HGC ENGINEERING

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Noise Feasibility Study
Proposed Stacked Townhouse Development
1575 Hurontario Street
Mississauga, Ontario

Prepared for:

Dream Maker Inc.
Attn: Isaac Olowolafe
59 East Liberty Street
Toronto, Ontario
M6K 3R1

Prepared by

Victor Garcia, PEng

Reviewed by

Sheeba Paul, MEng, PEng

August 16, 2017

Project No: 01700181

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1 Introduction & Summary

HGC Engineering was retained by Dream Maker Inc. to conduct a noise feasibility study for a proposed stacked townhouse development to be located at 1575 Hurontario Street, in Mississauga, Ontario. The proposed development will include two 3 ½ -storey stacked back to back townhouses townhouse blocks. The study is required by the Municipality as part of the planning and approvals process.

The primary sources of noise impacting the site were determined to be road traffic on Hurontario Street and the Queen Elizabeth Way (QEW). Relevant road traffic data was obtained from the Ministry of Transportation (MTO) and the City of Mississauga, and was used to predict future traffic sound levels at the locations of the proposed residential dwelling facades. The predicted sound levels were compared to the guidelines of the Ministry of Environment and Climate Change (MOECC) and the Municipality to develop noise control recommendations.

The sound level predictions indicate that the future road traffic sound levels will exceed MOECC guidelines at all townhouse blocks. Central air conditioning systems are required for all the townhouse units. Upgraded building and glazing constructions are required for all the dwellings. Associated acoustical requirements are specified in this report. Warning clauses are recommended to inform future residents of the road traffic noise impacts and to address sound level excesses.

2 Site Description & Noise Sources

The proposed residential development is located at 1575 Hurontario Street in the City of Mississauga, Ontario. Figure 1 shows a key plan illustrating the location of the subject site. A site plan prepared by Kirkor Architects + Planners dated May 8, 2017 is shown in Figure 2. The proposed development will consist of two blocks of 3 ½ -storey stacked back to back townhouses and associated roadways. Appendix A includes the preliminary sections and elevations.

A site visit was made by HGC Engineering personnel in March 2017 to make observations of the acoustic environment, and to identify the significant noise sources in the vicinity. The acoustical environment surrounding the site is urban in nature, with existing residences to the east, west and south. Immediately to the north of the site is the New Port Credit Centre. Futher to the north is the Queen Elizabeth Senior Public School and Ontario Provincial Police facility.

Road traffic on Hurontario Street and the QEW were confirmed to be the primary sources of sound impacting the site. The QEW includes three lanes and a merging lane in each direction, while Hurontario Street currently consists of six lanes in each direction. There were no other significant sources of stationary noise noted within 500 m of the subject site.

There is a proposed future Light Rail Transit (LRT) system along the centre of Hurontario Street. Information regarding the Hurontario-Main LRT line was obtained from the report prepared for SNC-Lavalin Inc. in support of Transit Project Assessment Process (TPAP) by J.E. Coulter Associates Ltd. The report states that the LRT line will run along the Hurontario and Main Street corridor, beginning at the Port Credit GO Station and ending at the Brampton GO Transit Station. The findings of the report prepared by J.E. Coulter Associates Limited for the future Hurontario-Main Street LRT indicate that there will be no noticeable change in the sound levels along most parts of the corridor and that the contribution of the LRT in relation to the overall sound level from cars and buses is negligible. Supporting documents from the report are attached in Appendix A.

3 Noise Level Criteria

3.1 Road Traffic Noise

Guidelines for acceptable levels of road traffic noise impacting residential developments are given in the MOECC publication NPC-300, "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning", release date October 21, 2013 and are listed in Table 1 below. The values in Table I are energy equivalent (average) sound levels [L_{EQ}] in units of A-weighted decibels [dBA].

Table I: MOECC Road Traffic Noise Criteria [dBA]

Space	Daytime L_{EQ} (16 hour) Road	Nighttime L_{EQ}(8 hour) Road
Outdoor Living Areas	55 dBA	--
Inside Living/Dining Rooms	45 dBA	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. Balconies that are less than 4 m in depth are not considered to be outdoor living areas under MOECC guidelines.

The MOECC guidelines allow the daytime sound levels in 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 recommended 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 is required for dwellings where nighttime sound levels outside bedroom or living/dining room windows exceed 60 dBA or daytime sound levels outside bedroom or living/dining room windows exceed 65 dBA. Forced-air ventilation systems with ducts sized to accommodate the future installation of air conditioning by the occupant is required when nighttime sound levels at bedroom or living/dining room windows are in the range of 51 to 60 dBA or when daytime sound levels at bedroom or living/dining room windows are in the range of 56 to 65 dBA.

Building components such as walls, windows and doors must be designed to achieve indoor sound level criteria when the plane of 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 to notify future residents of possible noise excesses are also required when nighttime sound levels exceed 50 dBA at the plane of the bedroom or living/dining room window and daytime sound levels exceed 55 dBA in the outdoor living area and at the plane of the bedroom or living/dining room window due to road traffic.

4 Traffic Noise Assessment

4.1 Road Traffic Data

Road traffic information for Hurontario Street was obtained from the City of Mississauga, in the form of ultimate Average Annual Daily Traffic (AADT) values, and is provided in Appendix B. An ultimate AADT of 48 000 vehicles per day, along with a speed limit of 50 km/h, was applied to Hurontario Street. A commercial vehicle percentage of 10% was used in the analysis and was further split into 5.5% and 4.5% for medium and heavy trucks, respectively.

Road traffic data for the QEW was obtained from the Ministry of Transportation (MTO), in the form of Summer Average Daily Traffic (SADT) values for the year 2013, and is provided in Appendix B. A SADT of 187 000 vehicles per day, along with a posted speed limit of 100 km/h, was applied to the QEW. The data was projected to the year 2027 using a 2.5 % growth rate. A commercial percentage of 12.0% was further split into 3.0% medium trucks and 9.0% heavy trucks, and was used in the analysis as per MTO procedures. A day/night split of 88%/12% for the QEW was obtained from HGC Engineering project files for other projects in the area and was applied to the roadway. Table II summarizes the traffic volume data used in this study.

Table II: Projected and Ultimate Road Traffic Data

Road Name		Cars	Medium Trucks	Heavy Trucks	Total
Hurontario Street *(Ultimate)*	Daytime	38 880	2 376	1 944	43 200
	Nighttime	4 320	264	216	4 800
	Total	**43 200**	**2 640**	**2 160**	**48 000**
QEW *(Projected to 2027)*	Daytime	204 616	6 976	20 926	232 518
	Nighttime	27 902	952	2 854	31 708
	Total	**232 518**	**7 928**	**23 780**	**264 226**

4.2 Road Traffic Noise Predictions

To assess the levels of road traffic noise which will impact the site in the future, predictions were made using STAMSON version 5.04, a computer algorithm developed by the MOECC. Sample STAMSON output is included in Appendix C.

Prediction locations were chosen around the residential site to obtain a good representation of the future sound levels at the dwellings with exposure to the QEW and Hurontario Street. Sound levels were predicted at the plane of the top storey bedroom and/or living/dining room windows during daytime and nighttime hours to investigate ventilation requirements. The results of these predictions are summarized in Table III.

The distance setback of the buildings indicated on the site plan were used in the analysis, along with an aerial photo to determine the distance to the major roadways. In accordance with MOECC guidelines, Hurontario Street and the QEW were divided into two segments. The acoustic requirements may be subject to modifications if the site plan is changed significantly.

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

Prediction Location	Description	Daytime - at Façade $L_{EQ(16)}$	Nighttime - at Façade $L_{EQ(8)}$
A	Building A, west façade	72	66
B	Building A, north façade	70	64
C	Building A, south façade	68	61
D	Building B, north façade	67	61
E	Building B, south façade	63	56
F	Building B, north façade	67	61

5 Traffic Noise Recommendations

The predictions indicate that the future traffic sound levels will exceed MOECC guidelines at all the townhouse units within the development with exposure to Hurontario Street and the QEW. The following discussion outlines recommendations for acoustic barriers, ventilation requirements, upgraded building façade constructions, and warning clauses to achieve the noise criteria stated in Table I.

5.1 Outdoor Living Areas

The dwelling units may have balconies that are less than 4 m in depth. The section drawing provided in Appendix A indicates the rooftop amenity areas are less than 4 m in depth. These balconies are not considered to be outdoor living areas under MOECC guidelines, and therefore are exempt from traffic noise assessment.

There are no common outdoor amenity areas identified on the site plan.

5.2 Indoor Living Areas & Ventilation Requirements

The predicted daytime and nighttime sound levels outside the top storey bedroom and/or living/dining room of all future dwellings with exposure to Hurontario Street and the QEW will be greater than 65 dBA and 60 dBA respectively. To address these excesses, the MOECC guidelines recommend that the residential blocks be equipped with central air conditioning systems, so that the windows can be closed.

Figure 3 shows the ventilation requirements for the development. Window or through-the-wall air conditioning units are not recommended for any commercial or 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. The location, installation and sound ratings of the outdoor air conditioning devices should minimize noise impacts and comply with criteria of MOECC publication NPC-300, as applicable. The guidelines also recommend warning clauses for all of the dwellings.

5.3 Building Façade Constructions

Predicted sound levels at the building façades were used to determine sound insulation requirements of the building envelope. The required acoustic insulation of the wall and window components was determined using methods developed by the National Research Council (NRC).

Exterior Wall Constructions

The exterior walls of the proposed stacked townhouses include brick on the upper two floors and stone on the bottom floors. The proposed building constructions will provide sufficient acoustical insulation.

Exterior Doors

There may be swing doors and some glazed sliding patio doors for entry onto the balconies from living/dining rooms and some bedrooms. The glazing areas on the doors have been counted as part of the total window glazing area. If exterior swing doors are to be used, they shall be insulated metal doors equipped with head, jamb and threshold weather seals.

Acoustical Requirements for Glazing

The preliminary floor plans and building elevations prepared by Kirkor Architects + Planners dated May 8, 2017 were used in the analysis (Appendix A). Based on the floor plans and building elevations, the calculated window to floor area ratios for both buildings are up to 24% for living/dining rooms and 27% for bedrooms. Based on the window to floor area ratios and proposed building façade constructions, any double glazed window construction meeting the minimum

requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for the buildings.

5.4 Warning Clauses

The MOECC guidelines recommend that warning clauses be included in the property and tenancy agreements and offers of purchase and sale for all townhouse blocks with anticipated traffic sound level excesses. The following noise warning clauses are required for specific units as indicated in Table IV.

Suggested wording for the blocks with sound levels exceeding the MOECC criteria is given below:

Type A:

> 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 Municipality and the Ministry of the Environment and Climate Change.

Suitable wording for future buildings requiring central air conditioning systems is given below.

Type B:

> This 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 noise criteria of the Municipality and the Ministry of the Environment and Climate Change.

These sample clauses are provided by the MOECC as examples and can be modified by the Municipality as required.

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.

MOECC Publication NPC-300 stipulate sound level limits for new stationary (non-traffic) sources of noise. The sound level limit for a stationary source which operates in a Class 1 urban environment is related to the minimum one-hour L_{EQ} ambient (background) sound level, at any potentially impacted

residential point of reception. HGC Engineering has not performed monitoring of the background sound levels in the area during all daytime and nighttime hours, but experience indicates that, for a typical urban environment, a minimum daytime sound level of 50 dBA and a minimum nighttime sound level of 45 dBA can be assumed during the quietest hours. These criteria apply to equipment such as rooftop air-conditioners, cooling towers, exhaust fans, standby generators, etc.

Provided air-conditioning equipment recommended in item 5.2 is selected and placed appropriately so as not to impact the existing residential and proposed residential dwellings, noise impacts are not expected. An acoustical consultant should review the design of the mechanical building systems and the equipment selections when they have been determined, to help ensure that the noise levels emitted by the development to the environment are likely to meet the bylaw requirements.

7 Impact of the Development on Itself

The impact of the development on itself can be categorized into noise intrusions transmitted between adjacent spaces, and noise generated by mechanical systems or other equipment within the building.

Section 9.11.1 of the Ontario Building Code (OBC) specifies the minimum required sound insulation characteristics for demising partitions, in terms of Sound Transmission Class (STC) values. In order to maintain adequate acoustical privacy between separate suites in a multi-tenant building, inter-suite walls should meet or exceed STC-50. Walls separating a suite from a noisy space such as a refuse chute, or elevator shaft, should 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. It is recommended that partitions be selected 3 to 4 points above tables so that performance in the field meets these minimum specifications.

