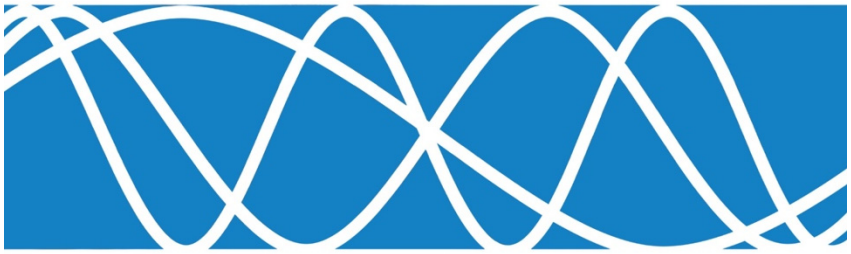
Noise Feasibility Study

Proposed Residential Development

5061 Stouffville Road

Stouffville, Ontario

May 5, 2025
HGC Project #: 02400885



Prepared for:

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Version Control
5061 Stouffville Road, Stouffville, ON

Ver.	Date	Version Description	Prepared By
1.0	January 7, 2025	Noise feasibility study prepared as part of the planning and approvals process.	Y.Lo/S.Paul
2.0	May 5, 2025	Revised Per Site Plan and Conceptual Landscape Plan dated May 2, 2025	M.Chan/S.Paul

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1 INTRODUCTION & SUMMARY

HGC Noise Vibration Acoustics was retained by Times 4750 Inc. to conduct a noise feasibility study for a proposed residential development located at the south side of Stouffville Road, west of Highway 48, in Stouffville, Ontario. The overall development consists of five residential buildings between 19- to 29-storey in height, and a single-storey daycare building. The study is required as part of the approvals process by the municipality and has been updated to reflect the latest site plan and conceptual landscape master plan dated May 2, 2025.

The primary noise sources impacting the site were determined to be road traffic on Stouffville Road and Highway 48. The surrounding area includes existing commercial facilities and existing residences.

Road traffic data for Stouffville Road and Highway 48 was obtained from Ministry of Transportation of Ontario (MTO) personnel and Region of York personnel for the adjacent property provided by the client, respectively. This data was used to predict future sound levels at the locations of the proposed building façades and in outdoor living areas. The predicted sound levels were compared to the guidelines of the Ministry of Environment, Conservation, and Parks (MECP) to develop noise control recommendations for the proposed site.

The sound level predictions indicate that the future road traffic sound levels will exceed MECP guidelines at all façades of the proposed building. The buildings are recommended to have an alternative means of ventilation to open windows. Inclusion of central air conditioning is expected and will meet or exceed this requirement. Acoustic barriers are required around the play areas associated with the Daycare. Noise warning clauses are required to be included in the property and tenancy agreements and offers of purchase and sale to inform the future occupants of the potential traffic noise excesses.

2 SITE DESCRIPTION AND NOISE SOURCES

A key plan is included as Figure 1 indicating the location of the proposed site. The development is located at 5061 Stouffville Road in Stouffville, Ontario. The architectural plans prepared by Icke Brochu Architects Inc., dated May 2, 2025, proposes the construction of five residential buildings between 19- to 29- storey in height, and a single-storey daycare building all above two levels of underground parking. The proposed site plan is included as Figure 2.

The acoustical environment surrounding the site is urban in nature. Road traffic on Highway 48 and Stouffville Road are the dominant noise sources in the area. The site is currently vacant land. A site visit was conducted in November 2024.

There are existing residences on the north side of Stouffville Road. There is a house with a barn and yard approximately 200 m south of the site. This address was previous registered as 10614262 Canada Inc. but was dissolved for non-compliance on March 8, 2023. Information regarding the nature of this business was not available and is not considered further. In any case, zoning information indicates that industrial uses are not permitted on the existing lands. Home-industrial uses are not permitted to include outdoor storage areas and should not "…generate adverse effects such as that from electrical interference, excessive traffic, parking, **noise** or odour". Any changes to the usage of these lands would require a zoning by-law amendment and the onus would be on the future use to determine the noise impact on the subject site and surrounding sensitive uses.

There are existing commercial buildings including a bbq Chicken Stouffville and Lombardo's Auto Centre with service bays facing east located approximately 400 m to the east of the site across from Highway 48. Southeast of the site is Scugog Equipment Rentals. Further southeast are commercial buildings including a Winners, Sportschek, Staples, Tim Hortons and a Walmart. These commercial uses were not audible over traffic noise on the subject site. Nevertheless, a noise warning clause is recommended in Section 4 for inclusion

in the property and tenancy agreements to inform future occupants of the commercial uses in the area.

3 TRANSPORTATION NOISE ASSESSMENT

3.1 Road Traffic Noise Criteria

Guidelines for acceptable levels of road traffic noise impacting residential developments and daycare uses are given in the MECP publication NPC-300, "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning", Part C release date October 21, 2013 and are listed in Table I below. The values in Table I are energy equivalent (average) sound levels [LEQ] in units of A-weighted decibels [dBA].

Table I: Road Traffic Noise Criteria [L_{EQ-1hr} dBA]

Space	Daytime 7:00 – 23:00	Nighttime 23:00 – 7:00
Outdoor Play Areas	55 dBA	--
Outdoor Living Areas	55 dBA	--
Inside Living/Dining Rooms	45 dBA	45 dBA
Inside Noise Sensitive Spaces in daycare facilities such as nap rooms	45 dBA	--
Inside Bedrooms	45 dBA	40 dBA

Daytime refers to the period between 07:00 and 23:00, while nighttime refers to the period between 23:00 and 07:00. The term "Outdoor Living Area" (OLA) is used in reference to an outdoor patio, a backyard, a terrace or other area where passive recreation is expected to occur. Larger private terraces require consideration only if they are the only OLA for the occupant. Common outdoor amenity terraces including common elevated terraces associated with mid-rise and high-rise buildings are considered OLAs.

The guidelines in the MECP publication allow the sound level in an OLA to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the purchase and rental agreements to the property. Where OLA sound levels

exceed 60 dBA, physical mitigation is required to reduce the OLA sound level to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible.

A central air conditioning system as an alternative means of ventilation to open windows is required for dwellings where nighttime sound levels outside bedroom/living/dining room windows exceed 60 dBA or daytime sound levels outside bedrooms/living/dining room windows exceed 65 dBA. If the sound level in the plane of a bedroom or living/dining room window is greater than 55 dBA and less than or equal to 65 dBA, the dwelling should be designed with a provision for the installation of central air conditioning in the future, at the occupant's discretion.

Building components such as walls, windows and doors must be designed to achieve indoor sound level criteria when the plane of bedroom window nighttime sound level is greater than 60 dBA or the daytime sound level is greater than 65 dBA due to road traffic noise.

Warning clauses are required to notify future residents of possible excesses when nighttime sound levels exceed 50 dBA at the plane of the bedroom window and daytime sound levels exceed 55 dBA in the outdoor living area and at the plane of the bedroom/living/dining room window due to road traffic.

3.2 Traffic Sound Level Assessment

3.2.1 Road Traffic Data

Road traffic data for Highway 48 was obtained from the Ministry of Transportation (MTO) in the form of a Summer Average Daily Traffic (SADT) volume. A speed limit of 60 km/h and a day night split of 90%/10% was applied. A commercial vehicle percentage of 5.7% was split into 2.2% medium trucks and 3.5% heavy trucks for Highway 48. The data was projected to the year 2035 at a growth rate of 2.5% per year.

Road traffic data for Stouffville Road was obtained from the Region of York in the form of ultimate traffic volumes. A speed limit of 70 km/hr and a day/night

split of 90%/10% was applied. Commercial vehicle percentages of 2.0% medium trucks and 3.0% heavy trucks were provided.

Table II summarizes the traffic data used in the analysis. Road traffic data used in the analysis is provided in Appendix A.

Table II: Ultimate and Projected Road Traffic Data to 2035

Roadway		Daytime	Medium Trucks	Heavy Trucks	Total
Highway 48 *(projected)*	Daytime	18 647	435	692	19 774
	Nighttime	2 072	48	77	2 197
	Total	**20 718**	**483**	**769**	**21 971**
Stouffville Road *(ultimate)*	Daytime	30 438	641	961	32 040
	Nighttime	3 762	79	119	3 960
	Total	**34 200**	**720**	**1 080**	**36 000**

3.2.2 Road Traffic Noise Predictions

To assess the levels of traffic noise that will impact the site, an acoustic model of the development was created, and predictions were made using a numerical computer modelling package (*CadnaA 2025, build: 209.5501*). The model is based on the methods from ISO Standard 9613-2.2, "*Acoustics - Attenuation of Sound During Propagation Outdoors*", which accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures.

