HGC ENGINEERING

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Noise Feasibility Study
Proposed Residential Development
6620 Rothschild Trail
Mississauga, Ontario

Prepared for:

1215846 Ontario Ltd (DiBlasio Homes)
6620 Rothschild Trail
Mississauga, ON L5W 0A6

Prepared by

Mandy Chan, PEng

March 13, 2019

Project Number: 01800949

Table of Contents

1 Introduction

HGC Engineering was retained by 1215846 Ontario Ltd (DiBlasio Homes) to conduct a noise feasibility study for a proposed residential development to be located east of Mavis Road, west of McLaughlin Road and north of Courtney Park Drive in Mississauga Ontario. The development will include one 4-storey condominium apartment building with 1 level of underground parking. The study is required by the City of Mississauga as part of the planning and approvals process.

Traffic noise on Mavis Road and McLaughlin Road and air traffic noise from the Lester B. Pearson International Airport were confirmed to be the main noise sources. Road traffic data for the roadways was obtained from the Region of Peel. Road traffic noise levels were predicted at the location of the proposed building facades. These data were used to predict and assess the future sound levels impacting the proposed residences with respect to Ministry of the Environment, Conservation and Parks (MECP) guidelines.

The results of this study indicate that with suitable noise control measures integrated into the design of the building, it is feasible to achieve the indoor MECP guidelines sound levels from road and air traffic. Since the site is located between Noise Exposure Forecast (NEF) 30 and 35 (approximately at NEF 32), central air conditioning is required for the residential building. Upgraded building constructions (windows, doors, walls and ceiling/roof constructions) are also required for the proposed building. Associated acoustical requirements are specified in this report. Warning clauses are recommended to inform future residents of the road and air traffic noise impacts.

2 Site Description and Noise Sources

The proposed residential development is situated east of Mavis Road, west of McLaughlin Road and north of Courtney Park Drive in Mississauga, Ontario, as shown in Figure 1. The site plan prepared by pml.A dated November 16, 2018 is provided as Figure 2. The proposed development will consist of a 4-storey apartment building with one level of underground parking. Appendix A includes preliminary floor plans and building elevations.

HGC Engineering personnel visited the site to observe the acoustic environment near the proposed site and to identify the significant noise sources in the vicinity. The acoustical environment surrounding the site is urban in nature. Existing residential uses surround the proposed development to the north, south and east. To the west of the site are parklands. An existing single-detached house located on site will be removed.

The dominant noise sources that will impact the proposed development are road traffic on Mavis Road and McLaughlin Road and air traffic from Lester B. Pearson International Airport. The subject site is located near Pearson International Airport, and lies between the 30 and 35 (approximately at NEF 32) Noise Exposure Forecast/Noise Exposure Projection (NEF/NEP) contour (see Figure 3). Air traffic is also considered in the following analysis. There were no other major sources of significant noise evident within 500 metres of the site.

3 Sound Level Criteria

3.1 Road Traffic Noise

Guidelines for acceptable levels of road noise impacting residential developments are given in the MECP publication NPC-300, "Environmental Noise Guidelines – 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 [L_{EQ}] in units of A weighted decibels [dBA].

Table I: Road Traffic Noise Criteria

Area	Daytime L_{EQ} (16 hour) Road	Night-time L_{EQ} (8 hour) Road
Outdoor Living Area	55 dBA	--
Inside Living/Dining Room	45 dBA	45 dBA
Inside Bedroom	45 dBA	40 dBA

The MECP defines daytime hours as the period between 07:00 and 23:00, and nighttime hours between 23:00 and 07:00. The term "Outdoor Living Area" (OLA) is used in reference to an outdoor patio, backyard, terrace, children's playground or other area where passive recreation is expected to occur.

The MECP 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 as an alternative means of ventilation to open windows is required for dwellings where nighttime sound levels outside bedroom windows exceed 60 dBA, or where the daytime sound levels outside living/dining room windows exceeds 65 dBA. Forced-air ventilation with ducts sized to accommodate the future installation of central air conditioning is required when nighttime noise levels at bedroom or living/dining room windows are in the range of 51 to 60 dBA,

or where the daytime sound levels outside bedrooms 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.

