1 train per 8-hour night (2 total per 24 hours)

Freight Rail Line Class	Characteristics	Freight Train Modelling Assumptions
	• Trains generally of light to moderate weight with 1 locomotive per train	• Jointed rail • 24 kph speed • Assume 1 locomotive per train
NOTES:	1. Canadian Rail Atlas has been used to determine rail line classification and ownership (i.e., CN/CP/other) 2. Commuter (GO) and passenger (VIA) rail volumes are based on data received from the responsible authority.	

From: Amy Patenaude
Sent: Tuesday, June 7, 2022 3:11 PM
To: Gillian Redman; Kristina Dal Bello
Subject: FW: 685 lake Shore Blvd E - RWDI Project # 2201230 -

Follow Up Flag: Follow up
Flag Status: Flagged

SUMMER HOURS: Our organization is moving to summer hours from May 30 through September 2.
I will be finished work at 12:30 most Friday afternoons during this time. Enjoy your summer.

Amy Patenaude | Senior Technical/Administrative Assistant
Americas Noise/Acoustics/Vibration
RWDI
Direct Line: 226-314-1280

From: Rail Data Requests <RailDataRequests@metrolinx.com>
Sent: June 7, 2022 3:06 PM
To: Amy Patenaude <Amy.Patenaude@rwdi.com>
Subject: RE: 685 lake Shore Blvd E - RWDI Project # 2201230 -

Hi Amy,

Further to your request dated June 7, 2022, the subject lands (685 lake Shore Blvd E, Toronto) are located within 300 metres of the Metrolinx Kingston Subdivision (which carries Stouffville and Lakeshore East GO rail service).

It's anticipated that GO rail service on this Subdivision will be comprised of diesel and electric 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 602 trains. The planned detailed trip breakdown is listed below:

Lakeshore East:

	1 Diesel Locomotive	2 Diesel Locomotives	1 Electric Locomotive	2 Electric Locomotives		1 Diesel Locomotive	2 Diesel Locomotives	1 Electric Locomotive	2 Electric Locomotives
Day (0700-2300)	64	35	88	42	Night (2300-0700)	15	2	18	8

Stouffville:

	1 Electric Locomotive	2 Electric Locomotives		1 Electric Locomotive	2 Electric Locomotives
Day (0700-2300)	270	0	Night (2300-0700)	60	0

The current track design speed near the subject lands is 70 mph (113 km/h).

There are no *anti-whistling by-laws* in affect near the subject lands.

With respect to future electrified rail service, Metrolinx is committed to finding the most sustainable solution for electrifying the GO rail network and we are currently working towards the next phase.
Options have been studied as part of the Transit Project Assessment Process (TPAP) for the GO Expansion program, currently in the procurement phase. The successful proponent team will be responsible for selecting and delivering the right trains and infrastructure to unlock the benefits of GO Expansion. The contract is in a multi-year procurement process and teams have submitted their bids to Infrastructure Ontario and Metrolinx for evaluation and contract award. GO Expansion construction will get underway in late 2022 or 2023.
However, we can advise that train noise is dominated by the powertrain at lower speeds and by the wheel- track interaction at higher speeds. Hence, the noise level and spectrum of electric trains is expected to be very similar at higher speeds, if not identical, to those of equivalent diesel trains.
Given the above considerations, it would be prudent at this time, for the purposes of acoustical analyses for development in proximity to Metrolinx corridors, to assume that the acoustical characteristics of electrified and diesel trains are equivalent. In light of the aforementioned information, acoustical models should employ diesel train parameters as the basis for analyses. We anticipate that additional information regarding specific operational parameters for electrified trains will become available in the future once the proponent team is selected. 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 Kamal Ahmadi
Junior Analyst
Third Party Projects Review, Capital Projects Group
Metrolinx | 20 Bay Street | Suite 600 | Toronto | Ontario | M5J 2W3

METROLINX

From: Amy Patenaude <Amy.Patenaude@rwdi.com>
Sent: June 7, 2022 11:07 AM
To: Rail Data Requests <RailDataRequests@metrolinx.com>
Cc: Gillian Redman <Gillian.Redman@rwdi.com>; Kristina Dal Bello <Kristina.DalBello@rwdi.com>
Subject: 685 lake Shore Blvd E - RWDI Project # 2201230 -

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Good Afternoon,

We are a noise study for the above-referenced address and require rail data.

We are looking for:

- Growth rate per annum for a 10-year period
- Day and night train volumes

- Average number of cars per train
- Number of Locomotives per train
- Maximum permissible speed
- Whistles used at crossings in the area
- Type of track (continuously welded, or jointed)
- Any idling of locomotive in the vicinity, and approximate duration of idling

The lines involved are:

- Richmond Hill
- Stouffville
- Lakeshore East

If you have any information on the Don Yard, that would be appreciated also.

Thank you,

Amy

Brant St @ Fairview St

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

Municipality: Halton Region
Site #: 1020550100
Intersection: Fairview St & Brant St
TFR File #: 4
Count date: 2-May-2018

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Fairview St runs W/E

North Leg Total:	1965			
North Entering:	975			
North Peds:	6			
Peds Cross:	⋈			
Heavys	20	11	3	34
Trucks	7	9	0	16
Cars	110	610	205	925
Totals	137	630	208	
Heavys	39			
Trucks	11			
Cars	940			
Totals	990			
East Leg Total:	1954			
East Entering:	551			
East Peds:	21			
Peds Cross:	⧖			

Brant St

Heavys	Trucks	Cars	Totals
32	12	558	602

	Cars	Trucks	Heavys	Totals
	129	4	5	138
	290	4	11	305
	103	4	1	108
	522	12	17	

Fairview St

N
W E
S

Heavys	Trucks	Cars	Totals
17	5	284	306
6	15	941	962
3	4	216	223
26	24	1441	

Fairview St

Cars	Trucks	Heavys	Totals
1376	18	9	1403

Brant St

Peds Cross:	⧖			
West Peds:	22			
West Entering:	1491			
West Leg Total:	2093			
Cars	929			
Trucks	17			
Heavys	15			
Totals	961			
Cars	158	527	230	915
Trucks	1	2	3	6
Heavys	1	17	0	18
Totals	160	546	233	
Peds Cross:	⋈			
South Peds:	1			
South Entering:	939			
South Leg Total:	1900			