The road noise sources were included in the model as line sources producing equivalent sound pressure levels at a reference distance to those predicted by STAMSON 5.04, a computer algorithm developed by the MECP, based on the daytime and nighttime traffic volumes presented in Section 3.2.1. Calibration outputs from STAMSON are included as Appendix B.

Predictions of the traffic sound levels were made at the top-storey building façades and in the outdoor amenity areas. Prediction locations for the outdoor amenity areas are indicated in Figure 3. The results of the maximum predicted sound levels at each of the proposed building façades are summarized in Table III.

Table III: Maximum Predicted Future Traffic Sound Levels Without Mitigation, [dBA]

Prediction Location	Description	Daytime ($L_{EQ-16\ hr}$)	Nighttime ($L_{EQ-8\ hr}$)
Building A Tower	East façade	66	60
	North façade	70	64
	West façade	67	61
	South façade	51	45
Building B Tower	East façade	57	51
	North façade	60	54
	West façade	60	54
	South façade	<55	<50
Building C Tower	East façade	59	53
	North façade	60	54
	West façade	57	51
	South façade	56	<50
Building D Tower	East façade	62	55
	North façade	60	54
	West façade	56	50
	South façade	59	53
Building E Tower	East façade	66	60
	North façade	66	60
	West façade	63	57
	South façade	62	55
Daycare	East façade	66	--
	North façade	70	--
	West façade	66	--
	South façade	<55	--
R1	Western Daycare Play Area (G/F)	64	--
R2	Eastern Daycare Play Area (G/F)	65	--
R3	Northern Daycare Play Area (G/F)	70	--
R4	Play Court (G/F)	60	--
R5	Playground (G/F)	60	--
R6	Interior Childres' Play Area (G/F)	56	--
R7	Building B/C OLA (2/F)	57*	--
R8	Building D/E OLA (2/F)	60*	--

* Assuming a 1.07 m high solid parapet or wall

3.3 Recommendations for Road Traffic Noise

The predictions indicate that the traffic sound levels are expected to exceed MECP limits during daytime hours and nighttime hours at all proposed buildings. The following discussion and recommendations are provided.

3.3.1 Outdoor Living Areas

There are at-grade outdoor play areas on the east, north and west sides of the daycare (R1 to R3) and require traffic noise assessment. The predicted sound levels in these play areas are up to 70 dBA, 15 dBA greater than the MECP's limit of 55 dBA. Physical mitigation is required in these areas.

The predicted sound level in the outdoor amenity area on the 2nd floor of Building B and C (R7) and Building D and E (R8) and other at grade amenity areas will be between 57 and 60 dBA. The minor excess is within the discretionary range acceptable to the MECP with the use of a noise warning clause. The rooftop amenity areas (R7 and R8) are assumed to be provided with a standard 1.07 m high solid parapet or wall. Further physical mitigation will not be required in these areas.

Table IV summarizes the various barrier heights required to achieve MECP's OLA requirements. Preliminary grading information as shown on the site plan was considered in the assessment.

Table IV: Barrier Heights Required to Achieve Various Sound Levels [m]

Prediction Location	Sound Level in OLA [dBA]					
	55	**56**	**57**	**58**	**59**	**60**
R1 - Daycare Play Area (G/F)*	2.2	2.0	1.9	**1.8**	**--**	**--**
R2 - Daycare Play Area (G/F)*	2.5	2.2	2.0	**1.8**	--	**--**
R3 - Daycare Play Area (G/F)	3.9	3.6	3.2	2.9	**2.5**	2.4
R7 - Building B/C OLA (2/F)	1.3	1.2	**1.07**	--	--	--
R8 - Building D/E OLA (2/F)	4.3	3.4	2.2	1.9	1.5	**1.07**

Note: Noise barrier heights for R1 and R2 are based on an assumed 2.5 m high noise barrier along the boundary of the northern Daycare Play Area (R3), along Stouffville Road

The conceptual Landscape Master Plan is attached as Figure 3 which shows the location of the required barriers and prediction locations. An acoustic barrier 2.5 m in height is recommended for along the northern boundary Daycare Play Area (R3), and reduced to a height of 1.8 m along the east and west sides (R1 and R2). When final grading information is available for the at-grade outdoor area, and the acoustic barrier heights should be reviewed to confirm and/or refine the noise barrier height requirements. Alternatively, the outdoor play areas of the daycare can be relocated to an area shielded by the proposed buildings such as at the south side of the daycare to eliminate the need for high acoustic barriers.

Acoustic barriers can be any combination of an earth berm with an acoustic wall on top. All noise barriers must return back to the proposed buildings so that the amenity areas are entirely shielded from the roadway. The wall component of the barrier should be of a solid construction with a surface density of no less than 20 kg/m^2. The walls may be constructed from a variety of materials such as wood, brick, pre-cast concrete or other concrete/wood composite systems provided that it is free of gaps or cracks within or below its extent.

The proposed buildings may have balconies and patios that are less than 4 m in depth. These areas are not considered to be outdoor amenity areas under MECP guidelines and are therefore exempt from traffic noise assessment.

3.3.2 Indoor Living Areas and Ventilation Requirements

Air Conditioning

The predicted sound levels at the top-storey façades of the proposed buildings adjacent to Stouffville Road and Highway 48 (Buildings A, E and the Daycare) exceed 65 dBA during the daytime. Therefore, central air conditioning is required for the proposed buildings, so that windows may remain closed against the noise.

The predicted sound levels at the top-storey façades of the remaining proposed buildings (Buildings B, C, and D) will be between 56 and 65 dBA during the daytime and between 51 and 60 dBA during the nighttime. To address these sound levels for the multi-storey buildings, the inclusion of central air conditioning will meet and exceed the ventilation requirement and are expected at any case.

Window or through-the-wall air conditioning units are not recommended for any residential units because of the noise they produce and because the units penetrate through the exterior wall which degrades the overall noise insulating properties of the envelope. Acceptable units can be housed in their own closet with an access door for maintenance. The location, installation and sound ratings of the outdoor air conditioning devices should minimize noise impacts and comply with criteria of MECP publication NPC-300, as applicable.

3.3.3 Building Façade Constructions

Given the projected future sound levels at the building facades of the proposed buildings adjacent to Stouffville Road (Buildings A, E and the Daycare), MECP guidelines recommend that the building envelopes be designed so that indoor sound levels comply with the MECP noise criteria.

Preliminary calculations have been performed to determine the building envelope constructions likely to be required to maintain indoor sound levels within MECP guidelines. The calculation methods were developed by the National Research Council (NRC). They are based on the maximum predicted

future sound levels at the building façades, and the anticipated areas of the façade components (walls, doors and windows) relative to the floor area of the adjacent room.

For the purposes of this preliminary analysis, typical window-to-floor areas were conservatively assumed to be 80% (i.e. 60% fixed, 20% operable elements relative to floor area). Based upon these assumptions, and the maximum predicted sound levels at the associated facades, the minimum sound transmission class (STC) ratings of fixed window glazing required to achieve the target indoor sound level criteria will be STC-33 or lower. Note that as predicted daytime sound levels exceed the criteria by more than the predicted nighttime sound levels, daytime evaluation of the façades dominates the requirements. Operable doors and windows can be two to three points lower, subject to a minimum of STC-33, to address incidental noises in the environment which are not specifically modelled; this rating can be achieved using standard glazing assemblies.

Note that this rating is a minimum for the entire assembly (including mullions and seals). If more glazing is incorporated, higher STC requirements may apply. Acoustical criteria for the building façades can be optimized as part of the detailed design of the building envelope, if required.

These calculations assume insignificant sound transmission through the walls in comparison with the windows. Exterior walls that are not glazed should have sufficient acoustical insulation value such that the noise transmitted through is negligible in comparison with the windows; to achieve this, exterior wall assemblies with a rating of at least 5-10 STC points above the surrounding window STC requirements are typically required, depending on the amount of wall area relative to window. In most cases, the wall sound insulation is much higher than this; sections of poured or pre-cast concrete will typically have a sound insulation rating of STC-55 or more and can be discounted. Insulated spandrel or metal panels backed by a drywall assembly generally have sound insulation ratings in the range of STC-45 to STC-55.