3.2 Air Traffic Noise

Indoor sound limits due to air traffic are also defined in the MECP in publication NPC -300. The maximum allowable Noise Exposure Forecast (NEF) limits are summarized in Table II.

Table II: Air Traffic Noise Criterion

Area	Indoor NEF/NEP
Living/Dining Room (indoor)	5
Bedroom (indoor)	0

The living/dining rooms, dens and bedrooms of the proposed dwelling units are the sensitive receptor locations. Typically, washrooms and kitchens are considered noise insensitive areas. There are no outdoor noise criteria for aircraft noise because there is no effective means of mitigation.

The guidelines indicate that warning clauses and mandatory central air conditioning is required for any dwellings located above NEF/NEP contours of 30. In addition, building components including windows, doors, walls and ceiling/roof must be designed to achieve the indoor sound level criteria.

4 Traffic Noise Predictions

Traffic data for Mavis Road and McLaughlin Road was obtained from the Region of Peel in the form of ultimate Annual Average Daily Traffic (AADT) data, and is provided in Appendix B. Commercial percentages as indicated on the traffic data was used. A day night split of 90%/10% was used in the analysis along with a posted speed limit of 70 kph for both roadways. Table III summarizes the traffic volume data used in this study.

Table III: Ultimate Road Traffic Data

Road Name		Cars	Medium Trucks	Heavy Trucks	Total
Mavis Road	Daytime	44 550	2 723	2 228	49 500
	Nighttime	4 950	303	248	5 500
	Total	**49 500**	**3 025**	**2 475**	**55 000**
McLaughlin Road	Daytime	33 611	572	468	34 650
	Nighttime	3 735	64	52	3 850
	Total	**37 345**	**635**	**520**	**38 500**

4.1 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 MECP. 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 dwelling units with exposure to the roadways. 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 IV. The distance setback of the building indicated on the site plan was used in the analysis, along with an aerial photo to determine the distance to the major roadway. The acoustic requirements may be subject to modifications if the site plan is changed significantly.

Table IV: Future Predicted Traffic Sound Levels, [dBA]

Prediction Location	Description	Daytime – at Façade $L_{EQ(16)}$	Nighttime - at Façade $L_{EQ(8)}$
[A]	West Façade	55	<50
[B]	South Façade	56	<50
[C]	East Façade	<55	<50
[D]	North Façade	<55	<50

4.2 Air Traffic

The 2005 Composite Noise Contour Map for the Lester B. Pearson International Airport was obtained. This Map indicated that the proposed site is located between the 30 and 35 NEF/NEP contour, approximately at NEF 32, as shown on Figure 3.

The NEF contour map was used to determine the Acoustical Insulation Factors (AIF) required for the building components for the proposed building. The MECP indoor noise criteria for aircraft traffic noise was used as a guideline.

5 Discussion and Recommendations

The results indicate that road traffic sound levels will meet MECP plane-of-window criteria at most of the building facades. Recommendations for ventilation and building façade constructions are provided due to air traffic noise.

5.1 Outdoor Living Areas

The dwelling units in the building will have balconies that are less than 4 m in depth. These balconies are not considered to be outdoor living areas under MECP guidelines, and therefore are exempt from traffic noise assessment.

5.2 Indoor Living Areas and Ventilation Requirements

Inclusion of Central Air Conditioning

The building is located between the 30 to 35 NEF contours for Lester B. Pearson International Airport, as such, central air conditioning is required for all the residential units or the entire building so that windows may remain closed. The guidelines also recommend warning clauses for the building. Window or through-the-wall air conditioning units, similar to motel-style 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, unless they are 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.

5.3 Minimum Building Facade Constructions

Since the building is located between the 30 and 35 NEF/NEP contours for the Lester B. Pearson International Airport, air traffic noise must be considered in the building designs. The site is located at approximately NEF 32.

MECP guidelines recommend that building components including windows, walls, ceilings and roofs, where applicable, must be designed so that the indoor sound levels comply with MECP noise criteria. The acoustical performance of the building components (windows, doors, and walls) must also be specified.

The acoustic insulation factors (AIF) required for road traffic and air traffic must be combined to obtain an overall AIF for the building. The required building components are selected based on the overall AIF value.