Comments

Brant St @ Fairview St

Mid-day Peak Diagram

Specified Period
From: 11:00:00
To: 14:00:00

One Hour Peak
From: 12:15:00
To: 13:15:00

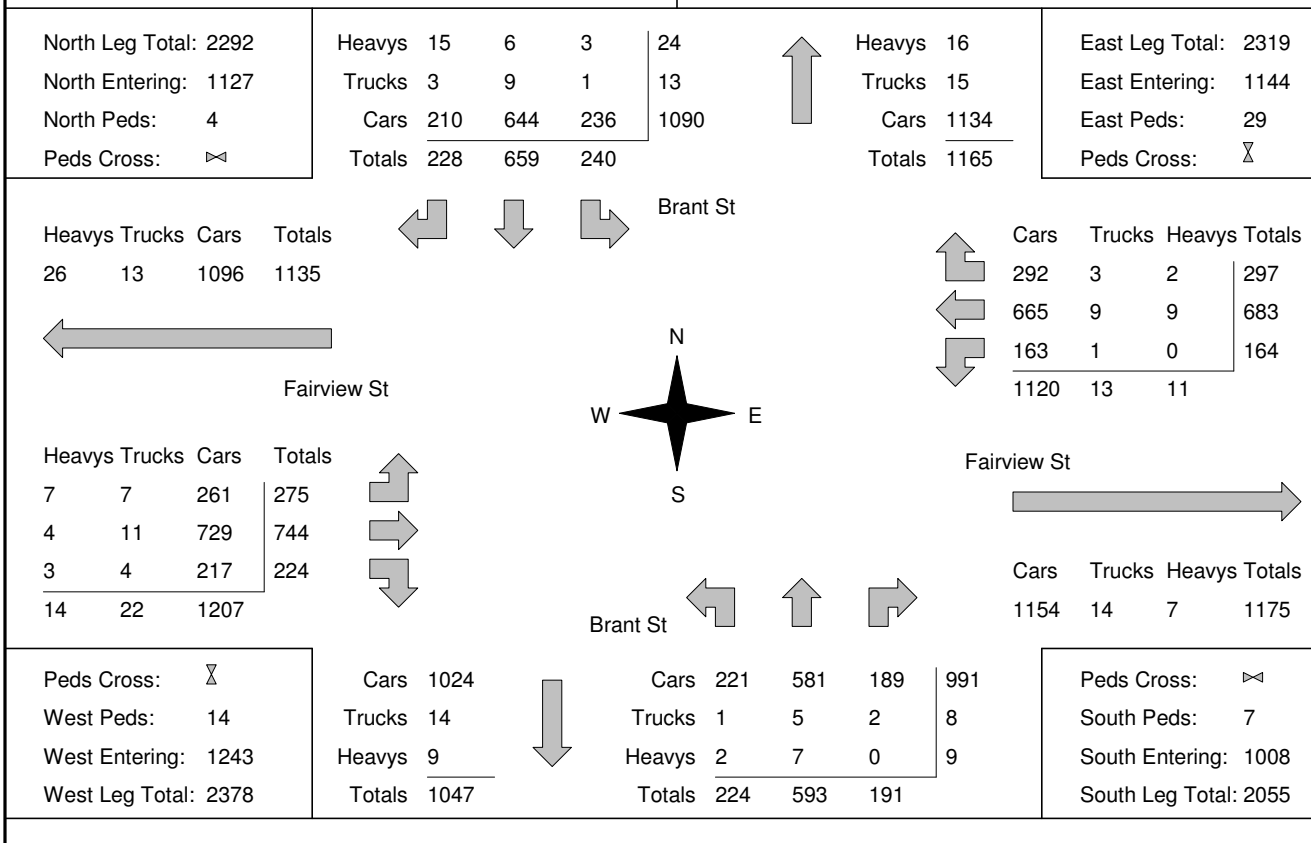
Municipality: Halton Region
Site #: 1020550100
Intersection: Fairview St & Brant St
TFR File #: 4
Count date: 2-May-2018

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Fairview St runs W/E



Comments

Brant St @ Fairview St

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

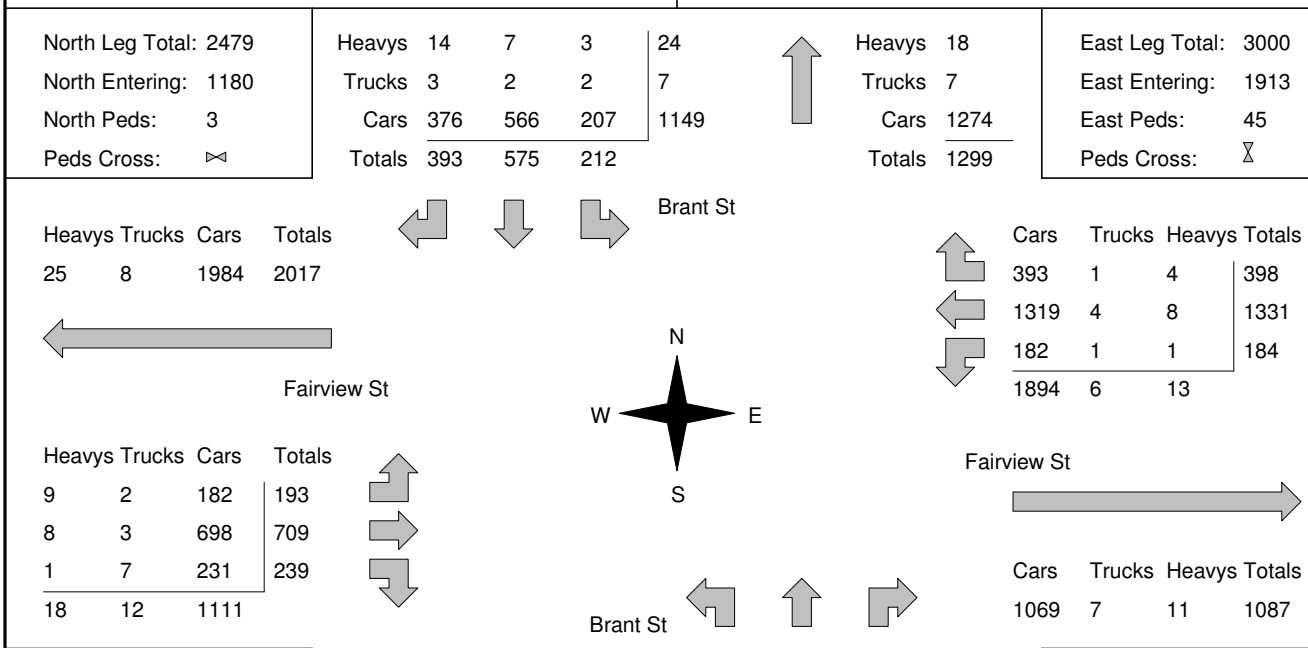
Municipality: Halton Region
Site #: 1020550100
Intersection: Fairview St & Brant St
TFR File #: 4
Count date: 2-May-2018

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Fairview St runs W/E



Comments

Brant St @ Fairview St

Total Count Diagram

Municipality: Halton Region
Site #: 1020550100
Intersection: Fairview St & Brant St
TFR File #: 4
Count date: 2-May-2018

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Fairview St runs W/E

North Leg Total:	17273			
North Entering:	8005			
North Peds:	38			
Peds Cross:	⋈			
Heavys	105	65	24	194
Trucks	42	49	14	105
Cars	1777	4336	1593	7706
Totals	1924	4450	1631	
Heavys	184			
Trucks	92			
Cars	8992			
Totals	9268			
East Leg Total:	18335			
East Entering:	9409			
East Peds:	245			
Peds Cross:	⧖			

Brant St

Heavys	Trucks	Cars	Totals
194	101	9311	9606

Cars	Trucks	Heavys	Totals
2154	22	27	2203
5849	48	72	5969
1215	16	6	1237
9218	86	105	

Fairview St

N
W E
S

Heavys	Trucks	Cars	Totals
88	31	1998	2117
60	52	5627	5739
17	31	1593	1641
165	114	9218	

Fairview St

Cars	Trucks	Heavys	Totals
8754	83	89	8926

Brant St

Peds Cross:	⧖			
West Peds:	143			
West Entering:	9497			
West Leg Total:	19103			
Cars	7144			
Trucks	96			
Heavys	88			
Totals	7328			
Cars	1685	4840	1534	8059
Trucks	11	39	17	67
Heavys	17	69	5	91
Totals	1713	4948	1556	
Peds Cross:	⋈			
South Peds:	49			
South Entering:	8217			
South Leg Total:	15545			

Comments

200275-Brant St & Prospect St

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

Municipality: Burlington
Site #: 0000200275
Intersection: Brant St & Prospect St
TFR File #: 1
Count date: 14-May-2019