The predicted sound levels at the facades of the remaining buildings will have predicted sound levels less than 65 dBA during the daytime and less than or equal to 60 dBA during the nighttime. Thus, any exterior wall and double glazed window construction meeting the minimum requirements of the OBC will provide adequate sound insulation.

Further Analysis

When detailed floor plans and elevations are available for Buildings A, E and the Daycare, a detailed noise study should be performed to specify wall and window requirements with sufficient acoustical insulation for the dwelling units based on actual window to floor area ratios.

4 WARNING CLAUSES

The MECP guidelines recommend that warning clauses be included in the property and tenancy agreements and offers of purchase and sale for all dwelling units with anticipated traffic sound level excesses. Examples are provided below and follows the labels outlined in NPC-300. Such clauses are often included by reference to the Development Agreements in which they are contained.

The following clauses should be included for the residential buildings.

Type B1:

> 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 may on occasion interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Ministry of the Environment, Conservation and Parks.

Type D1:

> This dwelling unit has been supplied with a central air conditioning system which allows 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, Conservation and Parks.

Type E1:

> Purchasers/tenants are advised that due to the proximity of the nearby commercial facilities, noise from these facilities may at times be audible.

The following clauses should be included for the daycare building.

Type B2:

> Owners and 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 may on occasion interfere with some activities of the occupants as the sound levels exceed the sound level limits of the Ministry of the Environment, Conservation and Parks.

Type D2:

> This building has been supplied with a central air conditioning system which allows 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, Conservation and Parks.

Type E2:

> Owners and tenants are advised that due to the proximity of the nearby commercial facilities, noise from these facilities may at times be audible.

5 IMPACT OF THE DEVELOPMENT ON ITSELF

Section 5.8.1.1 of the Ontario Building Code (OBC), released on January 1, 2020, specifies the minimum required sound insulation characteristics for demising partitions, in terms of Sound Transmission Class (STC) or Apparent Sound Transmission Class (ASTC) values. In order to maintain adequate acoustical privacy between separate suites in a multi-tenant building, inter-suite walls must meet or exceed STC-50 or ASTC-47. Suite separation from a refuse chute or elevator shaft must meet or exceed STC-55. In addition, it is recommended that the floor/ceiling constructions separating suites from any amenity or commercial spaces also meet or exceed STC-55. Tables 1 and 2 in Section SB-3 of the Supplementary Guideline to the OBC provide a comprehensive list of constructions that will meet the above requirements.

Tarion's Builder Bulletin B19R requires the internal design of condominium projects to integrate suitable acoustic features to insulate the suites from noise from each other and amenities in accordance with the OBC, and limit the potential intrusions of mechanical and electrical services of the building on its residents. If B19R certification is needed, an acoustical consultant is required to review the mechanical and electrical drawings and details of demising constructions and mechanical/electrical equipment, when available, to help ensure that the noise impact of the development on itself is maintained within acceptable levels.

6 IMPACT OF THE DEVELOPMENT ON THE ENVIRONMENT

It is expected that any increase in local traffic associated with the development will not be substantial enough to affect noise levels significantly.

Sound levels from stationary (non-traffic) sources of noise such as rooftop air-conditioners, cooling towers, exhaust fans, etc. should not exceed the minimum one-hour LEQ ambient (background) sound level from road traffic, at any potentially impacted residential point of reception, to comply with the City's noise by-laws. Based on the levels observed during our site visit, the typical minimum ambient sound levels in the area are expected to be in the range of 55 dBA or more during the day and 50 dBA or more at night. Thus, any electro-mechanical equipment associated with this development (e.g. emergency generator testing, fresh-air handling equipment, etc.) should be designed with these targets in mind such that they do not result in noise impact beyond these ranges.

When mechanical information is available for the daycare, a review should be conducted to ensure that the noise impact from the mechanical equipment will be within applicable limits at the surrounding sensitive uses, including the proposed residential buildings.

7 SUMMARY AND RECOMMENDATIONS

The following table and list summarize the recommendations made in this report. The reader is referred to the previous sections of the report where these recommendations are discussed in more detail.

1. The proposed buildings adjacent to Stouffville Road (Buildings A and E, Daycare) will require central air conditioning systems. For the remaining buildings (Buildings B, C, and D), the inclusion of central air conditioning will meet and exceed the ventilation requirement. The location, installation and sound ratings of the outdoor air conditioning devices should comply with NPC 300, as applicable.

2. Acoustic barriers are required around the amenity areas associated with the daycare (R1, R2 and R3). Refer to Section 3.3.1.

3. Upgraded glazing constructions for the proposed buildings will be required to ensure adequate sound levels from road traffic noise, as outlined in Section 3.3.3. Once detailed floor plans and building elevations are finalized, acoustical performance criteria for the building façades can be optimized as part of the detailed design of the building envelope.

4. Warning clauses should be used to inform future residents of the potential noise intrusions from the surrounding noise sources, including traffic noise, and commercial uses and the future owners/occupants of the daycare building.

5. When mechanical information is available for the daycare, a review should be conducted to ensure that the noise impact from the mechanical equipment will be within applicable limits at the surrounding sensitive uses, including the proposed residential buildings.

Table V: Summary of Noise Control Requirements and Noise Warning Clauses

Building	Acoustic Barrier	Ventilation Requirements*	Type of Warning Clause	Required Glazing Constructions **
Building A	--	Central A/C	B1, D1, E1	STC-33
Building B	--	Central A/C		
Building C	--	Central A/C		
Building D	--	Central A/C		
Building E	--	Central A/C		
Daycare	--	Central A/C	B2, D2, E2	
R1 - Daycare Play Area (G/F)	✓	--	--	--
R2 - Daycare Play Area (G/F)	✓			
R3 - Daycare Play Area (G/F)	✓			
R4 to R6 – At-Grade Amenity Areas (G/F)	--			
R7 - Building B/C OLA (2/F)	+			
R8 - Building D/E OLA (2/F)	+			

Notes:
* The location, installation and sound rating of the air conditioning condensers must be compliant with MECP Guideline NPC-300, as applicable.
** When siting information, detailed floor plans and building elevations are available for the buildings adjacent to the roadways, window glazing construction should be refined on actual window to floor ratios.
-- No specific requirements.
✓ Acoustic barrier required.
+ 1.07 m high standard solid barrier or parapet.

7.1 Implementation

To ensure that the noise control recommendations outlined above are properly implemented, it is recommended that:

1. Prior to the issuance of building permits for this development, a Professional Engineer qualified to perform acoustical engineering services in the Province of Ontario should review the detailed architectural plans and building elevations of the Buildings A, E and the Daycare to refine glazing requirements based on actual window to floor area ratios. Grading plans should also be reviewed to confirm that the proposed noise barrier heights for the Daycare play areas will provide sufficient noise attenuation.

2. Prior to the issuance of occupancy permits for this development, the Municipality's building inspector or a Professional Engineer qualified to perform acoustical engineering services in the Province of Ontario should certify that the noise control measures have been properly incorporated, installed, and constructed.