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 buildings 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.

8 Summary & Recommendations

The following list and Table IV summarize the recommendations made in this report. The reader is referred to the Figure 3, as well as previous sections of the report where these recommendations are applied and discussed in more detail.

1. Central air conditioning is required for the proposed stacked townhouse blocks. The location, installation and sound rating of the outdoor condensing units must be compliant with MOECC Guideline NPC-300, as applicable.

2. With the proposed building exterior constructions, any double glazed window construction and meeting the minimum requirements of the OBC will provide adequate sound insulation for the buildings.

3. Noise warning clauses to inform the occupants of the sound level excesses should be placed in the property and tenancy agreements and offers of purchase and sale.

4. Tarion Builder's Bulletin B19R requires that the internal design of condominium projects integrates 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 buildings 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 are maintained within acceptable levels. Outdoor sound emissions should also be checked to ensure compliance with the noise by-law.

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

Block No.	Acoustic Barrier	Ventilation Requirements*	Type of Warning Clause	Required STC
A	--	Central A/C	A, B	OBC
B	--		A, B	OBC

Notes:
* The location, installation and sound rating of the air conditioning condensers must be compliant with MOECC Guideline NPC-300 as applicable.
-- no specific requirement
LR/DR – Living Room/Dining Room
BR – Bedroom

8.1 Implementation

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

1. Prior to the issuance of building 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.

2. Prior to assumption of the subdivision, 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.

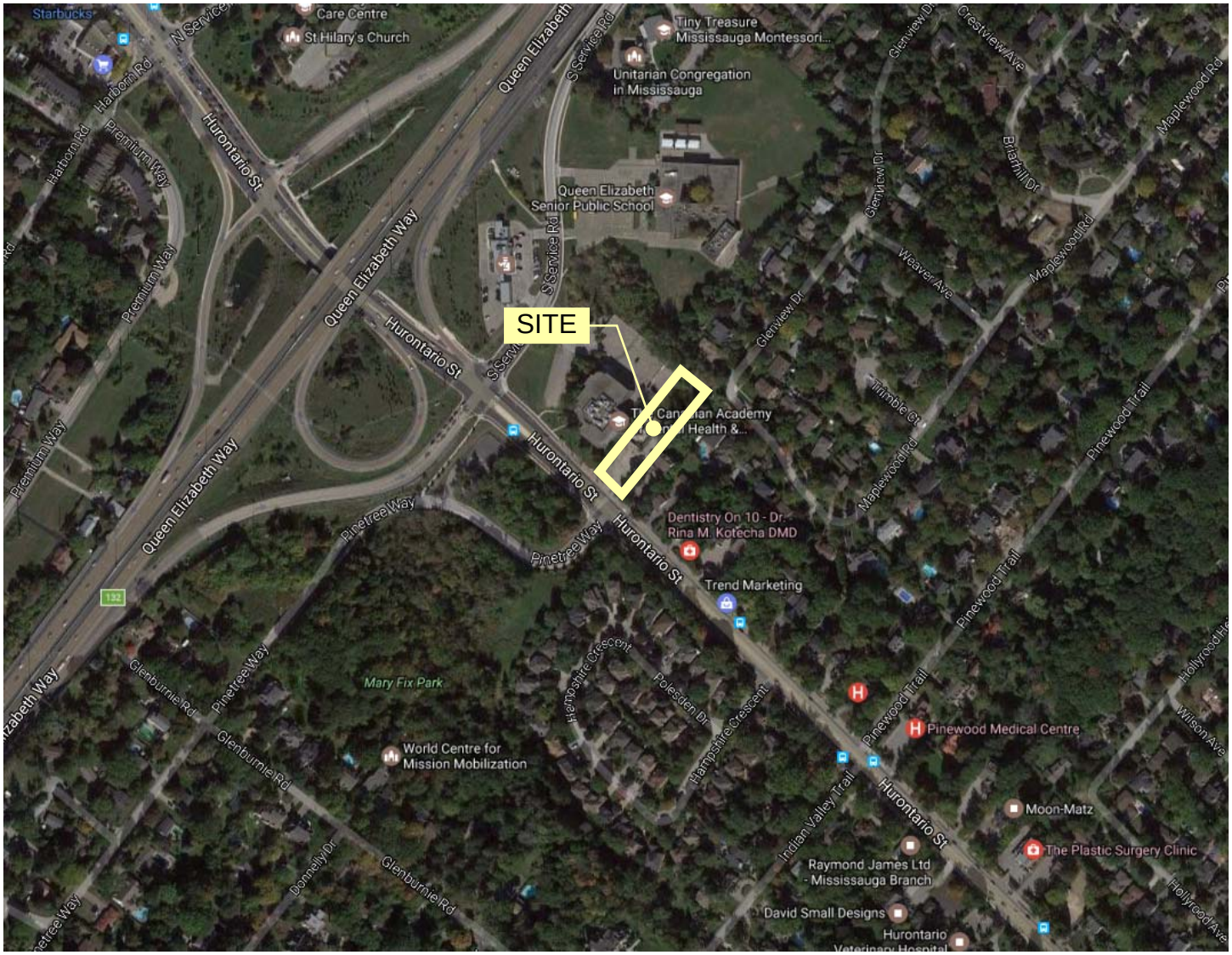
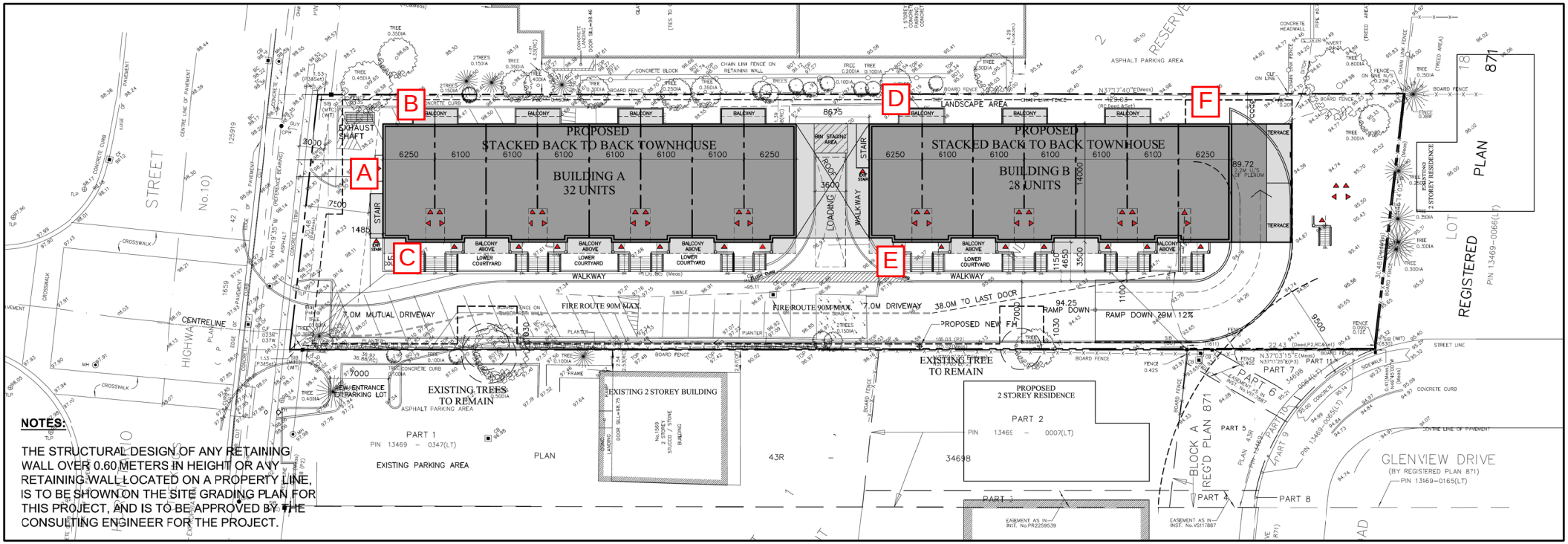


Figure 1 - Key Plan



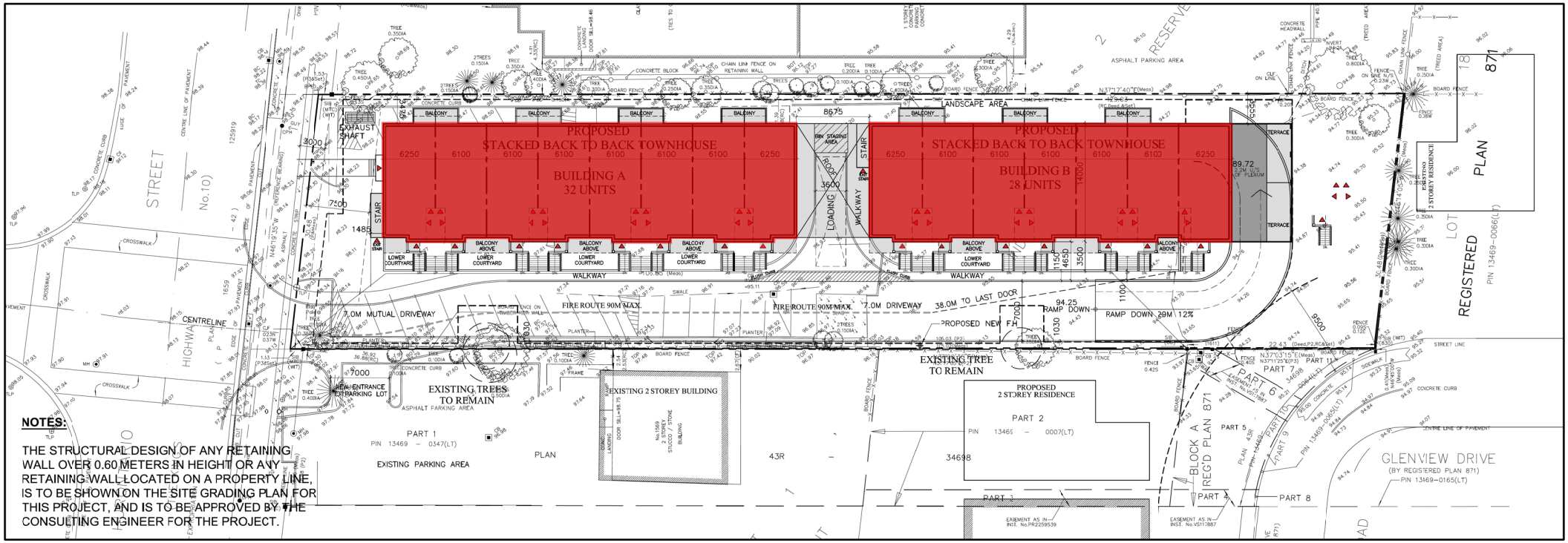
NOTES:

THE STRUCTURAL DESIGN OF ANY RETAINING WALL OVER 0.60 METERS IN HEIGHT OR ANY RETAINING WALL LOCATED ON A PROPERTY LINE, IS TO BE SHOWN ON THE SITE GRADING PLAN FOR THIS PROJECT, AND IS TO BE APPROVED BY THE CONSULTING ENGINEER FOR THE PROJECT.