Weather conditions:
Sunny

Person(s) who counted:
Nick

**** Signalized Intersection ****

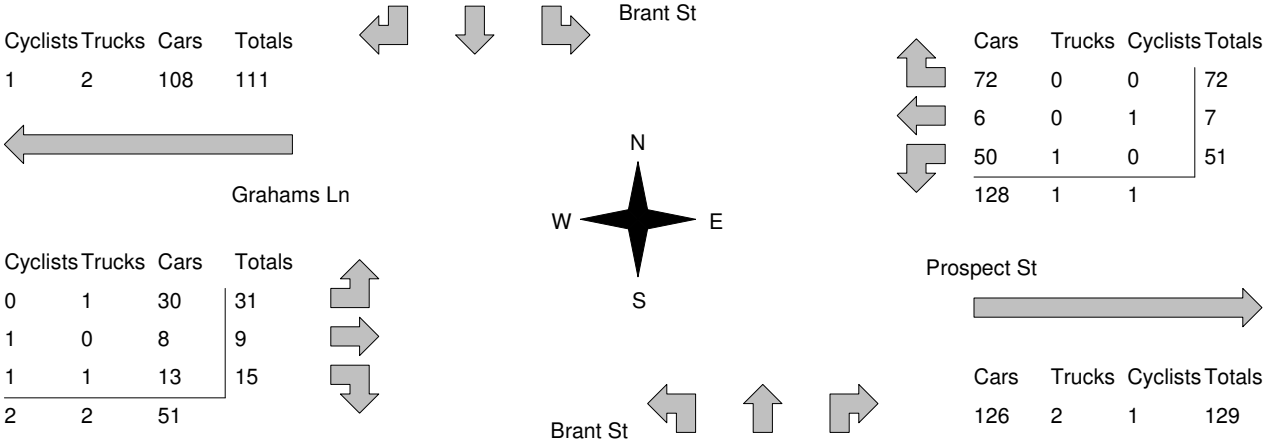
Major Road: Brant St runs N/S

North Leg Total: 1809
North Entering: 980
North Peds: 4
Peds Cross: ⋈

Cyclists	0	4	0	4
Trucks	2	24	1	27
Cars	78	790	81	949
Totals	80	818	82	

Cyclists	2
Trucks	19
Cars	808
Totals	829

East Leg Total: 259
East Entering: 130
East Peds: 30
Peds Cross: ⧖



Cyclists	Trucks	Cars	Totals
1	2	108	111

Cars	Trucks	Cyclists	Totals
72	0	0	72
6	0	1	7
50	1	0	51
128	1	1	

Cyclists	Trucks	Cars	Totals
0	1	30	31
1	0	8	9
1	1	13	15
2	2	51	

Cars	Trucks	Cyclists	Totals
126	2	1	129

Peds Cross: ⧖
West Peds: 19
West Entering: 55
West Leg Total: 166

Cars	853			
Trucks	26			
Cyclists	5			
Totals	884			

Cars	24	706	37	767
Trucks	0	18	1	19
Cyclists	0	2	0	2
Totals	24	726	38	

Peds Cross: ⋈
South Peds: 7
South Entering: 788
South Leg Total: 1672

Comments

200275-Brant St & Prospect St

Mid-day Peak Diagram

Specified Period
From: 11:00:00
To: 14:00:00

One Hour Peak
From: 13:00:00
To: 14:00:00

Municipality: Burlington
Site #: 0000200275
Intersection: Brant St & Prospect St
TFR File #: 1
Count date: 14-May-2019

Weather conditions:
Sunny

Person(s) who counted:
Nick

**** Signalized Intersection ****

Major Road: Brant St runs N/S

North Leg Total: 2134
North Entering: 989
North Peds: 7
Peds Cross: ⋈

Cyclists	1	4	0	5
Trucks	2	18	3	23
Cars	66	829	66	961
Totals	69	851	69	

Cyclists	3
Trucks	39
Cars	1103
Totals	1145

East Leg Total: 302
East Entering: 186
East Peds: 26
Peds Cross: ⧖

Brant St

Cyclists	Trucks	Cars	Totals
1	5	101	107

Cars	Trucks	Cyclists	Totals
106	2	0	108
16	0	0	16
62	0	0	62
184	2	0	

Grahams Ln

N
W E
S

Cyclists	Trucks	Cars	Totals
0	3	95	98
1	0	12	13
0	2	23	25
1	5	130	

Prospect St

Cars	Trucks	Cyclists	Totals
112	3	1	116

Brant St

Peds Cross: ⧖
West Peds: 22
West Entering: 136
West Leg Total: 243

Cars	914			
Trucks	20			
Cyclists	4			
Totals	938			

Cars	19	902	34	955
Trucks	3	34	0	37
Cyclists	0	3	0	3
Totals	22	939	34	

Peds Cross: ⋈
South Peds: 6
South Entering: 995
South Leg Total: 1933

Comments

200275-Brant St & Prospect St

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:15:00
To: 17:15:00

Municipality: Burlington
Site #: 0000200275
Intersection: Brant St & Prospect St
TFR File #: 1
Count date: 14-May-2019

Weather conditions:
Sunny

Person(s) who counted:
Nick

**** Signalized Intersection ****

Major Road: Brant St runs N/S

North Leg Total: 2289
North Entering: 1054
North Peds: 9
Peds Cross: ⋈

Cyclists	0	5	0	5
Trucks	2	6	2	10
Cars	53	887	99	1039
Totals	55	898	101	

Cyclists	6
Trucks	22
Cars	1207
Totals	1235

East Leg Total: 443
East Entering: 271
East Peds: 31
Peds Cross: ⧖

Brant St

Cyclists	Trucks	Cars	Totals
0	4	75	79

Cars	Trucks	Cyclists	Totals
153	9	1	163
10	0	0	10
98	0	0	98
261	9	1	

Grahams Ln

N
W E
S

Cyclists	Trucks	Cars	Totals
0	4	109	113
0	0	18	18
0	0	39	39
0	4	166	

Prospect St

Cars	Trucks	Cyclists	Totals
169	2	1	172

Brant St

Peds Cross: ⧖
West Peds: 20
West Entering: 170
West Leg Total: 249

Cars	1024
Trucks	6
Cyclists	5
Totals	1035

Cars	12	945	52	1009
Trucks	2	9	0	11
Cyclists	0	5	1	6
Totals	14	959	53	

Peds Cross: ⋈
South Peds: 13
South Entering: 1026
South Leg Total: 2061

Comments

200275-Brant St & Prospect St

Total Count Diagram

Municipality: Burlington
Site #: 0000200275
Intersection: Brant St & Prospect St
TFR File #: 1
Count date: 14-May-2019

Weather conditions:
Sunny

Person(s) who counted:
Nick

**** Signalized Intersection ****

Major Road: Brant St runs N/S

North Leg Total: 15496
North Entering: 7293
North Peds: 69
Peds Cross: ⋈

Cyclists	4	25	0	29
Trucks	30	136	11	177
Cars	495	6034	558	7087
Totals	529	6195	569	

Cyclists	25
Trucks	226
Cars	7952
Totals	8203

East Leg Total: 2394
East Entering: 1412
East Peds: 211
Peds Cross: ⧖

Brant St

Cyclists	Trucks	Cars	Totals
13	41	732	786

Cars	Trucks	Cyclists	Totals
780	24	1	805
90	2	9	101
498	5	3	506
1368	31	13	

Grahams Ln

N
W E
S

Cyclists	Trucks	Cars	Totals
1	37	633	671
5	0	100	105
3	13	153	169
9	50	886	

Prospect St

Cars	Trucks	Cyclists	Totals
961	15	6	982

Brant St

Peds Cross: ⧖
West Peds: 146
West Entering: 945
West Leg Total: 1731

Cars	6685
Trucks	154
Cyclists	31
Totals	6870

Cars	147	6539	303	6989
Trucks	9	165	4	178
Cyclists	0	23	1	24
Totals	156	6727	308	

Peds Cross: ⋈
South Peds: 81
South Entering: 7191
South Leg Total: 14061

Comments

200275-Brant St & Prospect St
Traffic Count Summary

Intersection: Brant St & Prospect St | **Count Date:** 14-May-2019 | **Municipality:** Burlington