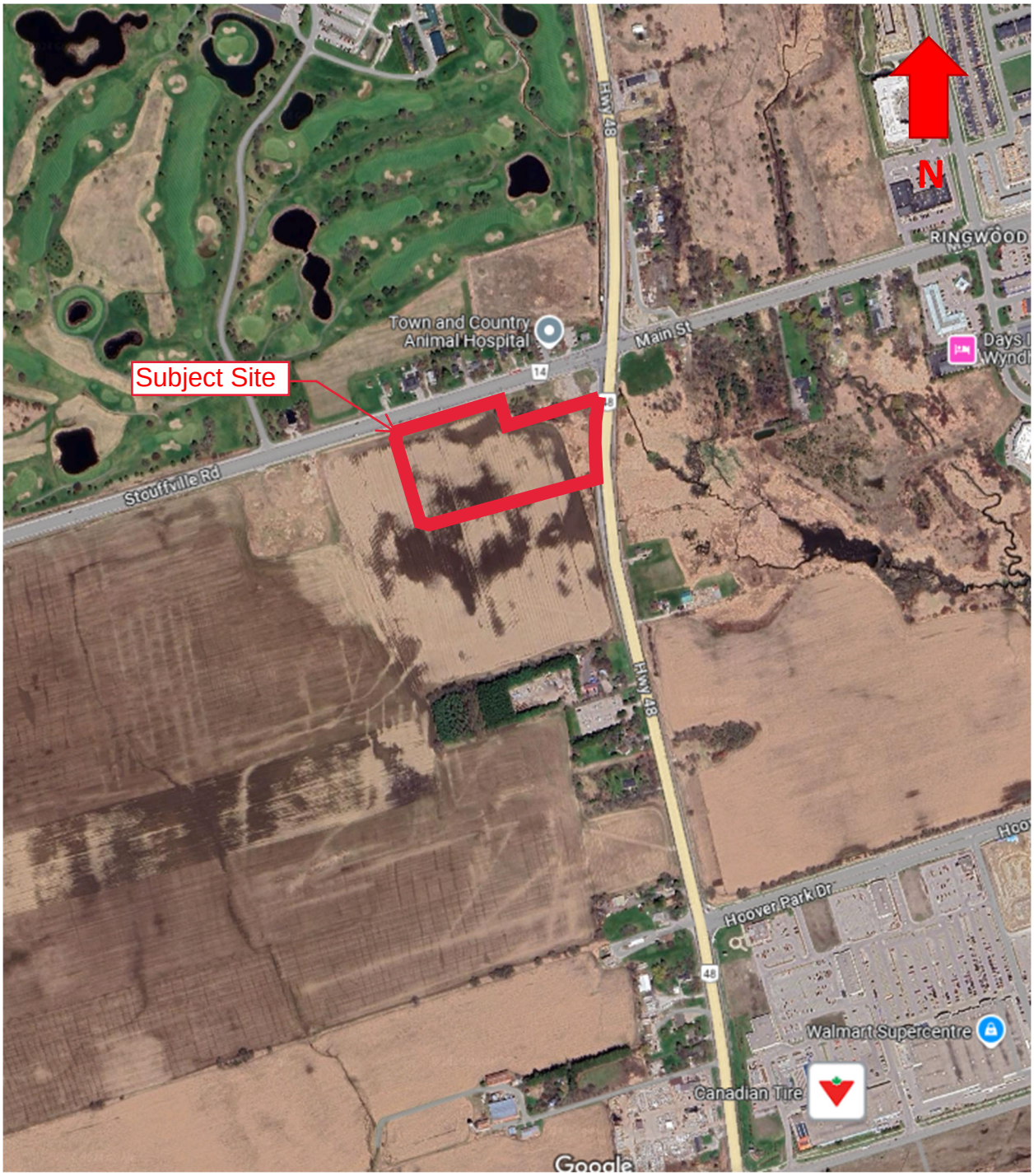

Figure 1: Key Plan

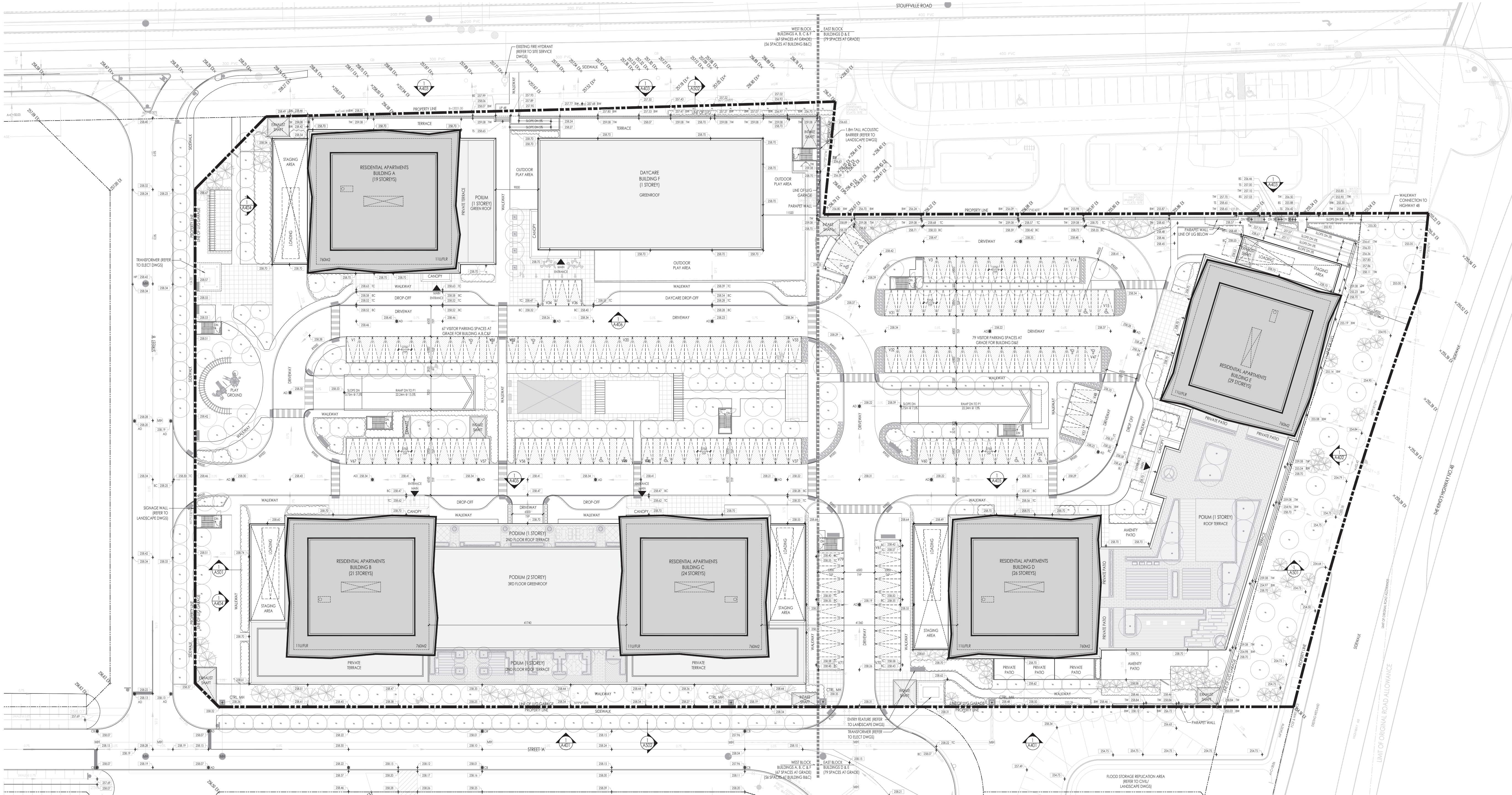

Figure 2: Site Plan

KEY PLAN NTS

SURVEY INFORMATION

PLAN OF SURVEY	PART OF LOTS 34 AND 35 CONCESSION 7 TOWN OF WHITCHURCH - STOUFFVILLE (GEOGRAPHIC TOWNSHIP OF MARKHAM) REGIONAL MUNICIPALITY OF YORK
NOTES	BEARINGS SHOWN HEREON ARE GRID BEARINGS AND ARE DERIVED FROM HORIZONTAL CONTROL MONUMENTS No. 00819810597 AND No.00819760177, ZONE 17, CENTRAL MERIDIAN 81° 00' WEST LONGITUDE. (6° UNIVERSAL TRANSVERSE MERCATOR PROJECTION, NAD 83 (CSRS-CBNV6-2010.0)) HCM No. 00819810597 N 4868964.776 E 637951.980; HCM No. 00819760177 N 4865466.153 E 638998.965. DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999804.
ADDITIONAL NOTES	DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METERS AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.
SURVEY PLOT DATE	DECEMBER 13, 2024
SURVEYOR CONTACT INFORMATION	R. AVIS SURVEYING INC. 235 YORKLAND BOULEVARD, SUITE 203 TORONTO, ONTARIO, M2J 4Y8 TEL: (416) 490-8352 FAX: (416) 491-6206 www.ravissurveying.com