Figure 2 - Proposed Site Plan Showing Prediction Locations

LEGEND

Central air conditioning required



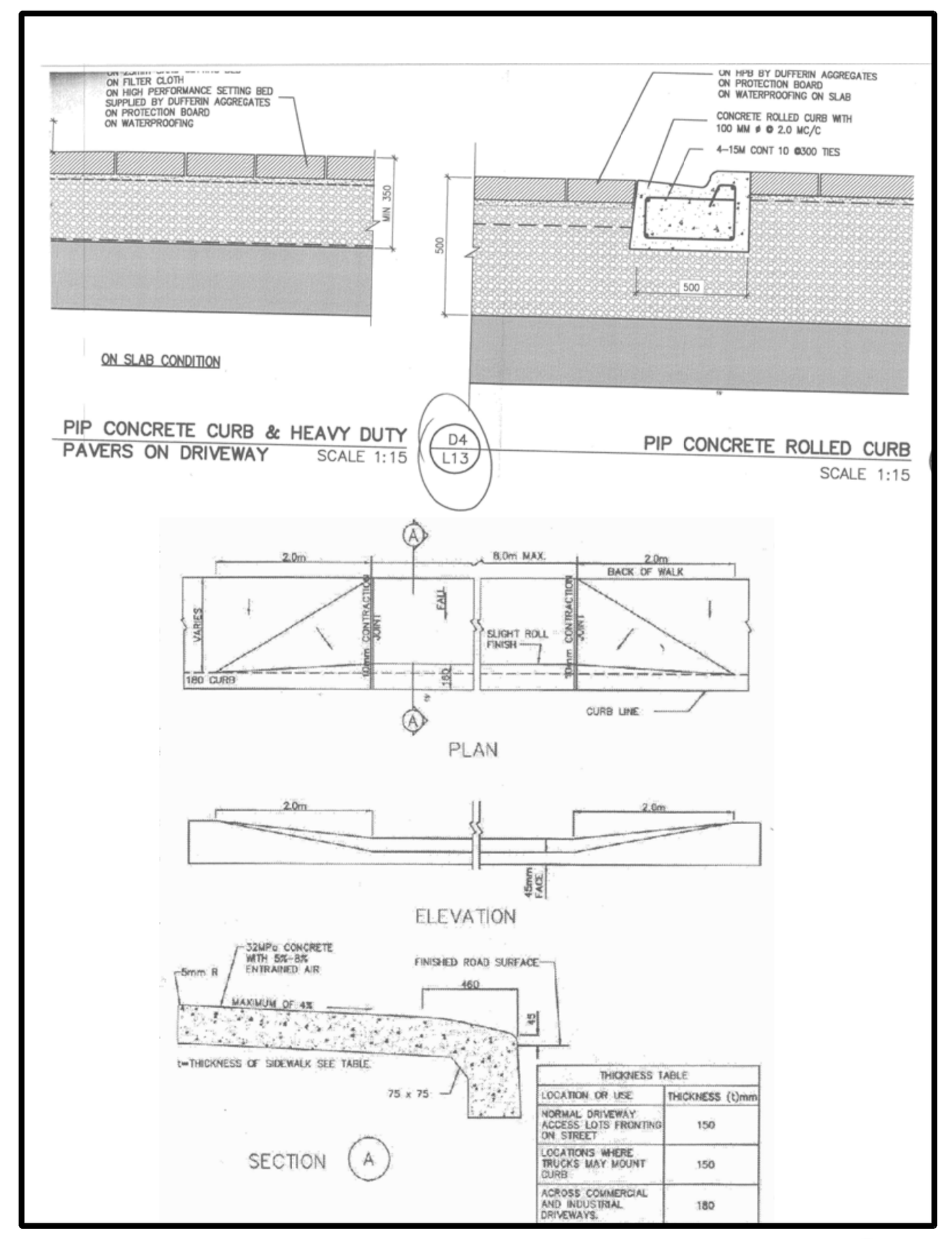
NOTES:

THE STRUCTURAL DESIGN OF ANY RETAINING WALL OVER 0.60 METERS IN HEIGHT OR ANY RETAINING WALL LOCATED ON A PROPERTY LINE, IS TO BE SHOWN ON THE SITE GRADING PLAN FOR THIS PROJECT, AND IS TO BE APPROVED BY THE CONSULTING ENGINEER FOR THE PROJECT.

Figure 3 - Proposed Site Plan Showing Ventilation Requirements

APPENDIX A

Supporting Drawings



Curb and Sidewalk Details 7 SP-01

SIGNED CONDOMINIUM DECLARATIONS FOR MULTIPLE FAMILY RESIDENTIAL DEVELOPMENTS

AS FOLLOWS:

DOMINION OF CANADA PROVINCE OF ONTARIO	)	IN THE MATTER OF A MULTIPLE RESIDENTIAL BUILDING DEVELOPMENT
REGIONAL MUNICIPALITY OF PEEL	)	ON PROPERTY LOCATED IN THE CITY OF MISSISSAUGA BEING KNOWN AS
TO WIT:	)	PROPOSED 3 STOREY CONDOMINIUM BUILDING
	)	650 ATWATER AVENUE LTD.

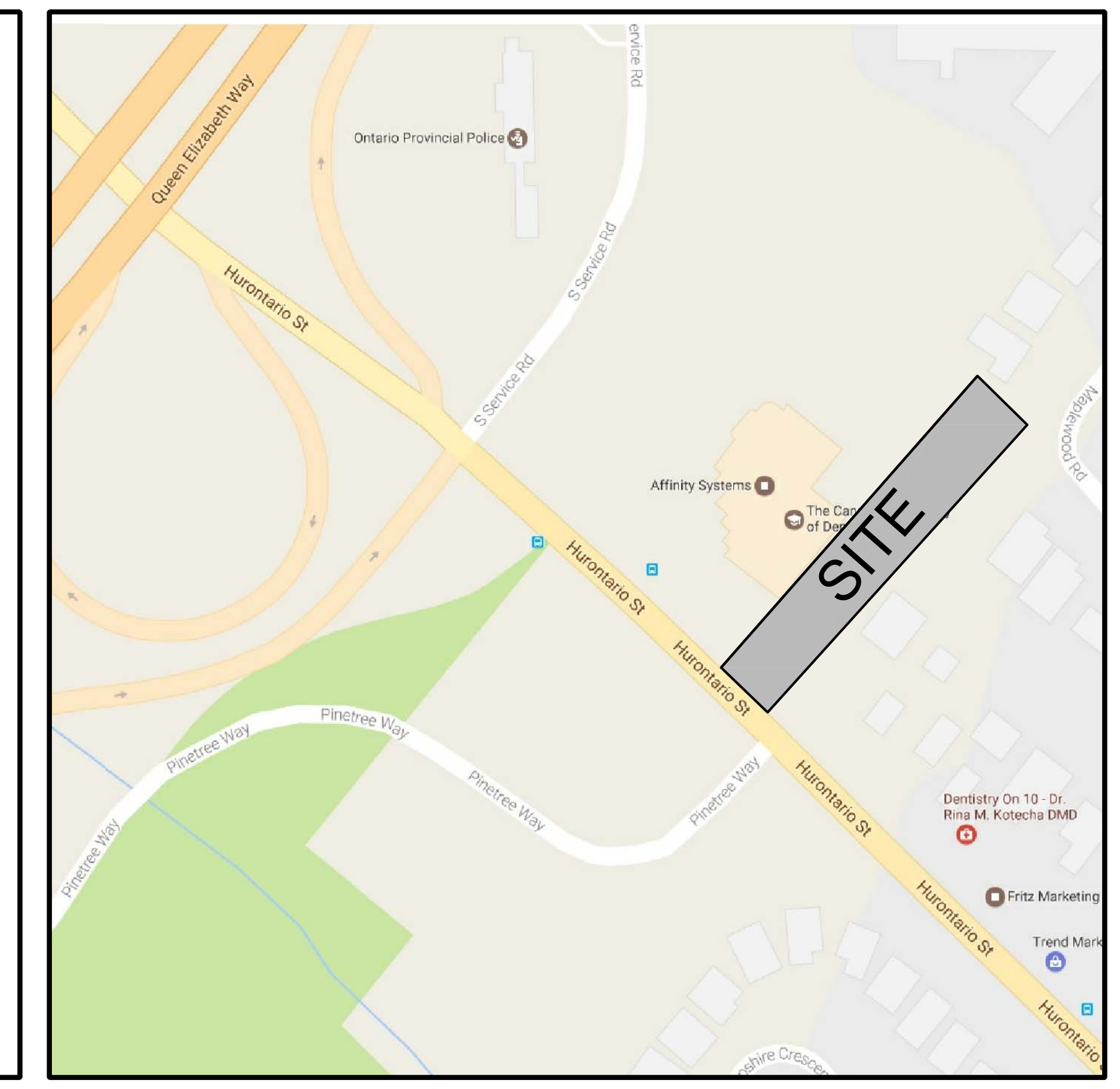
I,______________________________
MAKE OATH AND SAY AS FOLLOWS:

1. I AM THE PRESIDENT OF SIERRA BUILDING GROUP. WHICH IS THE OWNER AND BUILDER OF 3 STOREY CONDOMINIUM BUILDING ON PROPERTY DESCRIBED ABOVE.
2. THAT THE SAID MULTIPLE RESIDENTIAL BUILDING IS BEING BUILT TO BE SOLD AS CONDOMINIUM APARTMENTS

AND I MAKE THIS SOLEMN DECLARATION CONSCIENTIOUSLY BELIEVING IT TO BE TRUE AND KNOWING THAT IT IS OF THE SAME FORCE AND EFFECT AS IF I MAKE IT UNDER OATH.

DECLARED BEFORE ME AT THE ____________
____________) ____________
) ____________
IN THE MUNICIPALITY OF) ____________
____________) ____________
) ____________
THIS___DAY OF________) ____________
20___) ____________
) ____________
A COMMISSIONER ETC. ____________

Certification 5 SP-01



Key Plan 3 N.T.S. SP-01

Contractor Must Check And Verify All Dimensions On The Job.

Do Not Scale The Drawings.

This Drawing Is Not To Be Used For Construction Until Signed By The Architect.

Date:

KIRKOR ARCHITECTS + PLANNERS
20 Martin Ross Avenue, Toronto, Ontario, M3J 2K8
T(416) 665-6060, F(416) 665-1234, www.kirkorarchitects.com

No	Revision	Date

KIRKOR | architects & planners
20 Martin Ross Ave. Toronto ON M3J 2K6 T: 416.665.6060 F:416.665.1234

Name of Project: Residential Townhouse Development – Building'B'
Location: 1575 Hurontario, Mississauga, Ontario

Seal must be signed to be valid

	Ontario's 2006 Building Code Data Matrix Part 3 & 9	OBC Reference (References are to Division B unless noted [A] for Division A or [C] for Division C.)	
1	Project Description: ☒ New ☐ Addition ☐ Change of Use ☐ Alteration ☐ Part 11 11.1 to 11.4	☐ Part 3 1.1.2. [A]	☒ Part 9 1.1.2. [A] & 9.10.1.3.
2	Major Occupancy(s) **Group C**	3.1.2.1.(1)	9.10.2.
3	Building Area (m²) Existing **N/A** New **592.00 m² / 6,372 ft²** Total **592.00 m² / 6,372 ft²**	1.4.1.2. [A]	1.4.1.2. [A]
4	Gross Area (m²) Existing **N/A** New **2530 m² / 27,233 ft²** Total **2530 m² / 27,233 ft²**	1.4.1.2. [A]	1.4.1.2. [A]
5	Number of Storeys Above grade : 3 Below grade : 1	1.4.1.2. [A]&3.2.1.1.	1.4.1.2[A] & 9.10.4
6	Number of Streets/Fire Fighter Access : **1 Street**	3.2.2.10. & 3.2.5.	9.10.20.
7	Building Classification **Group C- Part 9**	3.2.2.20.-.83	9.10.2.
8	Sprinkler System Proposed: ☐ Building classification ☐ Selected compartments ☐ Selected floor areas (underground parking garage only) ☐ Basement ☐ In lieu of roof rating. ☒ Not required	3.2.2.20.-.83 3.2.1.5. 3.2.2.17.	9.10.8.
9	Standpipe required ☐ Yes ☒ No	3.2.9.	N/A
10	Fire Alarm required ☒ Yes ☐ No	3.2.4.	9.10.18.
11	Water Service/Supply is Adequate ☒ Yes ☐ No	3.2.5.7.	N/A
12	High Building ☐ Yes ☒ No	3.2.6.	N/A
13	Construction Restrictions ☐ Combustible permitted ☐ Non-combustible required ☒ Both; Actual Construction ☐ Combustible ☐ Non-combustible ☒ Both	3.2.2.20.-.83	9.10.6.
14	Mezzanine(s) Area m² : **N/A**	3.2.1.1.(3)-(8)	9.10.4.1.
15	Occupant load based on ☐ m²/person ☒ design of building; Basement: Occupancy ____ Load ____ persons; 1st Floor Occupancy ____ Load ____ persons; 2nd Floor Occupancy ____ Load ____ persons; 3rd Floor Occupancy ____ Load ____ persons; (Additional floor areas to be inserted)	3.1.17.	9.9.1.3.
16	Barrier-free Design ☐ Yes ☒ No (Explain)	3.8.	9.5.2.
17	Hazardous Substances ☐ Yes ☒ No	3.3.1.2. & 3.3.1.19.	9.10.1.3.(4)