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Cyclists: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	44	433	72	549	6	1235
9:00:00	82	818	80	980	4	1768
11:00:00	0	0	0	0	0	0
12:00:00	57	776	66	899	5	1801
13:00:00	57	851	76	984	9	1954
14:00:00	69	851	69	989	7	1984
15:00:00	0	0	0	0	0	0
16:00:00	74	796	72	942	14	1923
17:00:00	92	869	54	1015	9	2014
18:00:00	94	801	40	935	15	1805
Totals:	569	6195	529	7293	69	14484

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Cyclists: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	22	649	15	686	2
9:00:00	24	726	38	788	7
11:00:00	0	0	0	0	0
12:00:00	13	851	38	902	6
13:00:00	25	902	43	970	8
14:00:00	22	939	34	995	6
15:00:00	0	0	0	0	0
16:00:00	20	911	50	981	18
17:00:00	19	933	47	999	19
18:00:00	11	816	43	870	15
Totals:	156	6727	308	7191	81

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Cyclists: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	30	1	84	115	14	165
9:00:00	51	7	72	130	30	185
11:00:00	0	0	0	0	0	0
12:00:00	53	8	72	133	21	243
13:00:00	56	22	91	169	22	307
14:00:00	62	16	108	186	26	322
15:00:00	0	0	0	0	0	0
16:00:00	76	19	110	205	35	350
17:00:00	93	15	166	274	38	419
18:00:00	85	13	102	200	25	366
Totals:	506	101	805	1412	211	2357

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Cyclists: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	40	1	9	50	16
9:00:00	31	9	15	55	19
11:00:00	0	0	0	0	0
12:00:00	83	14	13	110	11
13:00:00	102	15	21	138	10
14:00:00	98	13	25	136	22
15:00:00	0	0	0	0	0
16:00:00	106	16	23	145	28
17:00:00	105	16	24	145	22
18:00:00	106	21	39	166	18
Totals:	671	105	169	945	146

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	12:00	13:00	14:00	16:00	17:00	18:00
Crossing Values:	79	102	161	197	189	233	242	242

APPENDIX F

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Ontario

Ministry of the Environment
Ministère de l'Environnement

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER 3448-8PJRH9
Issue Date: September 7, 2012

Ashland Canada Corp.
942 Brant Street
Post Office Box, No. 100
Burlington, Ontario
L7R 3X8

Site Location: 942 Brant Street, Burlington, Ontario.

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

A facility manufacturing specialty chemicals, consisting of the following processes and support units:

- Defoamer Process: producing silicone base and soap base defoamers;
- Emulsion Size Blending Process: producing Alkyl Ketene Dimer emulsions and wax emulsions;
- Process Chemical Operation: producing different chemical products, emissions controlled by a venturi wet scrubber.

including the *Equipment* and any other ancillary and support processes and activities, **operating at a *Facility Production Limit* of up to 40 million kilograms per year of the various products** (process chemical, defoamer, and emulsion), exhausting to the atmosphere as described in the *ESDM Report* .

For the purpose of this environmental compliance approval, the following definitions apply:

1. *Acceptable Maximum Ground Level Concentration"* means a concentration accepted by the *Ministry,* as described in the *Guide to Applying for Approval (Air & Noise),* for a *Compound of Concern* listed in the *Original ESDM Report* that has no *Ministry Point of Impingement* Limit and no *Jurisdictional Screening Level,* or the concentration at a *Point of Impingement* exceeds the *Jurisdictional Screening Level.*

2. *"Acoustic Assessment Report"* means the report, prepared in accordance with *Publication NPC-233* and Appendix A of the *Basic Comprehensive User Guide*, by John Trought / Church & Trought Inc. dated April 2011 submitted in support of the application, that documents all sources of noise emissions and *Noise Control Measures* present at the *Facility* and includes all up-dated *Acoustic Assessment Reports* as required by the Documentation Requirements conditions of this *Approval* to demonstrate continued compliance with the *Performance Limits* following the implementation of any *Modification.*

3. "*Acoustic Assessment Summary Table"* means a table prepared in accordance with the *Basic Comprehensive User Guide* summarising the results of the *Acoustic Assessment Report,* up-dated as required by the Documentation Requirements conditions of this *Approval.*

4. "*Air Standards Manager"* means the Manager, Human Toxicology and Air Standards Section, Standards Development Branch, or any other person who represents and carries out the duties of the Manager, Human Toxicology and Air Standards Section, Standards Development Branch, as those

duties relate to the conditions of this *Approval.*

5. "*Approval"* means this entire Approval document and any Schedules to it, including the application and *Supporting Documentation.*

6. "*Basic Comprehensive User Guide"* means the *Ministry* document titled "Basic Comprehensive Certificates of Approval (Air) User Guide" dated March 2011, as amended.

7. "*Company"* means Ashland Canada Corp. that is responsible for the construction or operation of the *Facility* and includes any successors and assigns in accordance with section 19 of the *EPA.*

8. "*Compound of Concern"* means a contaminant that, based on generally available information, may be emitted to the atmosphere in a quantity from the *Facility* that is non-negligible in accordance with section 8 of *O. Reg. 419/05* either in comparison to the relevant *Ministry Point of Impingement Limit* or if a *Ministry Point of Impingement Limit* is not available for the compound then, based on generally available toxicological information, the compound may cause an adverse effect as defined by the *EPA* at a *Point of Impingement.*

9. "*Description Section"* means the section on page one of this *Approval* describing the *Company's* operations and the *Equipment* located at the *Facility* and specifying the *Facility Production Limit* for the *Facility.*

10. "*Director"* means a person appointed by the Minister pursuant to section 5 of the *EPA.*

11. "*District Manager"* means the District Manager of the appropriate local district office of the *Ministry,* where the *Facility* is geographically located.

12. "*Emission Summary Table"* means the most updated table contained in the *ESDM Report,*which is prepared in accordance with section 26 of *O. Reg. 419/05* and the *Procedure Document* listing the appropriate *Point of Impingement* concentration for each *Compound of Concern* from the *Facility* and providing comparison to the corresponding *Ministry Point of Impingement Limit* or *Maximum Concentration Level Assessment,* or *Jurisdictional Screening Level.*

13. "*Environmental Assessment Act"* means the Environmental Assessment Act, R.S.O. 1990, c.E.18, as amended.

14. "*EPA"* means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended.

15. "*Equipment"* means equipment or processes described in the *ESDM Report,* this *Approval* and in the *Supporting Documentation* referred to herein and any other equipment or processes.

16. "*Equipment with Specific Operational Limits"* means any *Equipment* related to the thermal oxidation of waste or waste derived fuels, fume incinerators or any other *Equipment* that is specifically referenced in any published *Ministry* document that outlines specific operational guidance that must be considered by the *Director* in issuing an *Approval.*

17. "*ESDM Report"* means the most current Emission Summary and Dispersion Modelling Report that describes the *Facility.* The *ESDM Report* is based on the *Original ESDM Report,* is prepared after the issuance of this *Approval* in accordance with section 26 of *O. Reg. 419/05* and the *Procedure Document* by the *Company* or its consultant, and is periodically updated to incorporate all *Modifications* to and changes on discharge from the *Facility,* as required by the Documentation Requirements conditions of this *Approval.*

18. "*Facility"* means the entire operation located on the property where the *Equipment* is located.

19. "*Facility Production Limit"* means the production limit placed on the main product(s) or raw materials used by the *Facility* that represents the design capacity of the *Facility* and assists in the definition of the operations approved by the *Director.*

20. "*Jurisdictional Screening Level"* means a screening level for a *Compound of Concern* that is listed in the Ministry publication titled "Jurisdictional Screening Level (JSL) List, A Screening Tool for Ontario Regulation 419: Air Pollution - Local Air Quality", dated February 2008, as amended.