GENERAL NOTES

SITE PLAN LEGEND NTS

- MAIN ENTRANCE
- SECONDARY ENTRANCE
- EXISTING GRADE DATUM
- FINISH FLOOR ELEVATION
- ESTABLISHED GRADE
- PROPOSED GRADE DATUM
- EXISTING TREE (REFER TO SURVEY) CANOPY NOT TO SCALE
- PROPOSED TREE (REFER TO LANDSCAPE DWGS)
- EXISTING HYDRANT (REFER TO SURVEY)
- PROPOSED HYDRANT (REFER TO CIVIL DWGS)
- SIAMESE CONNECTION (REFER TO MECH/CIVIL DWGS)
- SANITARY MANHOLE (REFER TO CIVIL DWGS)
- STORM SEWER MANHOLE (REFER TO CIVIL DWGS)
- CATCHBASIN SEDIMENT TRAP (REFER TO CIVIL DWGS)
- CATCHBASIN (REFER TO CIVIL DWGS)
- EXISTING STREET LIGHT (REFER TO SURVEY/ELEC)
- PROPOSED STREET LIGHT (REFER TO ELEC DWGS)
- TRANSFORMER (REFER TO ELEC DWGS)
- GAS METER (REFER TO MECH DWGS)
- HYDRO METER (REFER TO ELEC DWGS)
- RECEPTACLE (REFER TO ELEC DWGS)
- AREA DRAIN
- HOSE BIB (REFER TO MECH/CIVIL DWGS)
- POST-MOUNTED SIGN (REFER TO TRAFFIC REPORT)
- WALL/COLUMN-MOUNTED SIGN (REFER TO TRAFFIC REPORT)
- BF = BARRIER FREE PARKING; LZ = LOADING ZONE; NP = NO PARKING; NS = NO STOPPING; STOP = STOP SIGN; TM = TRUCK MANOEUVRING; CM = CONVEX MIRROR; FR = FIRE ROUTE
- BL = BOLLARD LIGHTING (REFER TO LANDSCAPE DWGS); PL = POLE LIGHTING
- WALL/COLUMN/FENCE-MOUNTED OR CEILING-MOUNTED CONVEX MIRROR SUBJECT TO ACTUAL CONDITION
- ELECTRIC VEHICLE CHARGER ROUGH-IN (SEE ELEC DWGS)

PARKING LEGEND NTS

NOTE: TYPICAL DRIVE AISLE - MIN 6500 CLEAR

- TYPICAL PARKING SPACE (2750 x 5500)
- TANDUM PARKING SPACE (2750 x 5500)
- TYPICAL VISITOR PARKING SPACE (2750 x 5500)
- TYPICAL PARALLEL PARKING SPACE (2750 x 6700)
- PROPOSED HORIZONTAL BICYCLE PARKING (600X1800) - ALSO REFER TO LANDSCAPE DWGS
- TYPE 'A' BARRIER FREE PARKING SPACE (3400 x 5500 + 1500 AISLE*) *NOTE: 2 BF SPACE MAY SHARE AISLE
- TYPE 'B' BARRIER FREE PARKING SPACE (2400 x 5500 + 1500 AISLE*) *NOTE: 2 BF SPACE MAY SHARE AISLE
- TYP. LOADING SPACE (3600 x 15000)

1. SITE AREA

	SQ. FEET (ft2)	SQ. METER (m2)	ACRES (ac)	HECTARES (ha)
TOTAL	307,632 ft2	28,580 m2	7.06 ac	2.86 ha

2. DENSITY (F.S.I)

GROSS FLOOR AREA (GFA) / LOT AREA	98,170 m2 /	28,580 m2	3.43

3. BUILDING HEIGHT (OVERALL HEIGHT MEASURED FROM GROUND FLOOR)

	BUILDING A	BUILDING B	BUILDING C	BUILDING D	BUILDING E	BUILDING F
PODIUM	1 STOREY	1 STOREY	1 STOREY	1 STOREY	1 STOREY	1 STOREY
TOWER	18 STOREY	20 STOREY	23 STOREY	25 STOREY	28 STOREY	-
TOTAL	19 STOREY	21 STOREY	24 STOREY	26 STOREY	29 STOREY	1 STOREY

4. GARBAGE/RECYCLING ROOM

	BUILDING A	BUILDING B	BUILDING C	BUILDING D	BUILDING E	BUILDING F
GARBAGE ROOM	1	1	1	1	1	1
MINIMUM OF 20 m² FOR BULKY ITEMS STORAGE	1	1	1	1	1	

5. UNIT MIX

West Block

BUILDING A	STUDIO	1B/1B+D	2B/2B+D	3B/3B+D	TOTAL	BUILDING B	STUDIO	1B/1B+D	2B/2B+D	3B/3B+D	TOTAL	BUILDING C	STUDIO	1B/1B+D	2B/2B+D	3B/3B+D	TOTAL	TOTAL
GROUND FLOOR	0	0	0	0	0	GROUND FLOOR	0	0	0	0	0	GROUND FLOOR	0	0	0	0	0	0
2ND FLOOR	1	5	5	0	11	2ND FLOOR	0	4	5	0	9	2ND FLOOR	0	4	5	0	9	29
3RD-18TH FLOOR (16FL)	16	80	80	0	176	3RD-20TH FLOOR (18FL)	18	90	90	0	198	3RD-23RD FLOOR (21FL)	21	105	105	0	231	605
19TH FLOOR	0	5	4	1	10	21ST FLOOR	1	5	5	0	11	24TH FLOOR	1	5	5	0	11	32
TOTAL - BUILDING A	17	90	89	1	197	TOTAL - BUILDING B	19	99	100	0	218	TOTAL - BUILDING C	22	114	115	0	251	666

East Block

BUILDING D	STUDIO	1B/1B+D	2B/2B+D	3B/3B+D	TOTAL	BUILDING E	STUDIO	1B/1B+D	2B/2B+D	3B/3B+D	TOTAL	TOTAL	TOTAL UNITS
GROUND FLOOR	0	0	3	0	3	GROUND FLOOR	0	2	1	0	3	6	6
2ND FLOOR	0	5	5	0	10	2ND FLOOR	0	5	5	0	10	49	78
3RD-25TH FLOOR (23FL)	23	115	115	0	253	3RD-28TH FLOOR (26FL)	26	130	130	0	286	1144	1749
26TH FLOOR	0	0	3	3	6	29TH FLOOR	0	0	3	3	6	44	76
TOTAL - BUILDING D	23	120	126	3	272	TOTAL - BUILDING E	26	137	139	3	305	577	*1243

* OF WHICH 15% IS BARRIER FREE

6. LOCKER STORAGE

	WEST BLOCK				EAST BLOCK			TOTAL	
	BUILDING A	BUILDING B	BUILDING C	TOTAL	BUILDING D	BUILDING E	TOTAL		
GROUND	0	0	0	0	0	0	0	0	
P1 UNDERGROUND	168	60	4	232	51	40	91	323	
P2 UNDERGROUND	222	152	60	434	115	128	243	677	
P3 UNDERGROUND					115	128	243	243	
TOTAL PROVIDED	390	212	64	666	281	296	577	1,243	(1.0 SP/UNIT)

7. PARKING

MIN. PARKING REQUIRED	0.25 SP/UNIT VISITOR						1.25 SP/UNIT RESIDENTIAL					1.50 SP/U TOTAL
	VISITOR						RESIDENTIAL					TOTAL
	WEST BLOCK				EAST BLOCK		WEST BLOCK			EAST BLOCK		
	BUILDING A	BUILDING B	BUILDING C	BUILDING F	BUILDING D	BUILDING E	BUILDING A	BUILDING B	BUILDING C	BUILDING D	BUILDING E	
	(167 REQ)			(20 REQ)	(145 REQ)		(832 REQ)			(721 REQ)		
SURFACE	20	22	25		38	41						* 146
GROUND FLOOR	17	19	20									** 56
P1 UNDERGROUND	13	15	16		31	35	116	128	144	91	98	*** 687
P2 UNDERGROUND							133	147	164	125	140	709
P3 UNDERGROUND							0	0	0	126	141	267
BUILDING SUBTOTAL PROVIDED	50	56	61				249	275	308	342	379	
BLOCK SUBTOTAL PROVIDED	167				145		832			721		
TOTAL PROVIDED	**** 312						1,553					1,865

* OF WHICH 10 ARE TYPE A AND 6 ARE TYPE B BF SPACES
** OF WHICH 2 ARE TYPE A AND 1 ARE TYPE B BF SPACES
*** OF WHICH 3 ARE TYPE A AND 8 ARE TYPE B BF SPACES
****OF WHICH 20 ARE SHARED WITH DAYCARE

8. BICYCLE PARKING

MIN. PARKING REQUIRED	0.25 SP/UNIT BICYCLES											
	SHORT-TERM						LONG-TERM					TOTAL
	WEST BLOCK				EAST BLOCK		WEST BLOCK			EAST BLOCK		
	BUIDLING A	BUIDLING B	BUIDLING C	BUIDLING F	BUIDLING D	BUIDLING E	BUIDLING A	BUIDLING B	BUIDLING C	BUIDLING D	BUIDLING E	
SURFACE												
GROUND FLOOR	22	22	22		22	22						110
P1 UNDERGROUND							26	39	36	52	48	201
P2 UNDERGROUND												
P3 UNDERGROUND												
BUILDING SUBTOTAL PROVIDED	22	22	22	0	22	22	26	39	36	52	48	
BLOCK SUBTOTAL PROVIDED	66				44		101			100		
TOTAL PROVIDED	110						201					311