OBC-Matrix Building B 8 SP-01

KIRKOR | architects & planners
20 Martin Ross Ave. Toronto ON M3J 2K6 T: 416.665.6060 F:416.665.1234

Name of Project: Residential Townhouse Development – Building'A'
Location: 1575 Hurontario, Mississauga,Ontario

Seal must be signed to be valid

	Ontario's 2006 Building Code Data Matrix Part 3 & 9	OBC Reference (References are to Division B unless noted [A] for Division A or [C] for Division C.)	
1	Project Description: ☒ New ☐ Addition ☐ Change of Use ☐ Alteration ☐ Part 11 11.1 to 11.4	☐ Part 3 1.1.2. [A]	☒ Part 9 1.1.2. [A] & 9.10.1.3.
2	Major Occupancy(s) **Group C**	3.1.2.1.(1)	9.10.2.
3	Building Area (m²) Existing **N/A** New **676.00 m² / 7,276ft²** Total **676.00 m² / 7,276ft²**	1.4.1.2. [A]	1.4.1.2. [A]
4	Gross Area (m²) Existing **N/A** New **2890 m² / 31,108 ft²** Total **2890 m² / 31,108 ft²**	1.4.1.2. [A]	1.4.1.2. [A]
5	Number of Storeys Above grade : 3 Below grade : 1	1.4.1.2. [A]&3.2.1.1.	1.4.1.2[A] & 9.10.4
6	Number of Streets/Fire Fighter Access : **1 Street**	3.2.2.10. & 3.2.5.	9.10.20.
7	Building Classification **Group C- Part 9**	3.2.2.20.-.83	9.10.2.
8	Sprinkler System Proposed: ☐ Building classification ☐ Selected compartments ☐ Selected floor areas (underground parking garage only) ☐ Basement ☐ In lieu of roof rating. ☒ Not required	3.2.2.20.-.83 3.2.1.5. 3.2.2.17.	9.10.8.
9	Standpipe required ☐ Yes ☒ No	3.2.9.	N/A
10	Fire Alarm required ☒ Yes ☐ No	3.2.4.	9.10.18.
11	Water Service/Supply is Adequate ☒ Yes ☐ No	3.2.5.7.	N/A
12	High Building ☐ Yes ☒ No	3.2.6.	N/A
13	Construction Restrictions ☐ Combustible permitted ☐ Non-combustible required ☒ Both; Actual Construction ☐ Combustible ☐ Non-combustible ☒ Both	3.2.2.20.-.83	9.10.6.
14	Mezzanine(s) Area m² : **N/A**	3.2.1.1.(3)-(8)	9.10.4.1.
15	Occupant load based on ☐ m²/person ☒ design of building; Basement: Occupancy ____ Load ____ persons; 1st Floor Occupancy ____ Load ____ persons; 2nd Floor Occupancy ____ Load ____ persons; 3rd Floor Occupancy ____ Load ____ persons; (Additional floor areas to be inserted)	3.1.17.	9.9.1.3.
16	Barrier-free Design ☐ Yes ☒ No (Explain)	3.8.	9.5.2.
17	Hazardous Substances ☐ Yes ☒ No	3.3.1.2. & 3.3.1.19.	9.10.1.3.(4)

OBC-Matrix Building A 6 SP-01

ADDITIONAL NOTES:

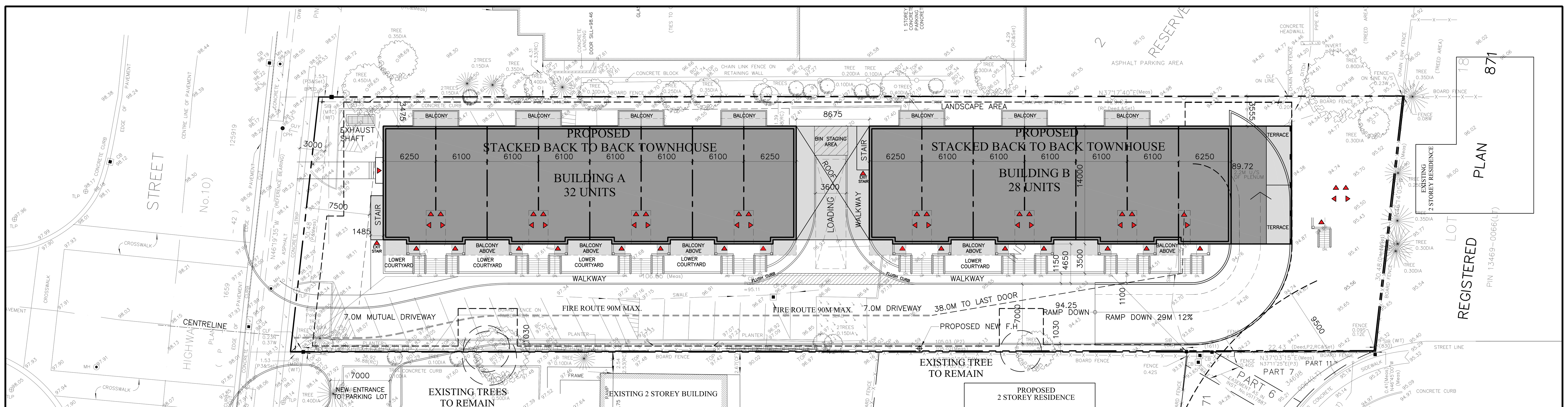
1. Owner/Applicant : Name, Address, Address, Postal Code, Phone Number -
2. City of Mississauga Site Plan Applicatiopn File Number : SP - XXXXXXX
   Existing Zoning : **
   Proposed Zoning : **/**********
   Legal Description : PART OF PART OF LOTS 145, 146, 147 AND 148 REGISTERED PLAN B-19 CITY OF MISSISSAUGA
3. SURVEY INFORMATION TAKEN FROM BOUNDARY AND TOPOGRAPHICAL SURVEY OF PART OF PART OF LOTS 145, 146, 147 AND 148 CITY OF MISSISSAUGA, REGIONAL MUNICIPALITY OF PEEL PREPARED BY TARASICK McMILLAN KUBICKI LIMITED
4. FIRE ROUTES SHALL BE DESIGNATED AS PER BY-LAW 1036-81 AS AMENDED, PRIOR TO OCCUPANCY OF THE BUILDING.
5. ALL FIRE ACCESS ROUTES SHALL BE CONSTRUCTED OF HARD SURFACE MATERIAL SUCH AS ASPHALT, CONCRETE OR LOCKSTONE AND DESIGNED TO SUPPORT A LOAD OF NOT LESS THAN 11,363 KG PER AXLE AND HAVE A CHANGE IN GRADIENT OF NOT MORE THAN 1 IN 12.5 OVER A MINIMUM DISTANCE OF 15M.
6. ALL EXTERIOR LIGHTING WILL BE DIRECTED ONTO THE SITE AND WILL NOT INFRINGE UPON THE ADJACENT PROPERTIES.
7. DRIVEWAYS ON THE MUNICIPAL RIGHT-OF-WAYS SHALL BE PAVED BY THE APPLICANT.
8. ALL GRADES TO BE WITHIN 33% MAXIMUM SLOPE AT PROPERTY LINE AND WITHIN THE SITE.
9. ALL ROOF TOP MECHANICAL UNITS SHALL BE SCREENED BY THE APPLICANT
10. SIGNAGE SHOWN ON THE SITE DEVELOPMENT PLANS IS FOR INFORMATION PURPOSES ONLY. ALL SIGNS WILL BE SUBJECT TO THE PROVISIONS OF SIGN BY-LAW 0054-2002, AS AMENDED, AND A SEPARATE SIGN APPLICATION WILL BE REQUIRED THROUGH THE BUILDING DIVISION.
11. CURB CUTS TO BE PROVIDED FOR HANDICAP ACCESS TO THE BUILDING.
12. ALL FIRE DEPARTMENT ACCESS ROUTES HAVE NO OVERHEAD OBSTRUCTIONS.
13. AT THE ENTRANCES TO THE SITE THE MUNICIPAL SIDEWALK AND CURB WILL BE CONTINUOUS THROUGH THE DRIVEWAY. THE DRIVEWAY GRADE WILL BE COMPATIBLE WITH THE EXISTING SIDEWALK AND A CURB DEPRESSION WILL BE PROVIDED FOR EACH ENTRANCE.
14. TWO STAGE CURB AND GUTTER TYPE POURED CONCRETE CURBING IS REQUIRED BETWEEN ALL ASPHALT AND LANDSCAPE AREAS THROUGHOUT THE SITE.
15. GRADES AT ADJACENT PROPERTY LINES TO MATCH FINAL GRADES WILL BE VERIFIED UPON PERMIT APPLICATION.
16. CARDBOARD TO BE STORED INTERNALLY AND PICKED UP SEPARATELY FROM GARBAGE.
17. GARBAGE : ON SITE GARBAGE COLLECTION WILL BE DONE THROUGH A PRIVATELY ARRANGED CONTRACTOR. GARBAGE WILL BE STORED INTERNALLY UNLESS OTHERWISE NOTED ON PLAN. GARBAGE STORED IN BINS EXTERNALLY IS NOT PERMITTED. THERE WILL BE NO CURBSIDE COLLECTION.
18. THE STRUCTURAL DESIGN OF ANY RETAINING WALL OVER 0.6M IN HEIGHT OR ANY RETAINING WALL LOCATED ON A PROPERTY LINE, IS TO BE SHOWN ON THE SITE GRADING PLAN FOR THE PROJECT, AND IS TO BE APPROVED BY THE CONSULTING ENGINEER FOR THE PROJECT.
19. THE TOP OF ANY CURBS BOARDING DRIVEWAYS WITHIN THE MUNICIPAL BOULEVARD WILL BE FLUSH WITH THE MUNICIPAL SIDEWALK AND ROAD CURB AS PER CITY CENTRANCE APPROVED DETAIL.
20. ALL PARKING SPACES TO BE 2.6M x 5.2M AND PARKING SPACES FOR THE HANDICAPPED WILL BE 4.6M x 5.2M MINIMUM. ALL DRIVE AISLES ARE A MINIMUM 7 METRES IN WIDTH.
21. PARKING SPACES RESERVED FOR DISABLED PERSONS MUST BE IDENTIFIED BY A SIGN, INSTALLED AT THE APPLICANTS EXPENSE, IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS OF SCHEDULES 2 & 3 OF BY-LAW 001-2009.
22. ALL SURFACE DRAINAGE WILL BE SELF CONTAINED, COLLECTED AND DISCHARGED AT A LOCATION TO BE APPROVED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
23. GARBAGE COLLECTION WILL BE MADE WITH FRONT END LOADING VEHICLES. THERE WILL BE NO CURBSIDE COLLECTION. FRONT-END GARBAGE, SEMI-AUTOMATED RECYCLING AND CURBSIDE YARD WASTE COLLECTION WILL BE PROVIDED.
24. DETAILS OF WALKWAYS AND LANDSCAPING WITHIN PROPERTY LINES BY LANDSCAPE ARCHITECT.
25. PRIOR TO ISSUING A RELEASE FOR LANDSCAPE AND LOT GRADING APPROVAL AN ACOUSTICAL CONSULTANT MUST BE ENGAGED TO UNDERTAKE AN ACOUSTICAL ANALYSIS, RECOMMENDING NOISE CONTROL FEATURES TO MEET THE NOISE LEVEL OBJECTIVES OF THE CITY AND THE MINISTRY OF THE ENVIRONMENT, IF APPLICABLE, WITH RESPECT TO NOISE LEVEL FROM PEARSON INTERNATIONAL AIRPORT
26. ALL EXCESS EXCAVATED MATERIAL WILL BE REMOVED FROM SITE.
27. BASED UPON REVIEW OF THE ENVIRONMENTAL SITE SCREENING QUESTIONNAIRE AND DECLARATION, DATED FEBRUARY 18, 2005 AND H-OZ 04/009, THE FOLLOWING COMMENTS ARE PROVIDED:
   - ANY SEPTIC SYSTEM ON SITE WILL BE DECOMMISSIONED AND REMOVED ACCORDING TO ALL APPLICABLE GUIDELINES AND REGULATIONS.
   - ANY WELL ON SITE WILL BE DECOMMISSIONED IN ACCORDANCE WITH THE ONTARIO WATER RESOURCES ACT REGULATION 903 (FORMERLY 612/84) AND ANY OTHER APPLICABLE REGULATIONS AND GUIDELINES
28. ALL DAMAGED AREAS ARE TO BE REINSTATED WITH TOPSOIL AND SOD PRIOR TO TO THE RELEASE OF SECURITIES
29. ANY FENCING ADJACENT TO MUNICIPAL LANDS IS TO BE LOCATED 15CM (6.0 IN.) INSIDE THE PROPERTY LINE
30. THE APPLICANT IS RESPONSIBLE FOR ENSURING THAT TREE PROTECTION HOARDING IS MAINTAINED THROUGHOUT ALL PHASES OF DEMOLITION AND CONSTRUCTION IN THE LOCATION AND CONDITION AS APPROVED BY THE PLANNING AND BUILDING DEPARTMENT. NO MATERIALS (BUILDING MATERIALS , SOIL, ETC.) MAY BE STOCKPILED WITHIN THE AREA OF HOARDING. FAILURE TO MAINTAIN THE HOARDING AS ORIGINALLY APPROVED OR THE STORAGE OF MATERIALS WITHIN THE HOARDING WILL BE CAUSE FOR THE LETTER OF CREDIT TO BE HELD FOR TWO (2) YEARS FOLLOWING COMPLETION OF ALL SITE WORKS
31. ALL PROPOSED CURBING AT THE ENTRANCES TO THE SITE IS TO STOP AT THE PROPERTY LINE OR AT THE MUNICIPAL SIDEWALK
32. THE EXISTING DRAINAGE PATTERN WILL BE MAINTAINED
33. THE ACOUSTICAL CONSULTANT SHALL CERTIFY TO THE PLANNING AND BUILDING DEPARTMENT THAT THE 'AS CONSTRUCTED' BUILDINGS AND AIR CONDITIONING CONDENSER UNITS AND LOCATIONS ARE IN COMPLIANCE WITH THE ACOUSTICAL ANALYSIS AS PREPARED FOR THE PARTICULAR BUILDING AND IN COMPLIANCE WITH THE MINISTRY OF THE ENVIRONMENT (MOE) CRITERIA FOR STATIONARY NOISE SOURCES.
34. WORKS IN THE MUNICIPAL RIGHT-OF-WAY BEING PERFORMED BY THE CITY'S CONTRACTOR WILL REQUIRE 4 TO 6 WEEKS NOTICE PRIOR TO COMMENCEMENT OF CONSTRUCTION AFTER ALL DRAWINGS HAVE BEEN APPROVED AND SECURITIES HAVE BEEN RECEIVED.
35. PRIOR TO ANY CONSTRUCTION TAKING PLACE, STRUCTURALLY CERTIFIED OVERHEAD HOARDING WITHIN THE RIGHT-OF-WAY AS SHOWN ON THE SITE PLAN (AS APPLICABLE), HOARDING ADJACENT TO EXISTING PROPERTIES TO PROTECT FROM CONSTRUCTION ACTIVITY, AND ALL REQUIRED HOARDING IN ACCORDANCE WITH THE ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS MUST BE ERECTED AND MAINTAINED THROUGHOUT ALL PHASES OF CONSTRUCTION.
36. ANY SEPTIC SYSTEM ON SITE WILL BE DECOMMISSIONED AND REMOVED ACCORDING TO ALL APPLICABLE GUIDELINES AND REGULATIONS.
37. IF A WELL IS DISCOVERED, IT WILL BE DECOMMISSIONED BY A LICENSED WELL CONTRACTOR OR TECHNICIAN IN ACCORDANCE WITH THE ONTARIO WATER RESOURCES ACT REGULATION 903 (FORMERLY 612/84) AND ANY OTHER APPLICABLE REGULATIONS AND GUIDELINES.
38. THE GRADING PLAN IS TO BE READ IN CONJUNCTION WITH THE SITE PLAN.
39. A 48 HOURS NOTICE NEED TO BE GIVEN TO THE CITY INSPECTION STAFF PRIOR TO COMMENCEMENT OF ANY ROAD CONSTRUCTION.
40. PRIOR TO SITE PLAN APPROVAL A PRECONSTRUCTION MEETING CONFIRMATION SHOULD BE MADE WITH THE DEVELOPMENT CONSTRUCTION SECTION.
41. CITY OF MISSISSAUGA BENCH MARK NO. 883
   ON THE NEW MISSISSAUGA CIVIC CENTRE, 300 CITY CENTRE DRIVE, ON THE N.W. CORNER OF CITY CENTRE DRIVE N. & E. B.M. IS SET VERTICALLY ON THE S. FACE ON THE S. WALL AT THE STREET LIMIT, 32m E. OF THE E. STAIRWAYS TO THE CITY HALL SOUTHERLY ENTRANCE, 0.35m W. OF THE S.E. CORNER OF WALL, 0.50M ABOVE GRADE ELEVATION 156.105
42. ALL SERVICE DRAINAGE WILL BE SELF-CONTAINED, COLLECTED AND DISCHARGED AT A LOCATION TO BE APPROVED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT." "THE PORTION OF THE DRIVEWAY WITHIN THE MUNICIPAL BOULEVARD WILL BE PAVED BY THE APPLICANT.
43. AT THE ENTRANCES TO THE SITE, THE MUNICIPAL CURB AND SIDEWALK WILL BE CONTINUOUS THROUGH THE DRIVEWAY AND A CURB DEPRESSION WILL BE PROVIDED FOR EACH ENTRANCE.
44. ALL PROPOSED CURBING WITHIN THE MUNICIPAL BOULEVARD AREA FOR THE SITE IS TO SUIT AS FOLLOWS: a) FOR ALL SINGLE FAMILY RESIDENTIAL PROPERTIES INCLUDING ON STREET TOWNHOUSES, ALL CURBING IS TO STOP AT THE PROPERTY LIMIT OR THE BACK OF THE MUNICIPAL SIDEWALK,WHICHEVER IS APPLICABLE, OR b) FOR ALL OTHER PROPOSALS INCLUDING INDUSTRIAL, COMMERCIAL AND CONDOMINIUM DEVELOPMENTS, ALL ENTRANCES TO THE SITE ARE TO BE IN ACCORDANCE WITH O.P.S.D 350.010.
45. ALL EXCESS EXCAVATED MATERIAL WILL BE REMOVED FROM THE SITE.
46. THE EXISTING DRAINAGE PATTERN WILL BE MAINTAINED EXCEPT WHERE NOTED.
47. THE APPLICANT WILL BE REQUIRED TO CONTACT ALL UTILITY COMPANIES TO OBTAIN ALL REQUIRED LOCATES PRIOR TO THE INSTALLATION OF HOARDING WITHIN THE MUNICIPAL RIGHT OF WAY.
48. THE APPLICANT WILL BE RESPONSIBLE FOR THE COST OF ANY UTILITY RELOCATIONS NECESSITATED BY THE SITE PLAN.
49. PRIOR TO CONSTRUCTION TAKING PLACE, ALL REQUIRED HOARDING IN ACCORDANCE WITH THE ONTARIO OCCUPATIONAL HEALTH & SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS MUST BE ERECTED AND THEN MAINTAINED THROUGHOUT ALL PHASES OF CONSTRUCTION.
50. THE SITE PLAN (SP-01) IS TO BE READ IN CONJUNCTION WITH THE GRADING PLAN PREPARED BY GHD.
51. THE APPLICANT WILL BE RESPONSIBLE FOR ENSURING THAT ALL PLANS CONFORM TO TRANSPORT CANADA'S RESTRICTIONS.
52. ALL TOP SOIL AND / OR ORGANIC MATERIAL CAPABLE OF PRODUCING METHANE WILL BE REMOVED FROM THE SITE OR STOCKPILED FOR LANDSCAPING PURPOSES ONLY. – THE GEOTECHNICAL AND ENVIRONMENTAL SUITABILITY OF THE FILL WILL BE ASSESSED BY THE GEOTECHNICAL ENGINEER.
53. THE APPLICANT IS ADVISED THAT THEY WILL BE REQUIRED TO PROVIDE INSPECTION STAFF 48 HOURS NOTICE PRIOR TO COMMENCEMENT OF ANY ROAD CONSTRUCTION. PLEASE CONTACT DONNA WATERS AT 905-615-3200 EXT. 3240 TO PROVIDE THE REQUIRED NOTICE.
54. THE APPLICANT IS ADVISED THAT CONFIRMATION MUST BE RECEIVED FROM THE DEVELOPMENT CONSTRUCTION SECTION THAT THEY HAVE MADE ARRANGEMENT FOR A PRECONSTRUCTION MEETING.
55. ALL ASPHALT AND BASE MATERIALS OF THE EXISTING DRIVEWAY BEING REMOVED ARE TO BE REINSTATED WITH TOPSOIL AND SOD.
56. THE APPLICANT IS RESPONSIBLE FOR ENSURING THAT TREE PROTECTION HOARDING IS MAINTAINED THROUGHOUT ALL PHASES OF DEMOLITION AND CONSTRUCTION IN THE LOCATION AND CONDITION AS APPROVED BY THE PLANNING AND BUILDING DEPARTMENT. NO MATERIALS (BUILDING MATERIALS, SOIL, ETC.) MAY BE STOCKPILED WITHIN THE AREA OF HOARDING. FAILURE TO MAINTAIN THE HOARDING AS ORIGINALLY APPROVED OR THE STORAGE OF MATERIALS WITHIN THE HOARDING WILL BE CAUSE FOR THE LETTER OF CREDIT TO BE HELD FOR TWO (2) YEARS FOLLOWING COMPLETION OF ALL SITE WORKS.
57. THE GEOTECHNICAL AND ENVIRONMENTAL SUITABILITY OF THE FILL WILL BE ASSESSED BY THE GEOTECHNICAL ENGINEER.
58. THE CITY OF MISSISSAUGA REQUIRES THAT ALL WORKING DRAWINGS SUBMITTED TO THE BUILDING DIVISION AS PART OF AN APPLICATION FOR THE ISSUANCE OF A BUILDING PERMIT SHALL BE CERTIFIED BY THE ARCHITECT OR ENGINEER AS BEING IN CONFORMITY WITH THE SITE DEVELOPMENT PLAN AS APPROVED BY THE CITY OF MISSISSAUGA.
59. ONLY "SHIELDED" LIGHTING FIXTURES ARE PERMITTED WITHIN 60M (196.8FT) OF A RESIDENTIALLY ZONED PROPERTY.
60. THE ENGINEER CERTIFIED LIGHTING PLAN (IF REQUIRED) MUST BE SIGNED BY THE CONSULTING ENGINEER.
61. THE OWNER AGREES TO INSTALL "SHIELDED" LIGHTING FIXTURES, IN CONFORMITY WITH THE SITE PLAN AND ENGINEER CERTIFIED LIGHTING PLAN (OF REQUIRED) TO THE SATISFACTION OF THE CITY OF MISSISSAUGA.
62. I HEREBY CERTIFY THAT DRAWING CONFORMS IN ALL RESPECTS TO THE SITE DEVELOPMENT PLANS AS APPROVED BY THE CITY OF MISSISSAUGA UNDER FILE NUMBER SP 15/102 W1.