21. "*Log"* means the up-to-date log that is used to track all *Modifications* to the *Facility* since the date of this *Approval* as required by the Documentation Requirements conditions of this *Approval.*

22. "*Maximum Concentration Level Assessment"* means the Maximum Concentration Level Assessment for the purposes of an *Approval,* described in the *Basic Comprehensive User Guide,* prepared by a *Toxicologist* using currently available toxicological information, that demonstrates that the concentration at any *Point of Impingement* for a *Compound of Concern* that does not have a *Ministry Point of Impingement Limit* is not likely to cause an adverse effect as defined by the *EPA.* The concentration at *Point of Impingement* for a *Compound of Concern* must be calculated in accordance with *O. Reg. 419/05.*

23. "*Ministry"* means the ministry of the government of Ontario responsible for the *EPA* and includes all officials, employees or other persons acting on its behalf.

24. "*Ministry Point of Impingement Limit"* means the applicable Standard listed in Schedule 2 or 3 of *O.Reg. 419/05* or a limit listed in the *Ministry* publication titled "Summary of Standards and Guidelines to support Ontario Regulation 419: Air Pollution - Local Air Quality (including Schedule 6 of O. Reg. 419 on Upper Risk Thresholds)", dated February 2008, as amended.

25. "*Modification"* means any construction, alteration, extension or replacement of any plant, structure, equipment, apparatus, mechanism or thing, or alteration of a process or rate of production at the *Facility* that may discharge or alter the rate or manner of discharge of a *Compound of Concern* to the atmosphere or discharge or alter noise or vibration emissions from the *Facility.*

26. "*Noise Control Measures"* means measures to reduce the noise emissions from the *Facility* and/or *Equipment* including, but not limited to, silencers, acoustic louvres, enclosures, absorptive treatment, plenums and barriers.

27. "*O. Reg. 419/05"* means the Ontario Regulation 419/05, Air Pollution – Local Air Quality, as amended.

28. "*Original ESDM Report"* means the Emission Summary and Dispersion Modelling Report which was prepared in accordance with section 26 of *O. Reg. 419/05* and the *Procedure Document* by Church & Trought Inc. and dated May 12, 2011, submitted in support of the application, and includes any changes to the report made up to the date of issuance of this *Approval.*

29. "*Performance Limits"* means the performance limits specified in Condition 3.2 of this *Approval* titled Performance Limits.

30. "*Point of Impingement"* has the same meaning as in section 2 of *O. Reg. 419/05.*

31. "*Point of Reception"* means Point of Reception as defined by *Publication NPC-205* and/or *Publication NPC-232,* as applicable.

32. "*Procedure Document"* means *Ministry* guidance document titled "Procedure for Preparing an Emission Summary and Dispersion Modelling Report" dated March 2009, as amended.

33. "*Processes with Significant Environmental Aspects"* means the *Equipment* which, during regular operation, would discharge a contaminant or contaminants into the atmosphere at an amount which is not considered as negligible in accordance with section 8 of *O. Reg. 419/05* and the *Procedure Document.*

34. "*Publication NPC-205"* means the *Ministry* Publication NPC-205, “Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)”, October, 1995, as amended.

35. "*Publication NPC-207"* means the *Ministry* draft technical publication “Impulse Vibration in Residential Buildings”, November 1983, supplementing the Model Municipal Noise Control By-Law, Final Report, published by the *Ministry,* August 1978, as amended.

36. "*Publication NPC-232"* means the *Ministry* Publication NPC-232, "Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)", October, 1995, as amended.

37. "*Publication NPC-233"* means the *Ministry* Publication NPC-233, "Information to be Submitted for Approval of Stationary Sources of Sound", October, 1995, as amended.

38. "*Schedules"* means the following schedules attached to this *Approval* and forming part of this *Approval* namely:

Schedule A - *Supporting Documentation;*

39. "*Supporting Documentation"* means the documents listed in Schedule A of this *Approval* which forms part of this *Approval.*

40. "*Toxicologist"* means a qualified professional currently active in the field of risk assessment and toxicology that has a combination of formal university education, training and experience necessary to assess the *Compound of Concern* in question.

41. "*Written Summary Form"* means the electronic questionnaire form, available on the *Ministry* website, and supporting documentation, that documents the activities undertaken at the *Facility* in the previous calendar year that must be submitted annually to the *Ministry* as required by the section of this *Approval* titled Reporting Requirements.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL

1.1 Except as otherwise provided by this *Approval,* the *Facility* shall be designed, developed, built, operated and maintained in accordance with the terms and conditions of this *Approval* and in accordance with the following *Schedules* attached hereto:

Schedule A - *Supporting Documentation*

2. LIMITED OPERATIONAL FLEXIBILITY

2.1 Pursuant to section 20.6(1) of the *EPA* and subject to Conditions 2.2 and 2.3 of this *Approval,* future alterations, extensions or replacements are approved in this *Approval* if the future alterations, extensions or replacements are *Modifications* to the *Facility* that:

(a) are within the scope of the intended operations of the *Facility* as described in the *Description Section* of this *Approval;*

(b) do not result in an increase of the *Facility Production Limit* above the level specified in the *Description Section* of this *Approval;* and

(c) result in compliance with the *Performance Limits.*

2.2 Condition 2.1 does not apply to:

(a) the addition of any new *Equipment with Specific Operational Limits* or to the *Modification* of any existing *Equipment with Specific Operational Limits* at the *Facility.* The *Company* shall operate any *Equipment with Specific Operational Limits* approved by this *Approval* in accordance with the *Original ESDM Report;* or

(b) *Modifications* to the *Facility* that would be subject to the *Environmental Assessment Act.*

2.3 Condition 2.1 of this *Approval* shall expire ten (10) years from the date of this *Approval,* unless this *Approval* is revoked prior to the expiry date. The *Company* may apply for renewal of Condition 2.1 of this *Approval* by including an *ESDM Report* and an *Acoustic Assessment Report* that incorporate all *Modifications* made to the *Facility* as of the date of the renewal application in the application as supporting information.

3. REQUEST FOR *MAXIMUM CONCENTRATION LEVEL ASSESSMENT* AND *PERFORMANCE LIMITS*

3.1 **REQUEST FOR *MAXIMUM CONCENTRATION LEVEL ASSESSMENT***

3.1.1 If the *Company* proposes to make a *Modification* to the *Facility,* the *Company* shall determine if the proposed *Modification* will result in:

(a) a discharge of a *Compound of Concern* that was not previously discharged; or

(b) an increase in the concentration at a *Point of Impingement* of a *Compound of Concern.*

3.1.2 If a proposed *Modification* mentioned in Condition 3.1.1 will result in the discharge of a *Compound of Concern* that was not previously discharged, the *Company* shall submit a *Maximum Concentration Level Assessment* to the *Director* for review by the *Air Standards Manager* in the following circumstances:

(a) The *Compound of Concern* does not have a *Ministry Point of Impingement Limit* or a *Jurisdictional Screening Level.*

(b) The *Compound of Concern* does not have a *Ministry Point of Impingement Limit* and the concentration at a *Point of Impingement* will exceed the *Jurisdictional Screening Level.*

(c) Prior to the proposed *Modification,* a contaminant was discharged in a negligible amount and the proposed *Modification* will result in the discharge of the contaminant being considered a *Compound of Concern* and the *Compound of Concern* does not have a *Ministry Point of Impingement Limit* or a *Jurisdictional Screening Level.*

(d) Prior to the proposed *Modification,* a contaminant was discharged in a negligible amount and the proposed *Modification* will result in the discharge of the contaminant being considered a *Compound of Concern.* Additionally, the *Compound of Concern* does not have a *Ministry Point of Impingement Limit* and the concentration at a *Point of Impingement* will exceed the *Jurisdictional Screening Level.*

3.1.3 If a proposed *Modification* mentioned in Condition 3.1.1 will result in an increase in the concentration at a *Point of Impingement* of a *Compound of Concern,* the *Company* shall submit a *Maximum Concentration Level Assessment* to the *Director* for review by the *Air Standards Manager* in the following circumstances:

(a) The *Compound of Concern* does not have a *Ministry Point of Impingement Limit* or a *Jurisdictional Screening Level* and the concentration at a *Point of Impingement* will exceed the *Acceptable Maximum Ground Level Concentration.*

(b) The *Compound of Concern* does not have a *Ministry Point of Impingement Limit* or a *Jurisdictional Screening Level* and the concentration at a *Point of Impingement* will exceed the most recently accepted *Maximum Concentration Level Assessment* submitted under Condition 3.1.2 or this

Condition.