9. GROSS FLOOR AREA (GFA)

West Block

BUILDING A	NO. FLS x (m2)	SQ METER (m2)	SQ FEET (ft2)	BUILDING B	NO. FLS x (m2)	SQ METER (m2)	SQ FEET (ft2)	BUILDING C	NO. FLS x (m2)	SQ METER (m2)	SQ FEET (ft2)	BUILDING F (DAYCARE)	SQ METER (m2)	SQ FEET (ft2)	WEST BLOCK TOTAL SQ METER (m2)	WEST BLOCK TOTAL SQ FEET (ft2)
P3 UNDERGROUND				P3 UNDERGROUND				P3 UNDERGROUND								
P2 UNDERGROUND		110 m2	1,184 ft2	P2 UNDERGROUND		125 m2	1,345 ft2	P2 UNDERGROUND		134 m2	1,442 ft2		0 m2	0 ft2	369 m2	3,972 ft2
P1 UNDERGROUND		110 m2	1,184 ft2	P1 UNDERGROUND		142 m2	1,528 ft2	P1 UNDERGROUND		134 m2	1,442 ft2		0 m2	0 ft2	386 m2	4,155 ft2
GROUND				GROUND				GROUND				GROUND				
RESIDENTIAL		803 m2	8,643 ft2	RESIDENTIAL		683 m2	7,352 ft2	RESIDENTIAL		683 m2	7,352 ft2	DAYCARE	1,116 m2	12,013 ft2	3,285 m2	35,359 ft2
AMENITY		326 m2	3,509 ft2	AMENITY		14 m2	151 ft2	AMENITY		14 m2	151 ft2		m2	0 ft2	354 m2	3,810 ft2
SUBTOTAL		1,129 m2	12,152 ft2	SUBTOTAL		697 m2	7,502 ft2	SUBTOTAL		697 m2	7,502 ft2	SUBTOTAL	1,116 m2	12,013 ft2	3,639 m2	39,170 ft2
2ND FLOOR				2ND FLOOR				2ND FLOOR								
RESIDENTIAL		760 m2	8,181 ft2	RESIDENTIAL		841 m2	9,052 ft2	RESIDENTIAL		841 m2	9,052 ft2				2,442 m2	26,285 ft2
AMENITY		0 m2	0 ft2	AMENITY		372 m2	4,004 ft2	AMENITY		372 m2	4,004 ft2				744 m2	8,008 ft2
SUBTOTAL		760 m2	8,181 ft2	SUBTOTAL		1,213 m2	13,057 ft2	SUBTOTAL		1,213 m2	13,057 ft2				3,186 m2	34,294 ft2
3RD-18TH FLOOR	16 FLRSx 760 m2	12,160 m2	130,889 ft2	3RD-20TH FLOOR	18 FLRSx 760 m2	13,680 m2	147,250 ft2	3RD-23RD FLOOR	21 FLRSx 760 m2	15,960 m2	171,792 ft2				41,800 m2	449,931 ft2
19TH FLOOR		760 m2	8,181 ft2	21ST FLOOR		760 m2	8,181 ft2	24TH FLOOR		760 m2	8,181 ft2				2,280 m2	24,542 ft2
MECH PENTHOUSE		465 m2	5,005 ft2	MECH PENTHOUSE		465 m2	5,005 ft2	MECH PENTHOUSE		465 m2	5,005 ft2				1,395 m2	15,016 ft2
TOTAL - BUILDING A		15,494 m2	166,776 ft2	TOTAL - BUILDING B		17,082 m2	183,869 ft2	TOTAL - BUILDING C		19,363 m2	208,421 ft2	TOTAL - BUILDING F	1,116 m2	12,013 ft2	53,055 m2	571,079 ft2

East Block

BUILDING D	NO. FLS x (m2)	SQ METER (m2)	SQ FEET (ft2)	BUILDING E	NO. FLS x (m2)	SQ METER (m2)	SQ FEET (ft2)	EAST BLOCK TOTAL SQ METER (m2)	EAST BLOCK TOTAL SQ FEET (ft2)	PROJECT TOTAL SQ METER (m2)	PROJECT TOTAL SQ FEET (ft2)
P3 UNDERGROUND		133 m2	1,432 ft2	P3 UNDERGROUND		109 m2	1,173 ft2	242 m2	2,605 ft2	242 m2	2,605 ft2
P2 UNDERGROUND		133 m2	1,432 ft2	P2 UNDERGROUND		109 m2	1,173 ft2	242 m2	2,605 ft2	611 m2	6,577 ft2
P1 UNDERGROUND		133 m2	1,432 ft2	P1 UNDERGROUND		109 m2	1,173 ft2	242 m2	2,605 ft2	628 m2	6,760 ft2
GROUND				GROUND							
RESIDENTIAL		1,462 m2	15,737 ft2	RESIDENTIAL		789 m2	8,493 ft2	2,251 m2	24,230 ft2	5,536 m2	59,589 ft2
AMENITY		464 m2	4,994 ft2	AMENITY		464 m2	4,994 ft2	928 m2	9,989 ft2	1,282 m2	13,799 ft2
SUBTOTAL		1,926 m2	20,731 ft2	SUBTOTAL		1,253 m2	13,487 ft2	3,179 m2	34,218 ft2	6,818 m2	73,388 ft2
2ND FLOOR				2ND FLOOR							
RESIDENTIAL		737 m2	7,933 ft2	RESIDENTIAL		737 m2	7,933 ft2	1,474 m2	15,866 ft2	3,916 m2	42,151 ft2
AMENITY		23 m2	248 ft2	AMENITY		23 m2	248 ft2	46 m2	495 ft2	790 m2	8,503 ft2
SUBTOTAL		760 m2	8,181 ft2	SUBTOTAL		760 m2	8,181 ft2	1,520 m2	16,361 ft2	4,706 m2	50,655 ft2
3RD-25TH FLOOR	23 FLRSx 760 m2	17,480 m2	188,153 ft2	3RD-28TH FLOOR	26 FLRSx 760 m2	19,760 m2	212,695 ft2	37,240 m2	400,848 ft2	79,040 m2	850,779 ft2
26TH FLOOR		760 m2	8,181 ft2	29TH FLOOR		760 m2	8,181 ft2	1,520 m2	16,361 ft2	3,800 m2	40,903 ft2
MECH PENTHOUSE		465 m2	5,005 ft2	MECH PENTHOUSE		465 m2	5,005 ft2	930 m2	10,010 ft2	2,325 m2	25,026 ft2
TOTAL - BUILDING D		21,790 m2	234,545 ft2	TOTAL - BUILDING E		23,325 m2	249,895 ft2	45,115 m2	485,613 ft2	*98,170 m2	1,056,692 ft2

*OF WHICH 1.5m2/UNIT MIN. IS INDOOR AMEITY

10. INDOOR AMENITY

MIN. REQUIRED 1.5 sq.m/UNIT

11. OUTDOOR AMENITY

MIN. REQUIRED 1.5 sq.m/UNIT

12. LOADING AREA

5 PROVIDED (DAYCARE TO SHARE LOADING WITH BUILDING E)

ANDRÉ BROCHU
DIPL. ARCH., OAA MRAIC DATE

NO.	DATE	ISSUE	BY
1	MAY 2, 2025	ISSUED FOR OPA/REZONING	AB

Issued

ICKE | BROCHU ARCHITECTS INC
517 Wellington St W., Suite 201, Toronto, Ontario, M5V 1G1
T 647 288 1800 ibarchitects.net

5061 STOUFFVILLE ROAD RESIDENTIAL DEVELOPMENT

5061 STOUFFVILLE ROAD STOUFFVILLE, ONTARIO

Drawing title
SITE PLAN

TOWN FILE NO.