   SIGNATURE:

63. ALL DEBRIS TO BE REMOVED FROM THE SITE IN ACCORDANCE WITH ALL APPLICABLE.
64. COMMITTEE OF ADJUSTMENT FILE NUMBER: A15/17
65. THE STRUCTURAL DESIGN OF ANY RETAINING WALL OVER 0.60 METERS IN HEIGHT OR ANY RETAINING WALL LOCATED ON A PROPERTY LINE, IS TO BE SHOWN ON THE SITE GRADING PLAN FOR THIS PROJECT, AND IS TO BE APPROVED BY THE CONSULTING ENGINEER FOR THE PROJECT.
66. DUE TO THE LIMITED SNOW STORAGE PROVIDED ON SITE, THE CONDOMINIUM DISCLOSURE STATEMENT AND THE CONDOMINIUM DECLARATION WILL INCLUDE A CLAUSE STATING THAT: "THE CITY OF MISSISSAUGA DOES NOT REQUIRE OFF SITE SNOW REMOVAL, HOWEVER, IN THE CASE OF HEAVY SNOW FALLS, THE LIMITED SNOW STORAGE SPACE AVAILABLE ON THE PROPERTY MAY MAKE IT NECESSARY TO TRUCK SNOW OFF THE SITE AND THE COST OF SAME WILL BE INCLUDED IN THE COMMON EXPENSE FEES."
67. THE FIRE ACCESS ROUTE WILL BE CONSTRUCTED IN ACCORDANCE WITH OBC SENTANCE 3.2.5.6.(1), WHICH ADDRESSES CLEAR WIDTHS, CENTRELINE RADII, OVERHEAD CLEARANCES, CHANGE OF GRADIENT, SUPPORTING OF LOADS, AND CONNECTIONS TO PUBLIC THOROUGHFARES.
68. PROPOSED ACCESS ROUTE FOR WASTE COLLECTION, MINIMUM 4.4m OVERHEAD CLEARANCE OUTSIDE OF COLLECTION AREA AND MINIMUM 7.5m OVERHEAD CLEARANCE INSIDE THE COLLECTION AREA THROUGHOUT AND DESIGNED TO SAFELY SUPPORT OF 35,000KG. THE ACCESS ROUTE SHALL BE CONSTRUCTED OF 50mm COMPACTED DEPTH OF HL-8 ASPHALT (BASE COURSE) AND 40mm COMPACTED DEPTH OF HL-3 ASPHALT FOR THE TOP COURSE.
69. STRUCTURAL ENGINEER TO DESIGN AREA TO CONFORM AS FOLLOW:
   (A) DESIGN CODE – ONTARIO BUILDING CODE
   (B) DESIGN LOAD – CITY BULK LIFT VEHICLE IN ADDITION TO BUILDING CODE REQUIREMENTS
   (C) IMPACT FACTOR – 5% FOR MAX. VEHICULAR SPEEDS TO 15KM/H AND 30% FOR HIGHER SPEEDS
70. A COLLECTION POINT COMPRISED OF A SOLID LEVEL (+/- 2%) CONCRETE PAD IS REQUIRED. THE CONCRETE PAD SHOULD EXTENT A MINIMUM OF 1.5 METERS IN LENGTH OUTSIDE OF THE COLLECTION POINT TO ACCOMMODATE THE FRONT WHEELS OF THE WASTE COLLECTION VEHICLE.
71. NO JOCKEYING OF FRONT END BINS REQUIRED. PROPERTY MANAGEMENT IS RESPONSIBLE THE BINS ARE PROPERLY POSITIONED IN THE COLLECTION AREA ON THE DAY OF COLLECTION BEFORE 7 am. THE DRIVER IS NOT REQUIRED TO EXIT THE COLLECTION VEHICLE TO FACILITATE COLLECTION. PROPERTY MANAGEMENT WILL BE RESPONSIBLE FOR SAFELY MANEUVERING WASTE COLLECTION VEHICLES INTO AND/OR OUT OF, AS WELL AS AROUND THE SITE. PROPERTY MANAGEMENT MUST BE VISIBLE TO WASTE COLLECTION VEHICLE ON APPROACH TO SITE, OTHERWISE THE WASTE COLLECTION VEHICLE WILL NOT ENTRE THE SITE AND NOT RETURN UNTIL THE NEXT SCHEDULED COLLECTION DAY. THE REGION WILL NOT BE RESPONSIBLE FOR EMPTYING BINS THAT ARE INACCESSIBLE TO THE COLLECTION VEHICLE.
72. THE APPLICANT IS RESPONSIBLE FOR ENSURING THAT TREE PROTECTION HOARDING IS MAINTAINED THROUGHOUT ALL PHASES OF DEMOLITION AND CONSTRUCTION IN THE LOCATION AND CONDITION AS APPROVED BY THE PLANNING AND BUILDING DEPARTMENT. NO MATERIALS (BUILDING MATERIALS, SOIL, ETC.) MAY BE STOCKPILED WITHIN THE AREA OF HOARDING. FAILURE TO MAINTAIN THE HOARDING AS ORIGINALLY APPROVED OR THE STORAGE OF MATERIALS WITHIN THE HOARDING WILL BE CAUSE FOR THE LETTER OF CREDIT TO BE HELD FOR TWO (2) YEARS FOLLOWING COMPLETION OF ALL SITE WORKS.

Standard Mississauga Notes 2 SP-01

PRELIMINARY



NOTES:

THE STRUCTURAL DESIGN OF ANY RETAINING WALL OVER 0.60 METERS IN HEIGHT OR ANY RETAINING WALL LOCATED ON A PROPERTY LINE, IS TO BE SHOWN ON THE SITE GRADING PLAN FOR THIS PROJECT, AND IS TO BE APPROVED BY THE CONSULTING ENGINEER FOR THE PROJECT.

Site Plan 4 1:250 SP-01

1575 HURONTARIO STREET
Mississauga, Ontario
Proposed Residential Development

Project Statistics
May 8, 2017 — Project No. 16-121-10

1.0 Site Area

	acres	sq.m.	sq.ft.
Site Area	0.9670	3,913.32	42,123
Net Site Area	**0.9670**	**3,913.32**	**42,123**

2.0 GFA

2.1 **Proposed GFA**
Building A

	sq.m.	sq.ft.
Lower Level	676.00	7,276
Ground Floor	640.00	6,889
Second Floor	676.00	7,276
Third Floor	676.00	7,276
Roof Enclosure	222.00	2,390
Total Proposed GFA	**2,890.00**	**31,108**

Building B	sq.m.	sq.ft.
Lower Level	594.00	6,394
Ground Floor	560.00	6,028
Second Floor	694.00	7,470
Third Floor	652.00	7,018
Roof Enclosure	194.00	2,088
Total Proposed GFA	**2,694.00**	**28,998**
Total Proposed GFA - Buildings A & B	**5,584.00**	**60,106**

4.1 **Units**

	No. of Units
Lower Level	15
Ground Floor	15
Second Floor	30
Total Units	**60**

5.0 Parking

5.1 **Parking Provided**

	No. of Units	Parking Ratio	Parking Spaces
Residential	60	1.0	60
Residential Visitor	60	0.24	14
Total Parking Provided			**74**

Site Statistics 1 SP-01

No.	Issued For	Date

Drawing Title:

Context Plan
Site Plan
Project Statistics
DRAWING PHASE 12

Project:

STREET PROPERTIES
PROPOSED
TOWNHOUSE
RESIDENTIAL DEVELOPMENT
/

1575 HURONTARIO,
MISSISSAUGA, ONTARIO.

Scale:
Drawn by: I.L
Checked by: S.M
File No.: 16-121
Plot Date: May. 08, 2017

2 Of X

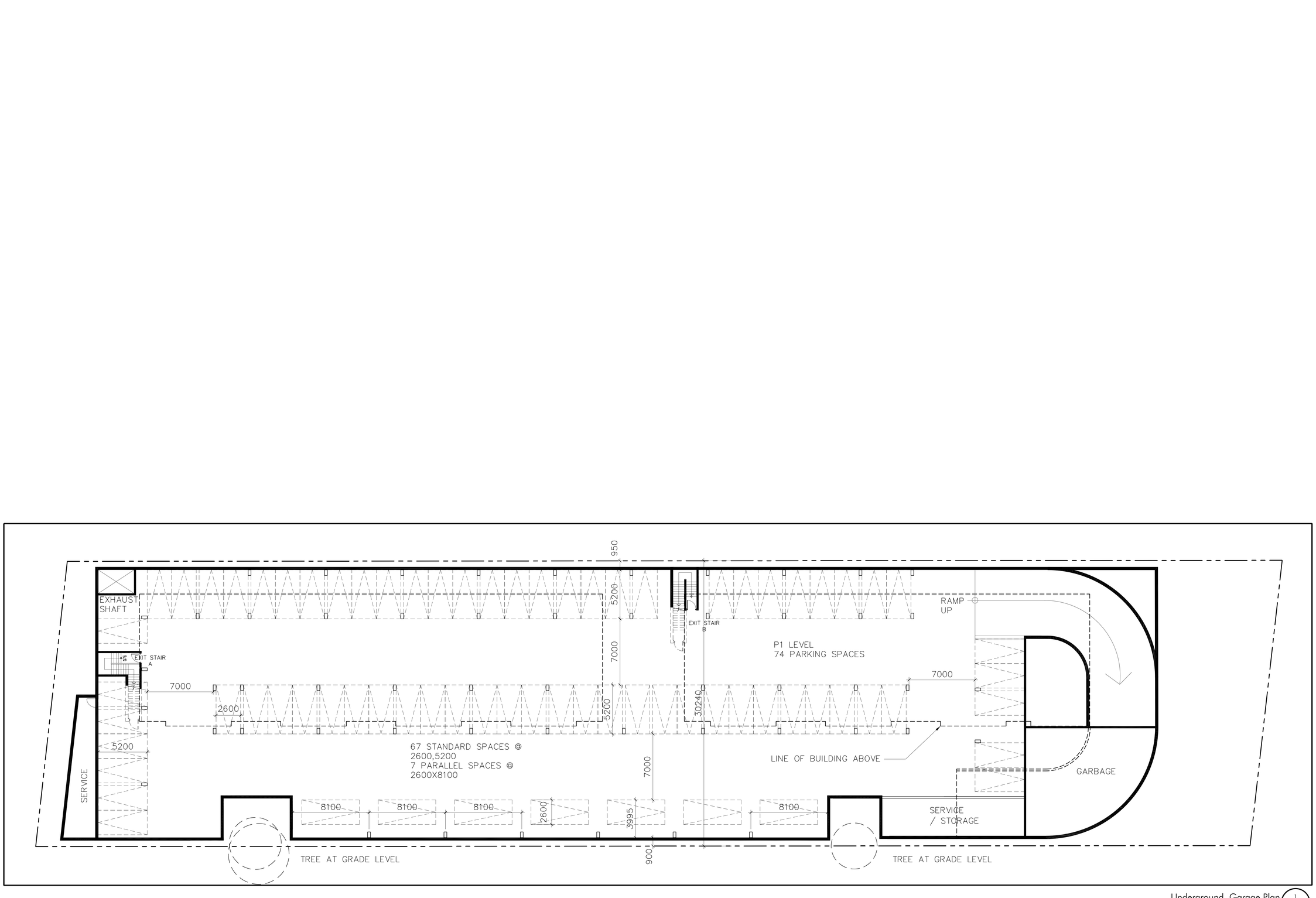
SP-01

Date:

KIRKOR ARCHITECTS + PLANNERS
20 Martin Ross Avenue, Toronto, Ontario, M3J 2K8
T(416) 665-6060, F(416) 665-1234, www.kirkorarchitects.com

No	Revision	Date

PRELIMINARY



Underground Garage Plan 1
1:150 SP-02

No.	Issued For	Date

Drawing Title:

Underground Garage Plan

DRAWING PHASE 12

Project:

STREET PROPERTIES
PROPOSED
TOWNHOUSE
RESIDENTIAL DEVELOPMENT
/

1575 HURONTARIO,
MISSISSAUGA, ONTARIO.

Scale:

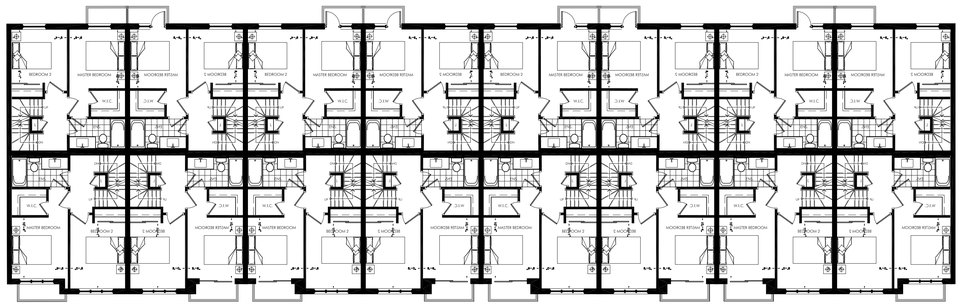
Drawn by: I.L

Checked by: S.M

File No.: 16-121

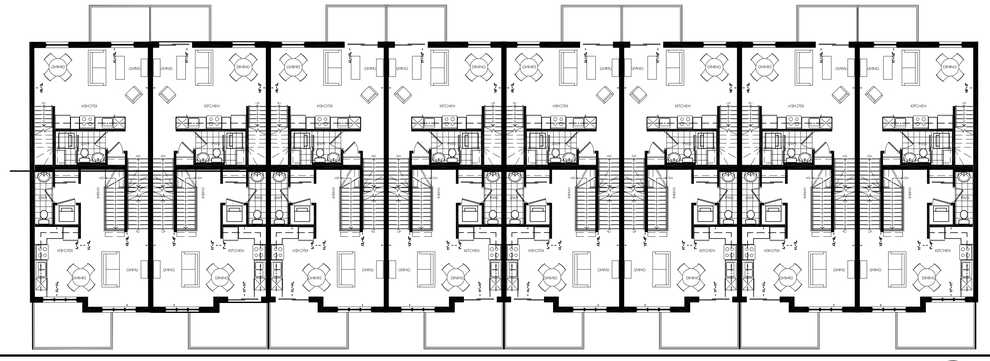
Plot Date: May. 08, 2017

SP-02



Building A Third Level Floor Plan 8
1:125 SP-03

Building B Third Level Floor Plan 4
1:125 SP-03



Building A Second Floor Plan 7
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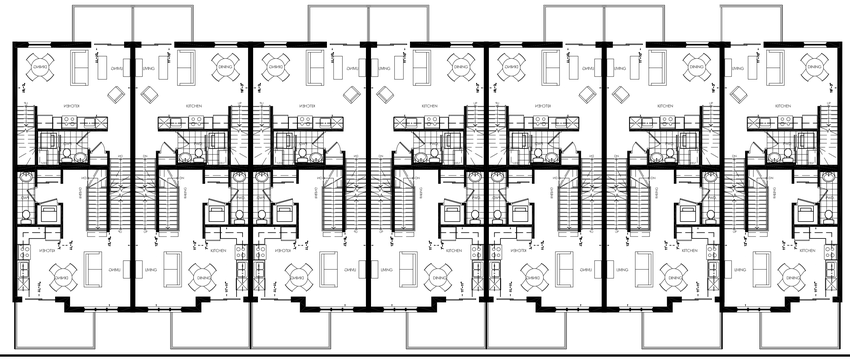
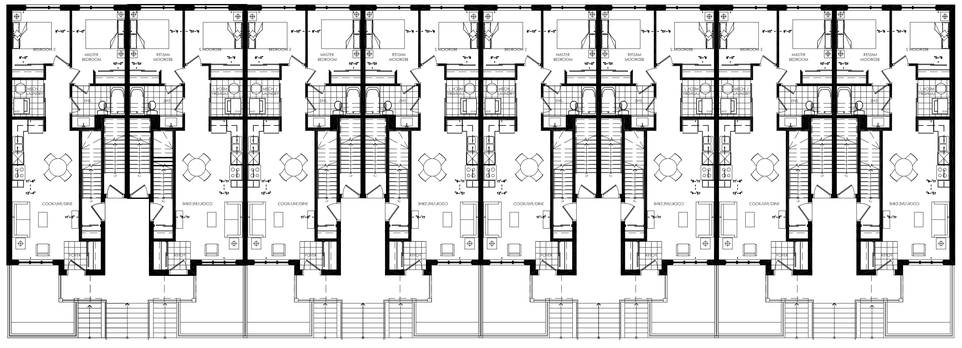
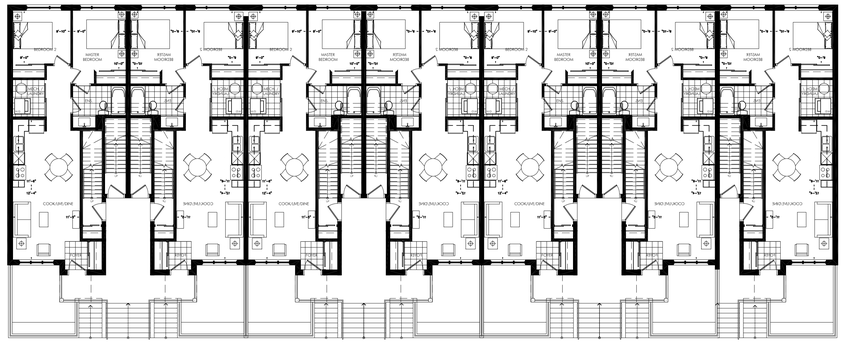


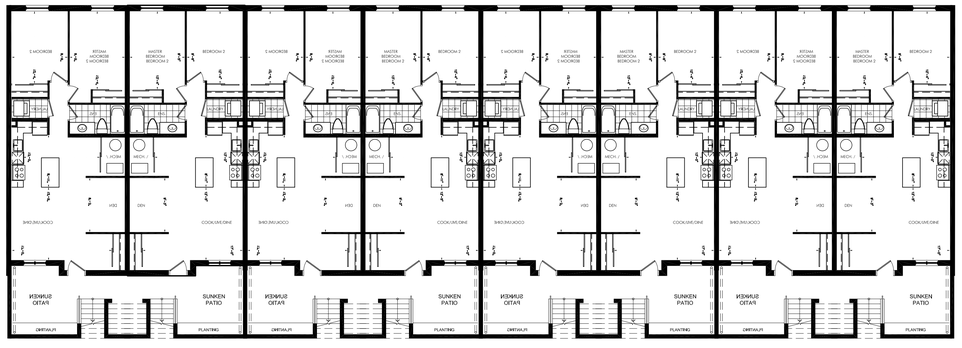
Building B Second Floor Plan 3
1:125 SP-03



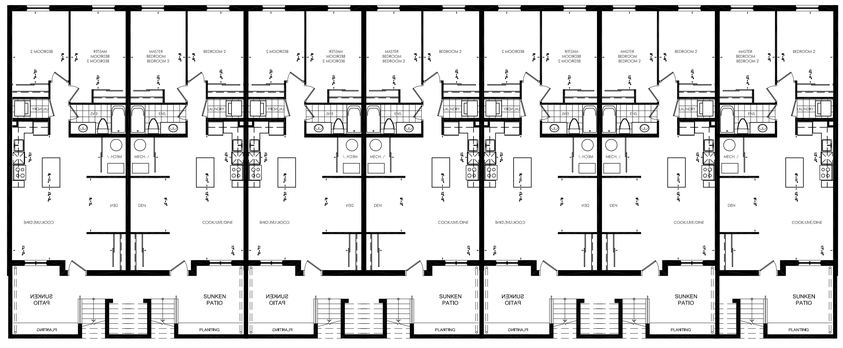
Building A Ground Floor Plan 6
1:125 SP-03



Building B Ground Floor Plan 2
1:125 SP-03



Building A Lower Level Floor Plan 5
1:125 SP-03



Building B Lower Level Floor Plan 1
1:125 SP-03

Date:

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No.	Revision	Date

PRELIMINARY

No.	Issued For	Date

Drawing Title:

Building A & B Floor Plans

DRAWING PHASE 12

Project:

STREET PROPERTIES
PROPOSED
TOWNHOUSE
RESIDENTIAL DEVELOPMENT
/

1575 HURONTARIO,
MISSISSAUGA, ONTARIO.

Scale:

Drawn by: I.L

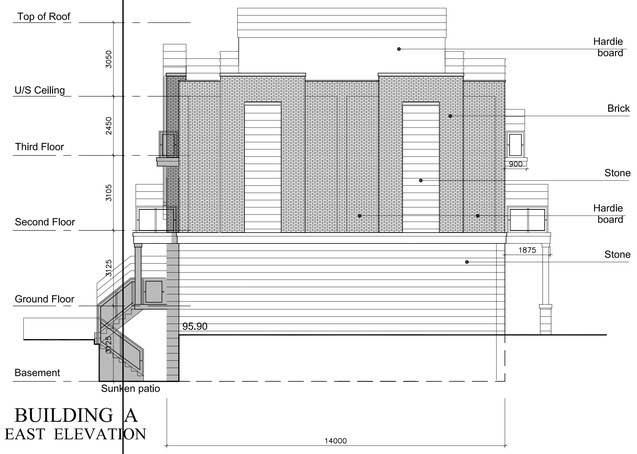
Checked by: S.M

File No.: 16-121

Plot Date: May. 08, 2017

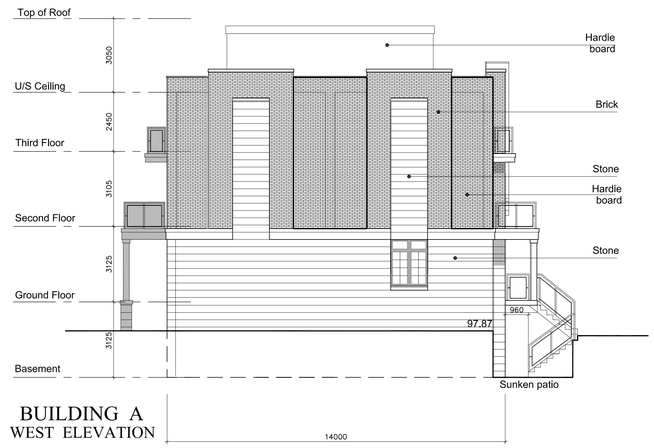
2 OF X

SP-03



BUILDING A
EAST ELEVATION

Building A East Elevation 1
1:100 SP-04



BUILDING A
WEST ELEVATION

Building A West Elevation 1
1:100 SP-04

NORTH ELEVATION
BUILDING A

Building A North Elevation 1
1:100 SP-04

BUILDING A
SOUTH ELEVATION

Building A South Elevation 1
1:100 SP-04

Date:

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No.	Revision	Date

PRELIMINARY

No.	Issued For	Date

Drawing Title:

Building A Elevations

DRAWING PHASE 12

Project:

STREET PROPERTIES
PROPOSED
TOWNHOUSE
RESIDENTIAL DEVELOPMENT
/

1575 HURONTARIO,
MISSISSAUGA, ONTARIO.

Scale:

Drawn by: I.L

Checked by: S.M

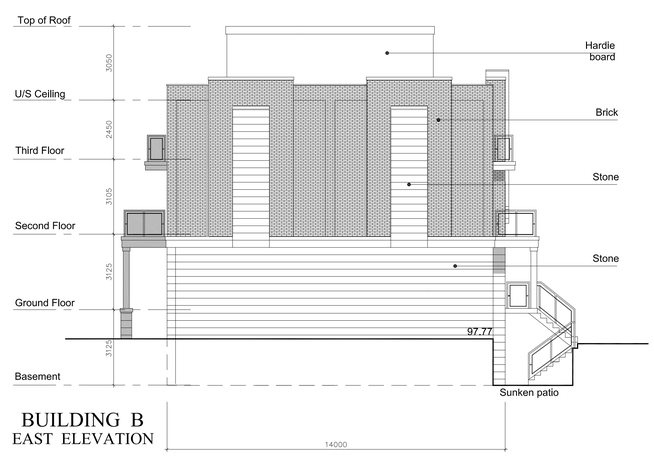
File No.: 16-121

Plot Date: May. 08, 2017

SP-04

BUILDING B
WEST ELEVATION

Building A West Elevation — 1 / SP-05
1:100



BUILDING B
EAST ELEVATION

Building B East Elevation — 1 / SP-05
1:100

NORTH ELEVATION
BUILDING B

Building B North Elevation — 1 / SP-05
1:100

BUILDING B
SOUTH ELEVATION

Building B South Elevation — 1 / SP-05
1:100

Date:

KIRKOR ARCHITECTS + PLANNERS
20 Martin Ross Avenue, Toronto, Ontario, M3J 2K8
T(416) 665-6060, F(416) 665-1234, www.kirkorarchitects.com

No	Revision	Date

PRELIMINARY

No.	Issued For	Date

Drawing Title:

Building B Elevations

DRAWING PHASE 12

Project:

STREET PROPERTIES
PROPOSED
TOWNHOUSE
RESIDENTIAL DEVELOPMENT
/

1575 HURONTARIO,
MISSISSAUGA, ONTARIO.

Scale:

Drawn by: I.L

Checked by: S.M

File No.: 16-121

Plot Date: May. 08, 2017

SP-05

APPENDIX B

Road Traffic Information

Date:	23-Mar-17

NOISE REPORT FOR PROPOSED DEVELOPMENT

REQUESTED BY:	
Name:	Victor Garcia
Company	HGC Engineering

PREPARED BY:	
Name:	Jacqueline Hunter
Tel#:	(905) 615-3200

Location:	Hurontario Street (near 1575 Hurontario Street) Hurontario Street south of QEW
Look Up ID#:	369