(c) The *Compound of Concern* does not have a *Ministry Point of Impingement Limit* and the concentration at a *Point of Impingement* will exceed the *Jurisdictional Screening Level* and the *Acceptable Maximum Ground Level Concentration.*

(d) The *Compound of Concern* does not have a *Ministry Point of Impingement Limit* and the concentration at a *Point of Impingement* will exceed the *Jurisdictional Screening Level* and the most recently accepted *Maximum Concentration Level Assessment* submitted under Condition 3.1.2 or this Condition.

(e) The *Compound of Concern* does not have a *Ministry Point of Impingement Limit, Acceptable Maximum Ground Level Concentration* or a *Maximum Concentration Level Assessment* and the concentration at a *Point of Impingement* will exceed the *Jurisdictional Screening Level.*

3.1.4 Subject to the Operational Flexibility set out in Condition 2 of this *Approval,* the *Company* may make the *Modification* if the submission of a *Maximum Concentration Level Assessment* under Condition 3.1.2 or 3.1.3 is not required.

3.1.5 A *Company* that is required to submit an assessment under Condition 3.1.2 or 3.1.3 shall submit the assessment at least thirty (30) days before the proposed *Modification* occurs.

3.1.6 The *Ministry* shall provide to the *Company* written confirmation of the receipt of the assessment under Condition 3.1.2 or 3.1.3.

3.1.7 If an assessment is submitted under Condition 3.1.2 or 3.1.3, the *Company* shall not modify the *Facility* unless the *Ministry* accepts the assessment.

3.2. ***PERFORMANCE LIMITS***

3.2.1 Subject to Condition 3.2.2, the *Company* shall, at all times, ensure that all *Equipment* that is a source of a *Compound of Concern* is operated to comply with the following *Performance Limits:*

(a) for a *Compound of Concern* that has a *Ministry Point of Impingement Limit,* the maximum concentration of that *Compound of Concern* at any *Point of Impingement* shall not exceed the corresponding *Ministry Point of Impingement Limit;*

(b) for a *Compound of Concern* that has an *Acceptable Maximum Ground Level Concentration* and no *Maximum Concentration Level Assessment,* the maximum concentration of that *Compound of Concern* at any *Point of Impingement* shall not exceed the corresponding *Acceptable Maximum Ground Level Concentration;*and

(c) for a *Compound of Concern* that has a *Maximum Concentration Level Assessment,* the maximum concentration of that *Compound of Concern* at any *Point of Impingement* shall not exceed the most recently accepted corresponding *Maximum Concentration Level Assessment.*

3.2.2 If the *Company* has modified the *Facility* and was not required to submit a *Maximum Concentration Level Assessment* with respect to a *Compound of Concern* under Condition 3.1.2 or 3.1.3, the *Company* shall, at all times, ensure that all *Equipment* that is a source of the *Compound of Concern* is operated such that the maximum concentration of the *Compound of Concern* shall not exceed the concentration listed for the *Compound of Concern* in the most recent version of the *ESDM Report. ESDM Reports* are required to be updated to reflect all *Modifications* under Condition 4.1(a).

3.2.3 The *Company* shall, at all times, ensure that the noise emissions from the *Facility* comply with the limits set out in *Ministry Publication NPC-205.*

3.2.4 The *Company* shall, at all times, ensure that the vibration emissions from the *Facility* comply with

the limits set out in *Ministry Publication NPC-207.*

4. **DOCUMENTATION REQUIREMENTS**

4.1 The *Company* shall, at all times, maintain documentation that describes the current operations of the *Facility,* including but not limited to:

(a) a current *ESDM Report* that demonstrates compliance with the *Performance Limits* for the *Facility* regarding all *Compounds of Concern* and reflects all *Modifications* made at the *Facility;*

(b) a current *Acoustic Assessment Report* that demonstrates compliance with the *Performance Limits* for the *Facility* regarding noise emissions;

(c) an up-to-date *Log* that describes each *Modification* to the *Facility;* and

(d) a record of the changes to the *ESDM Report* and *Acoustic Assessment Report* that documents how each *Modification* is in compliance with the *Performance Limits.*

4.2 The *Company* shall, during regular business hours, make the current *Emission Summary Table* and *Acoustic Assessment Summary Table* available for inspection at the *Facility* by any interested member of the public.

4.3 Subject to Condition 4.5, the *Company* shall prepare and complete no later than June 15 of each year documentation that describes the activities undertaken at the *Facility* in the previous calendar year, including but not limited to:

(a) a list of all *Compounds of Concern* for which a *Maximum Concentration Level Assessment* was submitted to the *Director* for review by the *Air Standards Manager* pursuant to Condition 3.1.2 or 3.1.3 of this *Approval;*

(b) if the *Company* has modified the *Facility* and was not required to submit a *Maximum Concentration Level Assessment* with respect to a *Compound of Concern* under Condition 3.1.2 or 3.1.3, a list and concentration level of all such *Compounds of Concern:*

(c) a review of any changes to *Ministry Point of Impingement Limits* that affect any *Compounds of Concern* emitted from the *Facility;*and

(d) a table of the changes in the emission rate of any *Compound of Concern* and the resultant increase or decrease in the *Point of Impingement* concentration reported in the *ESDM Report.*

4.4 Subject to Condition 4.5, the *Company* shall, at all times, maintain the documentation described in Condition 4.3.

4.5 Conditions 4.3 and 4.4 do not apply if Condition 2.1 has expired.

4.6 The *Company* shall, within three (3) months after the expiry of Condition 2.1 of this *Approval,* update the *ESDM Report* and the *Acoustic Assessment Report* such that they describe the *Facility* as it was at the time that Condition 2.1 of this *Approval* expired.

5. REPORTING REQUIREMENTS

5.1 Subject to Condition 5.2, the *Company* shall provide the *Ministry* and the *Director* no later than June 15 of each year, a *Written Summary Form* that shall include the following:

(a) a declaration that the *Facility* was in compliance with section 9 of the *EPA, O.Reg. 419/05* and the conditions of this *Approval;*

(b) a summary of each *Modification* that took place in the previous calendar year that resulted in a change in the previously calculated concentration at the *Point of Impingement* for any *Compound of Concern* or resulted in a change in the sound levels reported in the *Acoustic Assessment Summary*

Table at any *Point of Reception.*

5.2 Condition 5.1 does not apply if Condition 2.1 has expired.

6. OPERATION AND MAINTENANCE

6.1 The *Company* shall prepare and implement, not later than three (3) months from the date of this *Approval,* operating procedures and maintenance programs for all *Processes with Significant Environmental Aspects,* which shall specify as a minimum:

(a) frequency of inspections and scheduled preventative maintenance;

(b) procedures to prevent upset conditions;

(c) procedures to minimize all fugitive emissions;

(d) procedures to prevent and/or minimize odorous emissions;

(e) procedures to prevent and/or minimize noise emission; and

(f) procedures for record keeping activities relating to the operation and maintenance programs.