Date	JANUARY, 2024	Drawn By	PL
Scale	1:250	Reviewed By	AB
Project No.	19.17	Drawing No.	A102
Plot Date	April 30, 2025		

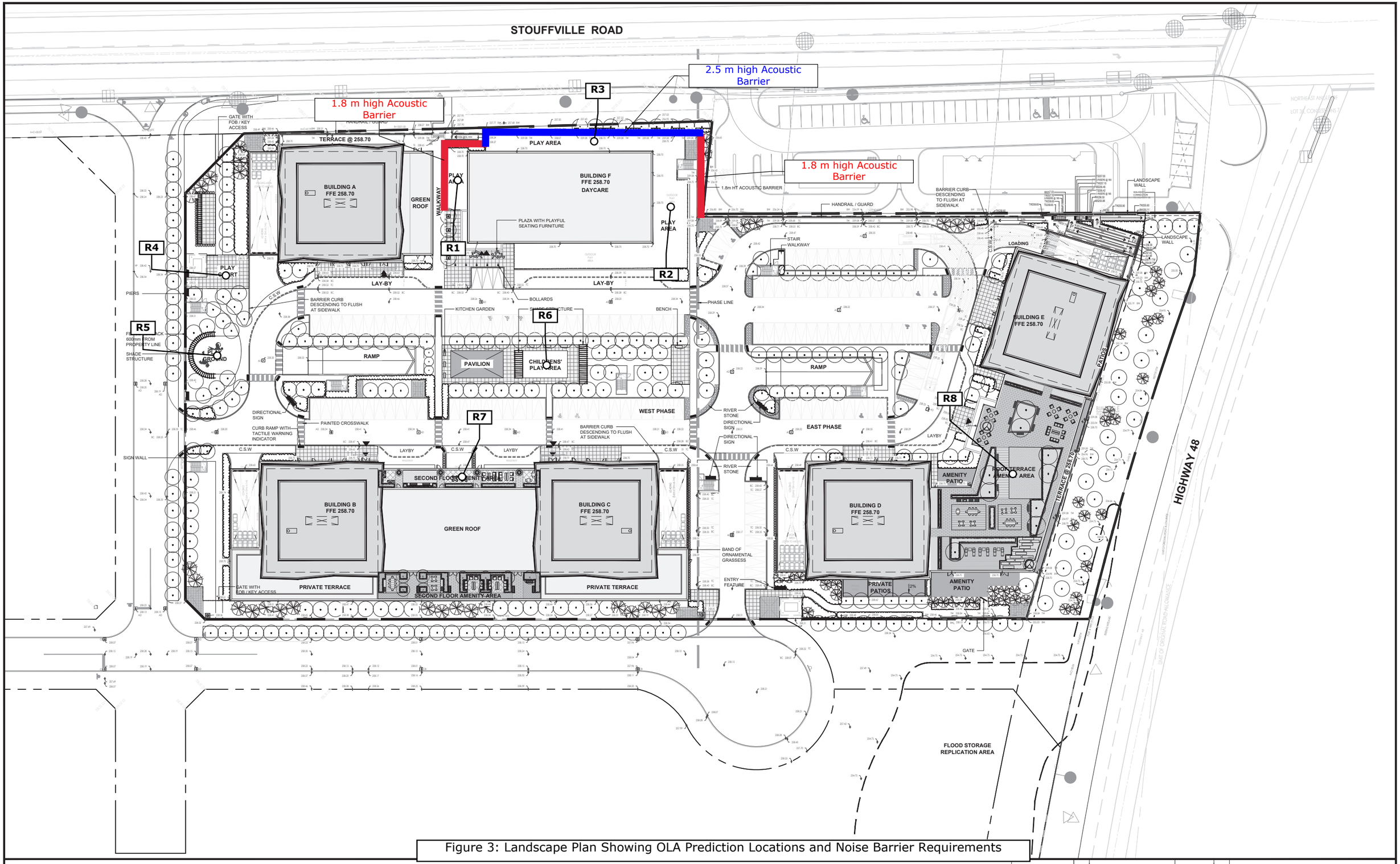

Figure 3: Landscape Plan Showing OLA Prediction Locations and Noise Barrier Requirements

0 5 10 20 30 40m
SCALE 1:400

HIGHWAY NO. 48 AND STOUFFVILLE ROAD
CONCEPTUAL LANDSCAPE MASTER PLAN

5061 STOUFFVILLE ROAD, WHITCHURCH-STOUFFVILLE, ON

No.	Revision	Date	By
1	Issued for OPA/ZBLA	2024-05-02	RMS

SCHOLLEN & Company Inc.
30 Wertheim Court, Unit 15
Richmond Hill, Ontario L4B 1B9
T: 289-695-0009
F: 289-695-0010

1:400 2023028

S:\Projects\Times Group - Highway 48 Development Stouffville 2023028\drawings\concept drawings\2023028-concept plan_1_18662_5224ef19.sv$-2.dwg

Appendix A
Road Traffic Information

Public Works
Transportation Infrastructure Asset Management

October 22, 2024

Yvonne Lo
HGC Engineering
2000 Argentia Road, Plaza One, Suite 203
Mississauga, ON L5N 1P7

Re: Request for Traffic Data
File No. T09, Forecasts - Whitchurch-Stouffville

As requested, the traffic data for your study are summarized below.

	Stouffville Road
Section No.	14-38
Location	West of Highway 48
Existing AADT	18,000 (2022)
Ultimate AADT	36,000
No. of Lanes	4
Posted Speed	Up to 70 km/h
Trucks (Med/Heavy)	2% / 3%
Grade	Up to 4%
Day/Night Split	89/11
Planned ROW	Up to 36 m

I trust that this will be satisfactory for your study. The invoice will be sent to you separately.

Sincerely,

Wenli Gao
Transportation Planning, Forecasting

WG/wg

YORK-#16416890-v1-240061_Lo_Stouffville_west_Hwy48.docx

Year	Highway	Location Description	Dist (KM)	Pattern Type	AADT	SADT	SWADT	WADT	Truck AADT	Total Collisions	Total CR	Trucks Collisions	Truck CR
2019	41			UC	5,250	5,150	5,250	5,050	370	2	0.7	0	0.0
2021	41			UC	5,150	5,150	5,250	4,950	360	0	0.0	0	0.0
2021	41	HWY 17 START OF NA	1.0										
2021	41	RENFREW RD 19 END OF NA END OF HWY											
2021	48	MARKHAM RD START OF NA	14.1										
1988	48	YORK RD 25 MAJOR MACKENZIE DR	6.1	CR	10,800	13,800	13,000	8,950	650	17	0.7	3	0.1
1989	48			CR	11,000	14,100	13,100	9,250	660	31	1.3	2	0.1
1990	48			CR	11,300	14,000	13,000	10,200	790	25	1.0	1	0.0
1991	48			CR	11,300	13,900	13,000	10,200	790	13	0.5	2	0.1
1992	48			CR	11,300	13,900	12,900	10,200	790	17	0.7	1	0.0
1993	48			CR	11,300	13,900	13,000	10,200	790	21	0.8	0	0.0
1994	48			CR	11,600	14,300	13,200	10,400	810	24	0.9	2	0.1
1995	48			CR	11,700	14,500	13,800	10,100	820	19	0.7	1	0.0
1996	48			IR	13,200	16,400	14,700	11,200	920	23	0.8	1	0.0
1997	48			IC	12,000	13,400	13,600	10,600	840	28	1.1	2	0.1
1998	48			IC	12,200	13,700	13,700	10,900	850	14	0.5	0	0.0
1999	48			IC	11,700	13,100	13,100	10,400	820	14	0.5	0	0.0
2000	48			IC	11,100	12,400	12,400	9,900	890	23	0.9	2	0.1
2001	48			IC	11,200	12,500	12,600	9,900	670	13	0.5	0	0.0
2002	48			IC	10,900	12,200	12,200	9,600	760	15	0.6	0	0.0
2003	48			IC	10,700	11,900	12,000	9,500	860	24	1.0	3	0.1
2004	48			IC	10,700	12,000	12,000	9,450	860	17	0.7	1	0.0
2005	48			IC	11,300	12,600	12,700	9,950	900	14	0.6	1	0.0
2006	48			IC	10,400	11,600	11,700	9,200	830	25	1.1	0	0.0
2007	48			IC	11,700	13,000	13,400	10,300	940	24	0.9	0	0.0
2008	48			IC	13,000	14,400	13,900	11,500	1,050	25	0.9	4	0.1
2009	48			IC	11,700	13,000	13,100	10,400	940	24	0.9	1	0.0
2010	48			IC	13,200	14,600	14,700	11,700	1,050	13	0.4	0	0.0
2011	48			IC	14,000	15,400	16,000	12,600	1,100	15	0.5	2	0.1
2012	48			IC	14,000	15,500	15,000	12,400	1,100	19	0.6	1	0.0
2013	48			IC	12,600	13,900	13,900	11,200	1,000	23	0.8	0	0.0
2014	48			CTR	12,600	15,400	15,500	10,700	1,000	20	0.7	5	0.2
2015	48			CTR	12,700	15,500	15,600	10,800	1,000	22	0.8	2	0.1
2016	48			CTR	12,800	15,600	15,700	10,900	1,000	25	0.9	2	0.1
2017	48			CTR	12,900	17,200	17,100	10,500	1,050	19	0.7	2	0.1
2018	48			CTR	12,900	17,200	17,200	10,500	1,050	22	0.8	1	0.0
2019	48			CTR	13,000	17,300	17,200	10,600	1,050	27	0.9	1	0.0
2021	48			CTR	13,100	17,100	17,000	10,700	1,050	15	0.5	1	0.0
1988	48	HWY 47 YORK RD 14 WHITCHURCH/STOUFFVILLE	4.1	CR	9,100	11,600	10,900	7,550	1,250	7	0.5	0	0.0
1989	48			CR	9,250	11,800	11,000	7,750	1,300	11	0.8	0	0.0
1990	48			CR	9,350	11,600	10,800	8,400	1,300	8	0.6	3	0.2