To do so, calculations were performed to determine the acoustical insulation factors to maintain indoor sound levels within MECP guidelines. The calculation methods were developed by the National Research Council (NRC). They are based on the predicted future sound levels at the building facades, and the area ratios of the facade components (walls, windows, ceiling/roof and doors) and the floor area of the adjacent room.

5.3.1 Exterior Wall Constructions

It is recommended that all exterior walls of the building be of brick or masonry construction, which would provide sufficient acoustical insulation for the interior spaces. As noted on the elevation drawings, the exterior façades of the building are proposed to be a combination of brick and masonry.

5.3.2 Exterior Doors

There are glazed exterior doors (sliding or swing) for entry onto the balconies from living/dining rooms or bedrooms. All exterior doors should be composed of steel with a total thickness of at least 45 mm with foam or glass fibre insulation provided with integral frames and magnetic weather-stripping. Patio doors would be considered as contributing to the total window area provided in Section 5.3.4.

5.3.3 Ceiling/Roof System

A typical ceiling/roof construction consisting of a concrete slab, rigid insulation and built up roofing would be required to provide adequate sound insulation for the upper floor units.

5.3.4 Acoustical Requirements for Glazing

The building envelope constructions of the dwelling units must be able to have an Acoustic Insulation Factor (AIF) of at least 27 for the living/dining/family rooms and AIF of 32 for the bedrooms to comply with MECP indoor sound level requirements.

Preliminary floor plans and building elevations prepared by pml.A dated November 6, 2018 were reviewed to determine acoustical requirements for glazing. In general, the living rooms have window to floor area ratios of up to 25% and bedrooms have window to floor area ratios of up to 40%.

The minimum glazing for the development must achieve a sound transmission class (STC) rating of at least 34 for bedrooms and STC of at least 30 for living/dining rooms in order to achieve the target indoor sound level criteria due to road and air traffic. Awning windows, and swing or sliding doors to balconies should have tight seals sufficient to achieve similar acoustical performance ratings. Acoustical criteria for different façades can be optimized as part of the detail design of the building envelope.

Sample window assemblies which may achieve the STC requirements are summarized in Table V below. Note that acoustic performance varies with manufacturer's construction details, and these are only guidelines to provide some indication of the type of glazing likely to be required. Acoustical test data for the selected assemblies should be requested from the supplier, to ensure that the stated acoustic performance levels will be achieved by their assemblies.

Table V: Glazing Constructions Satisfying STC Requirements

STC Requirement	Sample Glazing Configuration (STC)
28 – 29	Any double glazed unit
30 – 31	3(13)3
32 – 33	4(10)4
34	4(19)4

In Table V, the numbers outside the parentheses indicate minimum pane thicknesses in millimetres and the number in parentheses indicates the minimum inter-pane gap in millimetres.

When detailed building plans are available, an acoustical consultant shall review them to ensure that the windows and building constructions are adequately designed to ensure acceptable indoor noise levels.

5.4 Warning Clauses

The MECP guidelines recommend that appropriate warning clauses be used in the Development Agreements and in purchase, sale and lease agreements (typically by reference to the Development Agreements), to inform future owners and occupants about noise concerns from transportation sources in the area. The following clauses are recommended.

(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 and air traffic may occasionally interfere with some activities of the dwelling unit occupants as the sound levels exceed the Municipality's and the Ministry of the Environment, Conservation and Parks noise criteria.

(b) This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor

sound levels are within the Municipality's and the Ministry of the Environment, Conservation and Parks noise criteria.

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

6 Summary of Recommendations

The following list and table summarizes the recommendations made in this report.

1. Central air conditioning systems are recommended for all residential units or the entire building.
2. Certain minimum building and glazing constructions are recommended, as indicated in Section 5.3. Acoustical criteria for different façades can be optimized as part of the detail design of the building envelope.
3. Warning clauses should be used to inform future residents of the road traffic and air traffic noise issues.

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

Units	Acoustic Barrier	Ventilation Requirements *	Type of Warning Clause	Building Façade Constructions (AIF requirements)**
All	--	Central A/C	a, b	LR/DR: AIF-27 BR: AIF-32

Notes:
* The location, installation and sound rating of the air conditioning condensers must be compliant with MECP Guideline NPC-300
** Refer to Section 5.3 for details
OBC – meeting the minimum requirements of the Ontario Building Code.