6.2 The *Company* shall ensure that all *Processes with Significant Environmental Aspects* are operated and maintained at all times in accordance with this *Approval,* the operating procedures and maintenance programs.

7. COMPLAINTS RECORDING PROCEDURE

7.1 If at any time, the *Company* receives any environmental complaints from the public regarding the operation of the *Equipment* approved by this *Approval,* the *Company* shall respond to these complaints according to the following procedure:

(a) the *Company* shall record and number each complaint, either electronically or in a log book, and shall include the following information: the time and date of the complaint and incident to which the complaint relates, the nature of the complaint, wind direction at the time and date of the incident to which the complaint relates and, if known, the address of the complainant;

(b) the *Company,* upon notification of a complaint, shall initiate appropriate steps to determine all possible causes of the complaint, and shall proceed to take the necessary actions to appropriately deal with the cause of the subject matter of the complaint; and

(c) the *Company* shall complete and retain on-site a report written within one (1) week of the complaint date, listing the actions taken to appropriately deal with the cause of the subject matter of the complaint and any recommendations for remedial measures, and managerial or operational changes to reasonably avoid the recurrence of similar incidents**.**

8. RECORD KEEPING REQUIREMENTS

8.1 Any information requested by any employee in or agent of the *Ministry* concerning the *Facility* and its operation under this *Approval,* including, but not limited to, any records required to be kept by this *Approval,* shall be provided to the employee in or agent of the *Ministry,* upon request**,** in a timely manner.

8.2 The *Company* shall retain, for a minimum of seven (7) years from the date of their creation, except as noted below, all reports, records and information described in this *Approval* and shall include but not be limited to:

(a) If the *Company* has updated the *ESDM Report* in order to comply with Condition 4.1(a) of this *Approval,* a copy of each new version of the *ESDM Report;*

(b) If the *Company* has updated the *Acoustic Assessment Report,* in order to comply with Condition 4.1(b) of this *Approval,* a copy of each new version of the *Acoustic Assessment Report;*

(c) supporting information used in the emission rate calculations performed in the *ESDM Reports* and *Acoustic Assessment Reports* to document compliance with the *Performance Limits* (superseded information must be retained for a period of three (3) years after *Modification);*

(d) the *Log* that describes each *Modification* to the *Facility;*

(e) all documentation prepared in accordance with Condition 4.3 of this *Approval;*

(f) copies of any *Written Summary Forms* provided to the *Ministry* under Condition 5.1 of this *Approval;*

(g) the operating procedures and maintenance programs, including records on the maintenance, repair and inspection of the *Equipment* related to all *Processes with Significant Environmental Aspects;* and

(h) the complaints recording procedure, including records related to all environmental complaints made by the public as required by Condition 7.1 of this *Approval.*

9. REVOCATION OF PREVIOUS APPROVALS

9.1 This *Approval* replaces and revokes all Certificates of Approval (Air) issued under section 9 EPA and Environmental Compliance Approvals issued under Part II.1 EPA to the *Facility* and dated prior to the date of this *Approval.*

SCHEDULE A

Supporting Documentation

(a) Application for Approval (Air & Noise), dated May 12, 2011, signed by Luc Gougeon and submitted by the C *ompany;*
(b) Emission Summary and Dispersion Modelling Report, prepared by Church & Trought Inc. and dated May 12, 2011; and

(c) Acoustic Assessment Report prepared by Church & Trought Inc., dated April 2011 and signed by John Trought.

The reasons for the imposition of these terms and conditions are as follows:

GENERAL

Condition No. 1 is included to require the *Approval* holder to build, operate and maintain the *Facility* in accordance with the *Supporting Documentation* considered by the *Director* in issuing this *Approval.*

LIMITED OPERATIONAL FLEXIBILITY, REQUEST FOR *MAXIMUM CONCENTRATION LEVEL ASSESSMENT* AND *PERFORMANCE LIMITS*

Conditions No. 2 and 3 are included to limit and define the *Modifications* permitted by this *Approval,* and to set out the circumstances in which the *Company* shall submit a *Maximum Concentration Level Assessment* prior to making *Modifications.* The holder of the *Approval* is approved for operational flexibility for the *Facility* that is consistent with the description of the operations included with the application up to the *Facility Production Limit.* In return for the operational flexibility the *Approval* places performance based limits that cannot be exceeded under the terms of this *Approval. Approval* holders will still have to obtain other relevant approvals required to operate the *Facility,* including requirements under other environmental legislation such as the *Environmental Assessment Act.*

DOCUMENTATION REQUIREMENTS

Condition No. 4 is included to require the *Company* to maintain ongoing documentation that demonstrates compliance with the *Performance Limits* of this *Approval* and allows the *Ministry* to monitor on-going compliance with these *Performance Limits.* The *Company* is required to have an up to date *ESDM Report* and *Acoustic Assessment Report* that describe the *Facility* at all times and make the *Emission Summary Table* and *Acoustic Assessment Summary Table* from these reports available to the public on an ongoing basis in order to maintain public communication with regard to the emissions from the *Facility.*

REPORTING REQUIREMENTS

Condition No. 5 is included to require the *Company* to provide a yearly *Written Summary Form* to the *Ministry* to assist the *Ministry* with the review of the site's compliance with the *EPA,* the regulations and this *Approval.*

OPERATION AND MAINTENANCE

Condition No. 6 is included to require the *Company* to properly operate and maintain the *Processes with Significant Environmental Aspects* to minimize the impact to the environment from these processes.

COMPLAINTS RECORDING PROCEDURE

Condition No. 7 is included to require the *Company* to respond to any environmental complaints regarding the operation of the *Equipment,* according to a procedure that includes methods for preventing recurrence of similar incidents and a requirement to prepare and retain a written report.

RECORD KEEPING REQUIREMENTS

Condition No. 8 is included to require the *Company* to retain all documentation related to this *Approval* and provide access to employees in or agents of the *Ministry,* upon request, so that the *Ministry* can determine if a more detailed review of compliance with the *Performance Limits* is necessary.

REVOCATION OF PREVIOUS APPROVALS

Condition No. 9 is included to identify that this *Approval* replaces all Section 9 Certificate(s) of Approval and Part II.1 Approvals that have been previously issued for this *Facility.*

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 7123-6H3JVY issued on March 3, 2006.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, 1993 , S.O. 1993, c. 28 (Environmental Bill of Rights), the Environmental Commissioner, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with

respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Environmental Commissioner
1075 Bay Street, Suite 605
Toronto, Ontario
M5S 2B1

AND

The Director appointed for the purposes of Part II.1 of the Environmental Protection Act
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal 's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-4506 or www.ert.gov.on.ca**

This instrument is subject to Section 38 of the Environmental Bill of Rights, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at www.ebr.gov.on.ca, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 7th day of September, 2012

Ian Parrott, P.Eng.
Director
appointed for the purposes of Part II.1 of the *Environmental Protection Act*

QN/
c: District Manager, MOE Halton-Peel
Ailee Ho, Church & Trought Inc.