Year	Highway	Location Description	Dist (KM)	Pattern Type	AADT	SADT	SWADT	WADT	Truck AADT	Total Collisions	Total CR	Trucks Collisions	Truck CR
1991	48			CR	9,300	11,400	10,700	8,350	1,300	12	0.9	0	0.0
1992	48			CR	9,300	11,400	10,600	8,350	1,300	9	0.6	0	0.0
1993	48			CR	9,250	11,400	10,600	8,300	650	8	0.6	0	0.0
1994	48			CR	9,750	12,000	11,100	8,800	680	9	0.6	0	0.0
1995	48			CR	9,900	12,300	11,700	8,500	690	11	0.7	0	0.0
1996	48			HT	10,100	19,100	17,400	4,600	710	11	0.7	1	0.1
1997	48			IC	10,200	11,400	11,500	9,000	820	14	0.9	1	0.1
1998	48			IC	10,400	11,600	11,600	9,250	830	15	1.0	2	0.1
1999	48			IC	10,500	11,800	11,800	9,350	630	9	0.6	1	0.1
2000	48			IC	10,500	11,800	11,800	9,350	840	7	0.4	0	0.0
2001	48			IC	10,600	11,900	11,900	9,350	850	13	0.8	0	0.0
2002	48			IC	10,500	11,700	11,800	9,250	840	13	0.8	1	0.1
2003	48			IC	10,700	11,900	12,000	9,500	860	15	0.9	2	0.1
2004	48			IC	10,800	12,100	12,100	9,550	970	19	1.2	2	0.1
2005	48			IC	11,000	12,200	12,300	9,700	990	11	0.7	1	0.1
2006	48	Truck % = 850/14800 = 5.7% MT = 5.7*5/13 = 2.2% HT = 5.7*8/13 = 3.5%		IC	11,000	12,200	12,300	9,750	990	18	1.1	2	0.1
2007	48			IC	10,900	12,100	12,500	9,650	980	11	0.7	0	0.0
2008	48			IC	11,200	12,400	12,000	9,900	780	6	0.4	0	0.0
2009	48			IC	11,200	12,400	12,500	9,950	780	13	0.8	1	0.1
2010	48			IC	11,300	12,500	12,600	10,000	790	6	0.4	0	0.0
2011	48			IC	11,400	12,500	13,000	10,200	800	11	0.6	0	0.0
2012	48			IC	11,500	12,700	12,400	10,200	800	20	1.2	1	0.1
2013	48			IR	11,600	13,800	14,800	9,850	810	12	0.7	1	0.1
2014	48			IR	11,700	13,900	14,000	9,950	820	15	0.9	1	0.1
2015	48			IR	11,800	14,000	14,100	10,000	830	7	0.4	0	0.0
2016	48			IR	11,900	14,200	14,200	10,100	830	14	0.8	3	0.2
2017	48			IR	12,000	14,600	14,500	10,200	840	7	0.4	1	0.1
2018	48			IR	12,100	14,700	14,600	10,300	850	21	1.2	2	0.1
2019	48			IR	12,200	14,800	14,800	10,400	850	71	3.9	10	0.5
2021	48			IR	12,300	14,700	14,700	10,500	860	33	1.8	3	0.2
1988	48	HWY 47 (E) YORK RD 40 BLOOMINGTON RD (W)	4.2	IR	9,400	12,200	10,300	7,500	1,150	20	1.4	4	0.3
1989	48			IR	9,500	12,300	10,500	7,800	1,050	17	1.2	2	0.1
1990	48			IR	9,700	12,300	10,800	7,950	970	15	1.0	3	0.2
1991	48			IR	9,300	11,700	10,300	7,700	930	21	1.5	2	0.1
1992	48			IR	8,900	10,900	9,800	7,550	890	14	1.0	3	0.2
1993	48			IR	8,350	10,300	8,650	6,850	580	17	1.3	2	0.2
1994	48			IR	9,050	11,100	9,950	7,600	630	17	1.2	1	0.1
1995	48			IR	9,000	11,100	9,900	7,650	630	11	0.8	2	0.1
1996	48			IR	8,750	10,900	9,750	7,450	610	19	1.4	3	0.2
1997	48			IR	8,950	11,200	10,000	7,600	630	13	1.0	3	0.2
1998	48			IR	8,950	11,100	10,000	7,500	630	21	1.5	0	0.0

Appendix B
Sample STAMSON 5.04 Output

```
STAMSON 5.0        NORMAL REPORT        Date: 07-01-2025 11:58:10
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: cal.te                 Time Period: Day/Night 16/8 hours
Description: Resultant sound levels from road traffic data, calibrated to
Cadna.

Road data, segment # 1: Highway 48 (day/night)
-----------------------------------------------
Car traffic volume  : 18647/2072  veh/TimePeriod  *
Medium truck volume :   435/48    veh/TimePeriod  *
Heavy truck volume  :   692/77    veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  14800
    Percentage of Annual Growth        :   2.50
    Number of Years of Growth          :  16.00
    Medium Truck % of Total Volume     :   2.20
    Heavy Truck  % of Total Volume     :   3.50
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Highway 48 (day/night)
---------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  15.00 / 15.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: Stouffville (day/night)
-----------------------------------------------
Car traffic volume  : 30438/3762  veh/TimePeriod  *
Medium truck volume :   641/79    veh/TimePeriod  *
Heavy truck volume  :   961/119   veh/TimePeriod  *
Posted speed limit  :    70 km/h
Road gradient       :     4 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  36000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   3.00
    Day (16 hrs) % of Total Volume     :  89.00
```

```
Data for Segment # 2: Stouffville (day/night)
-----------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  15.00 / 15.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Highway 48 (day)
-------------------------------------

Source height = 1.37 m

ROAD (0.00 + 69.95 + 0.00) = 69.95 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj
SubLeq
-------------------------------------------------------------------------
--
   -90     90   0.00  69.95   0.00   0.00   0.00   0.00   0.00   0.00
69.95
-------------------------------------------------------------------------
--

Segment Leq : 69.95 dBA

Results segment # 2: Stouffville (day)
-------------------------------------

Source height = 1.32 m

ROAD (0.00 + 73.53 + 0.00) = 73.53 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj
SubLeq
-------------------------------------------------------------------------
--
   -90     90   0.00  73.53   0.00   0.00   0.00   0.00   0.00   0.00
73.53
-------------------------------------------------------------------------
--

Segment Leq : 73.53 dBA

Total Leq All Segments: 75.11 dBA

Results segment # 1: Highway 48 (night)
---------------------------------------

Source height = 1.37 m

ROAD (0.00 + 63.42 + 0.00) = 63.42 dBA
```

```
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj
SubLeq
-------------------------------------------------------------------------
--
   -90     90    0.00  63.42   0.00   0.00   0.00   0.00   0.00   0.00
63.42
-------------------------------------------------------------------------
--

Segment Leq : 63.42 dBA

Results segment # 2: Stouffville (night)
----------------------------------------

Source height = 1.32 m

ROAD (0.00 + 67.46 + 0.00) = 67.46 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj
SubLeq
-------------------------------------------------------------------------
--
   -90     90    0.00  67.46   0.00   0.00   0.00   0.00   0.00   0.00
67.46
-------------------------------------------------------------------------
--

Segment Leq : 67.46 dBA

Total Leq All Segments: 68.90 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 75.11
                           (NIGHT): 68.90
```