ON SITE TRAFFIC DATA

Specific	***Street Names***				
	Hurontario Street				
AADT:	48,000				
# of Lanes:	4				
% Trucks:	10%				
Medium/Heavy Trucks Ratio:	55/45				
Day/Night Traffic Split:	90/10				
Posted Speed Limit:	50 km/h				
Gradient of Road:	<2%				
Ultimate R O W:	35m				

Comments:	
	* Ultimate Traffic Data
	Ultimate Data is based on the proposed LRT project along Hurontario Street with existing lanes
	converted from 6 to 4 lanes with 2 LRT lines in middle/both sides.
	For more details, please call Matthew Williams (905) 615- 3200 ext. 5834

Highway	Location Description	Dist. (KM)	Year	Pattern Type	AADT	SADT	SAWDT	WADT	AR
			2005	C	126,400	140,700	141,900	113,500	0.5
			2006	C	125,200	139,100	140,200	112,600	0.3
			2007	C	131,900	146,600	148,600	118,500	0.4
			2008	C	120,400	132,900	131,000	108,000	0.5
			2009	C	126,600	139,700	141,100	113,900	0.3
			2010	C	128,300	141,400	142,700	115,500	0.4
			2011	C	132,500	145,800	147,100	119,300	N/A
			2012	C	134,000	147,400	144,700	120,600	N/A
			2013	C	135,500	149,000	147,600	121,900	N/A
QEW	MISSISSAUGA RD IC-130	2.0	1988	C	114,000	126,500	126,500	102,500	1.0
			1989	C	118,000	130,900	132,100	106,100	1.2
			1990	C	121,600	134,900	134,900	109,300	0.9
			1991	C	120,100	132,100	133,300	109,200	1.0
			1992	C	120,900	130,500	134,100	112,400	0.9
			1993	C	123,300	133,100	136,800	113,400	1.1
			1994	C	125,800	137,100	140,900	113,200	1.0
			1995	C	128,300	138,600	143,700	118,000	0.8
			1996	C	131,900	148,400	150,400	118,800	0.8
			1997	C	138,200	145,100	161,700	129,900	0.9
			1998	C	144,100	153,300	168,600	136,900	1.2
			1999	C	147,600	157,000	172,700	140,200	0.6
			2000	C	146,000	164,300	164,800	131,500	0.8
			2001	C	148,000	167,200	167,200	133,200	0.9
			2002	C	150,000	168,000	169,300	135,000	1.1
			2003	C	154,800	173,400	174,900	139,300	1.0
			2004	C	158,800	177,400	178,500	143,300	0.9
			2005	C	162,000	180,400	181,900	145,500	0.8
			2006	C	152,500	169,400	170,800	137,200	0.9
			2007	C	154,500	171,700	174,100	138,800	0.8
			2008	C	137,200	151,400	149,300	123,100	1.1
			2009	C	149,200	164,700	166,300	134,300	0.7
			2010	C	158,700	174,900	176,500	142,900	0.7
			2011	C	160,300	176,300	177,900	144,200	N/A
			2012	C	161,800	178,000	174,800	145,600	N/A
			2013	C	150,000	165,000	163,500	135,000	N/A
QEW	HWY 10-HURONTARIO ST IC-132	2.1	1988	C	122,500	128,600	138,400	115,100	1.0
			1989	C	126,800	133,100	143,200	120,400	1.0
			1990	C	130,900	140,000	151,700	124,300	1.0

Highway	Location Description	Dist. (KM)	Year	Pattern Type	AADT	SADT	SAWDT	WADT	AR
			1991	C	128,900	136,600	148,200	125,000	0.8
			1992	C	129,800	137,500	146,600	119,400	0.8
			1993	C	137,900	146,200	155,800	126,900	1.1
			1994	C	143,700	152,300	160,900	132,200	1.3
			1995	C	144,600	153,300	160,500	133,000	1.2
			1996	C	148,100	157,600	173,300	140,700	1.0
			1997	C	151,600	159,200	177,400	142,500	0.8
			1998	C	155,100	165,000	181,500	147,300	1.1
			1999	C	157,600	167,700	184,400	149,700	0.9
			2000	C	160,500	170,800	189,100	150,900	1.2
			2001	C	163,500	174,900	192,900	153,700	0.8
			2002	C	166,500	177,400	195,900	155,900	1.0
			2003	C	169,500	179,700	200,000	159,300	0.9
			2004	C	186,500	197,100	218,500	176,200	0.6
			2005	C	175,400	185,600	205,100	164,500	0.7
			2006	C	167,500	177,100	195,700	157,600	0.8
			2007	C	169,000	179,200	195,600	158,600	1.1
			2008	C	142,000	156,700	154,600	127,400	1.3
			2009	C	142,500	186,600	188,400	152,200	0.7
			2010	C	165,900	191,300	193,000	156,300	0.7
			2011	C	170,000	187,000	188,700	153,000	N/A
			2012	C	169,100	186,000	182,600	152,200	N/A
			2013	C	170,000	187,000	185,300	153,000	N/A
QEW	CAWTHRA RD IC-134	1.8	1988	C	124,500	130,700	140,600	117,000	0.9
			1989	C	128,800	135,100	145,400	122,300	0.8
			1990	C	132,900	142,200	154,100	126,200	0.6
			1991	C	130,900	138,700	150,500	126,900	0.5
			1992	C	131,900	139,800	149,000	121,300	0.8
			1993	C	137,400	145,500	157,900	131,800	0.8
			1994	C	137,700	146,000	154,200	126,700	0.8
			1995	C	139,600	148,000	155,000	128,400	1.1
			1996	C	141,500	150,600	165,600	134,400	0.9
			1997	C	143,400	150,600	167,800	134,800	0.7
			1998	C	152,100	161,800	178,000	144,500	0.7
			1999	C	152,600	162,400	178,500	145,000	0.8
			2000	C	155,900	165,900	183,700	146,500	0.7
			2001	C	159,200	170,300	187,900	149,600	0.8
			2002	C	162,500	173,100	191,200	152,100	0.7

Victor Garcia

From: Bee, Christopher (MTO) <Christopher.Bee@ontario.ca>
Sent: March-28-17 12:52 PM
To: Victor Garcia
Cc: Jawed, Bushra (MTO); Bee, Christopher (MTO)
Subject: RE: Commercial vehicle percent for QEW at Hurontario

To Victor Garcia, HGC Engineering:

QEW and Hurontario (Hwy 10) is at reference point LHRS 10150
Based on official MTO TVIS data, from years 2011 to 2013, the (% truck/commercial) at this location has increased slightly to 12.0%.

There is no official data after 2013.

Regards.

Christopher Bee
MTO Central Region Traffic Office
Safety Traffic Information and Roadwork Coordination Section (STIRCS)

From: Victor Garcia [mailto:vgarcia@hgcengineering.com]
Sent: March-23-17 10:29 AM
To: Jawed, Bushra (MTO)
Cc: Bee, Christopher (MTO)
Subject: Commercial vehicle percent for QEW at Hurontario

Hi Bushra,

HGC Engineering is performing a Noise Feasibility Study for a proposed stacked townhouse development located at 1575 Hurontario Street in the City of Mississauga. A google link is included for your reference:

https://goo.gl/maps/v3juL1Z6SaT2

We previously obtained the attached commercial vehicle percentage in the area. Are these numbers still valid?

Thanks,

Victor Garcia, P.Eng
Project Engineer

HGC Engineering NOISE | VIBRATION | ACOUSTICS
Howe Gastmeier Chapnik Limited
2000 Argentia Road, Plaza One, Suite 203, Mississauga, Ontario, Canada L5N 1P7
t: 905.826.4044 e: vgarcia@hgcengineering.com
Visit our website – www.hgcengineering.com **Follow Us** – LinkedIn | Twitter | YouTube

APPENDIX C

Sample STAMSON 5.04 Output

STAMSON 5.0 NORMAL REPORT Date: 16-08-2017 10:27:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b.te Time Period: Day/Night 16/8 hours

Description: Building A, north facade

Road data, segment # 1: Hurontario (day/night)

Car traffic volume : 19440/2160 veh/TimePeriod *
Medium truck volume : 1188/132 veh/TimePeriod *
Heavy truck volume : 972/108 veh/TimePeriod *
Posted speed limit : 50 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): 24000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 5.50
Heavy Truck % of Total Volume : 4.50
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Hurontario (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 21.00 / 21.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Hurontario (day/night)

Car traffic volume : 19440/2160 veh/TimePeriod *
Medium truck volume : 1188/132 veh/TimePeriod *
Heavy truck volume : 972/108 veh/TimePeriod *
Posted speed limit : 50 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): 24000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 5.50
Heavy Truck % of Total Volume : 4.50
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Hurontario (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 31.00 / 31.00 m
Receiver height : 7.50 / 7.50 m

```
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 3: QEW (day/night)
---------------------------------------
Car traffic volume  : 102308/13951 veh/TimePeriod  *
Medium truck volume :  3488/476   veh/TimePeriod  *
Heavy truck volume  : 10463/1427  veh/TimePeriod  *
Posted speed limit  :   100 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):  93500
    Percentage of Annual Growth        :   2.50
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   3.00
    Heavy Truck  % of Total Volume     :   9.00
    Day (16 hrs) % of Total Volume     :  88.00

Data for Segment # 3: QEW (day/night)
-------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     50 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 263.00 / 263.00 m
Receiver height           :   7.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 4: QEW (day/night)
---------------------------------------
Car traffic volume  : 102308/13951 veh/TimePeriod  *
Medium truck volume :  3488/476   veh/TimePeriod  *
Heavy truck volume  : 10463/1427  veh/TimePeriod  *
Posted speed limit  :   100 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):  93500
    Percentage of Annual Growth        :   2.50
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   3.00
    Heavy Truck  % of Total Volume     :   9.00
    Day (16 hrs) % of Total Volume     :  88.00

Data for Segment # 4: QEW (day/night)
-------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     50 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 286.00 / 286.00 m
Receiver height           :   7.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

Results segment # 1: Hurontario (day)

Source height = 1.46 m

ROAD (0.00 + 65.49 + 0.00) = 65.49 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	69.96	0.00	-1.46	-3.01	0.00	0.00	0.00	65.49

Segment Leq : 65.49 dBA

Results segment # 2: Hurontario (day)

Source height = 1.46 m

ROAD (0.00 + 63.80 + 0.00) = 63.80 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	69.96	0.00	-3.15	-3.01	0.00	0.00	0.00	63.80

Segment Leq : 63.80 dBA

Results segment # 3: QEW (day)

Source height = 1.73 m

ROAD (0.00 + 62.57 + 0.00) = 62.57 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.47	84.51	0.00	-18.32	-1.12	0.00	-2.49	0.00	62.57

Segment Leq : 62.57 dBA

Results segment # 4: QEW (day)

Source height = 1.73 m

ROAD (0.00 + 62.05 + 0.00) = 62.05 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.47	84.51	0.00	-18.86	-1.12	0.00	-2.48	0.00	62.05

Segment Leq : 62.05 dBA

Total Leq All Segments: 69.71 dBA

♀
Results segment # 1: Hurontario (night)

Source height = 1.46 m

ROAD (0.00 + 58.96 + 0.00) = 58.96 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq

```
   -90      0   0.00  63.43   0.00  -1.46  -3.01   0.00   0.00   0.00  58.96
-------------------------------------------------------------------------------

Segment Leq : 58.96 dBA

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

Source height = 1.46 m

ROAD (0.00 + 57.26 + 0.00) = 57.26 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.00  63.43   0.00  -3.15  -3.01   0.00   0.00   0.00  57.26
-------------------------------------------------------------------------------

Segment Leq : 57.26 dBA

Results segment # 3: QEW (night)
--------------------------------

Source height = 1.73 m

ROAD (0.00 + 56.93 + 0.00) = 56.93 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.47  78.87   0.00 -18.32  -1.12   0.00  -2.49   0.00  56.93
-------------------------------------------------------------------------------

Segment Leq : 56.93 dBA

Results segment # 4: QEW (night)
--------------------------------

Source height = 1.73 m

ROAD (0.00 + 56.41 + 0.00) = 56.41 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.47  78.87   0.00 -18.86  -1.12   0.00  -2.48   0.00  56.41
-------------------------------------------------------------------------------

Segment Leq : 56.41 dBA

Total Leq All Segments: 63.52 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 69.71 dBA
                           (NIGHT): 63.52 dBA
```