CONTENT COPY OF ORIGINAL

Ontario

Ministry of the Environment **Ministère de l'Environnement**

CERTIFICATE OF APPROVAL
AIR
NUMBER 2361-5PFQ9L

Stephen Smit
operating as Smit Autobody
1400 Graham's Lane
Burlington, Ontario
L7S 1W3

Site Location: Smit Autobody
1400 Graham's Lane
Burlington City, Regional Municipality of Halton, Ontario

You have applied in accordance with Section 9 of the Environmental Protection Act for approval of:

- one (1) paint spray booth for the application of solvent based coatings at a maximum rate of 2.0 litres per hour, equipped 4.0 square metres of dry type paint arrestor filters, exhausting into the atmosphere at a volumetric flow rate of 3.86 actual cubic metres per second at ambient, through a stack, having an exit diameter of 0.61 metre, extending 0.8 metres above the roof and 6.36 metres above grade;

all in accordance with the application for a Certificate of Approval (Air) dated April 1, 2002 and signed by Steve Smit, and all supporting information associated with the application including additional information provided by Emily Taylor, dated February 24, March 20, April 13 and 17, 2003 and provided by David Billings, dated October 17 and 24, 2002 and February 6, 2003.

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

(1) "Act" means the *Environmental Protection Act;*

(2) "Approved Automotive Refinish Coatings" means automotive refinish coatings that comply with the VOC content limits indicated in Section 3.2.1 *VOC Content Limits* of the National Standards;

(3) "CCME Guideline" means the document entitled "National Standards and Guidelines for the Reduction of Volatile Organic Compounds from Canadian Commercial/Industrial Surface Coating Operations-Automotive Refinishing, October 1998, PN 1278", as amended, and published by the Canadian Council of Ministers of the Environment;

(4) "Certificate" means this Certificate of Approval issued in accordance with Section 9 of the Act;

(5) "District Manager" means the District Manager, Halton-Peel District Office, Central Region of the Ministry;

(6) "Equipment" means the paint spray booth described in the Owner's application, this Certificate and in the supporting documentation referred to herein, to the extent approved by this Certificate;

(7) "Facility" means the entire operation located on the property where the Equipment is located;

(8) "High Efficiency-type Paint Spray System" means equipment used for the application of automotive refinish coatings conforming to Section 3.4 *Application Equipment* of the CCME Guideline;

(9) "Manual" means a document or a set of documents that provide written instructions to staff of the Owner;

(10) "Ministry" means the Ontario Ministry of the Environment;

(11) “National Standards” means the document entitled “National Standards for the Volatile Organic Compound Content of Canadian Commercial/Industrial Surface Coating Products Automotive Refinishing, October 1998, PN 1288" and published by the Canadian Council of Ministers of the Environment;

(12) "Owner" means Stephen Smit operating as Smit Autobody, and includes its successors and assignees;

(13) "Point of Reception" means any point on the premises of a person where sound or vibration originating from other than those premises is received.

For the purpose of verifying compliance with Section 9 of the Act, the Point of Reception may be located on any of the following existing or zoned for future use premises: permanent or seasonal residences, hotels/motels, nursing/retirement homes, rental residences, hospitals, camp grounds, and noise sensitive buildings such as schools and places of worship.

For equipment/facilities proposed on premises such as nursing/retirement homes, rental residences, hospitals, and schools, the Point of Reception may be located on the same premises;

(14) “Publication NPC-205” means Ministry Publication NPC-205 "Sound level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)", October 1995;

(15) “Publication NPC-232” means Ministry Publication NPC-232 "Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)", October 1995; and

(16) "Trained" and "Training" refers to a training program which conforms with Section 4.3 *Training* of the CCME Guideline.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

GENERAL

1. Except as otherwise provided by these Conditions, the Owner shall design, build, install, operate and maintain the Equipment in accordance with the description given in this Certificate, application for approval of the Equipment and the submitted supporting documents and plans and specifications as listed in this Certificate.

2. Where there is a conflict between a provision of any submitted document referred to in this Certificate and the Conditions of this Certificate, the Conditions in this Certificate shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.

OPERATION AND MAINTENANCE

3. The Owner shall ensure that the Equipment is properly operated and maintained at all times. The Owner shall:

(1) prepare, not later than three (3) months after the date of this Certificate, and update as necessary, a Manual outlining the operating procedures and a maintenance program for the Equipment, including:

(a) routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the Equipment suppliers;

(b) emergency procedures;

(c) list of Trained personnel responsible for the operation and maintenance of the Facility;

(d) procedures for any record keeping activities relating to operation and maintenance of the Equipment;

(e) a regular maintenance program for each booth fan, including but not limited to cleaning and balancing of the fan blades, to ensure the fan noise emissions do not exceed at any time the levels specified in Publication NPC-205 or NPC-232 as applicable;

(f) the frequency of inspection and replacement of the filter material in the Equipment;

(g) procedures for recording and responding to environmental complaints; and

(h) appropriate measures to minimize emissions from all potential sources;

(2) implement the recommendations of the operating and maintenance Manual;

(3) ensure that all surface coating operations are performed using a High Efficiency-type Paint Spray System;

(4) ensure that all surface coating operations are performed using Approved Automotive Refinish Coatings;

(5) ensure that operators involved in the application of automotive refinish coatings receive Training in the proper use of High Efficiency-type Paint Spray Systems; and

(6) Implement the provisions of Section 4.0 *Codes of Good Practice* and Section 5.0 *Check List for Good Practices for Automotive Refinish Facilities* of the CCME Guideline.

RECORD RETENTION

4. The Owner shall retain, for a minimum of two (2) years from the date of their creation, all records and information related to or resulting from the operation and maintenance activities required by this Certificate. These records as well as the Manual shall be made available to staff of the Ministry upon request. The Owner shall retain:

(1) all records on the maintenance, repair and inspection of the Equipment; and

(2) all records on the environmental complaints, including:

(a) a description, time and date of each incident;

(b) operating conditions (e.g. the product name(s) of the Approved Automotive Refinish Coating being sprayed, any upset conditions, etc.) at the time of the incident; and

(c) a description of the measures taken to address the cause of the incident and to prevent a similar occurrence in the future.

NOTIFICATION OF COMPLAINTS

5. The Owner shall notify the District Manager, in writing, of each environmental complaint and the measures taken to address the cause of the complaint within five (5) business days of the complaint.

PERFORMANCE

6. The Owner shall ensure that the noise emissions from the Equipment comply with the limits set in Publication NPC-205 or NPC-232 as applicable.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition Nos. 1 and 2 are imposed to ensure that the Equipment is built and operated in the manner in which it was described for review and upon which approval was granted. These conditions are also included to emphasize the precedence of Conditions in the Certificate and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.

2. Condition No. 3 is included to emphasize that the Equipment must be maintained and operated according to a procedure that will result in compliance with the Act, the regulations and this Certificate.

3. Condition No. 4 is included to require the Owner to keep records and provide information to staff of the Ministry so that compliance with the Act, the regulations and this Certificate can be verified.

4. Condition No. 5 is included to require the Owner to notify staff of the Ministry so that compliance with the Act, the regulations and this Certificate can be verified.

5. Condition No. 6 is included to provide minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the Facility/Equipment.

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, S.O. 1993, Chapter 28, the Environmental Commissioner, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
2300 Yonge St., 12th Floor
P.O. Box 2382
Toronto, Ontario
M4P 1E4

AND

The Environmental Commissioner
1075 Bay Street, 6th Floor
Suite 605
Toronto, Ontario
M5S 2B1

AND

The Director
Section 9, *Environmental Protection Act*
Ministry of Environment and Energy
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca**

This instrument is subject to Section 38 of the Environmental Bill of Rights, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at www.ene.gov.on.ca, you can determine when the leave to appeal period ends.

The above noted works are approved under Section 9 of the Environmental Protection Act.

CONTENT COPY OF ORIGINAL

DATED AT TORONTO this 29th day of July, 2003

Aziz Ahmed, P.Eng.
Director
Section 9, *Environmental Protection Act*

WL/
c: District Manager, MOE Halton-Peel District Office
David Billings, P.Eng., EnviroTech Associates Inc.
Emily Taylor, EnviroTech Associates Inc.