6.1 Implementation

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

1) Prior to an application for a building permit, a Professional Engineer qualified to provide acoustical engineering services in the Province of Ontario shall review the building plans to ensure that the windows and building constructions (exterior walls and roof/ceiling systems) are adequately designed to ensure acceptable indoor noise levels.

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

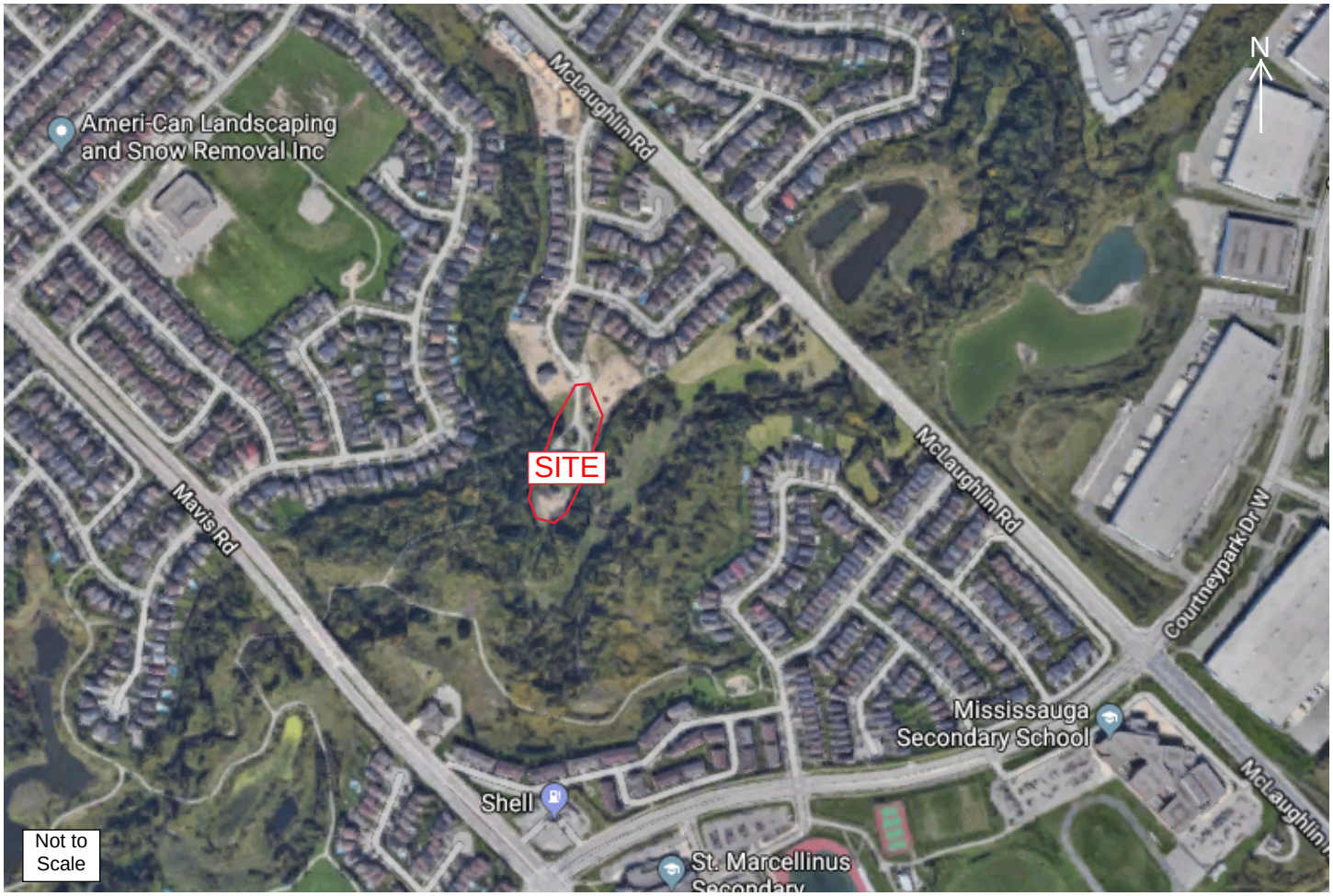
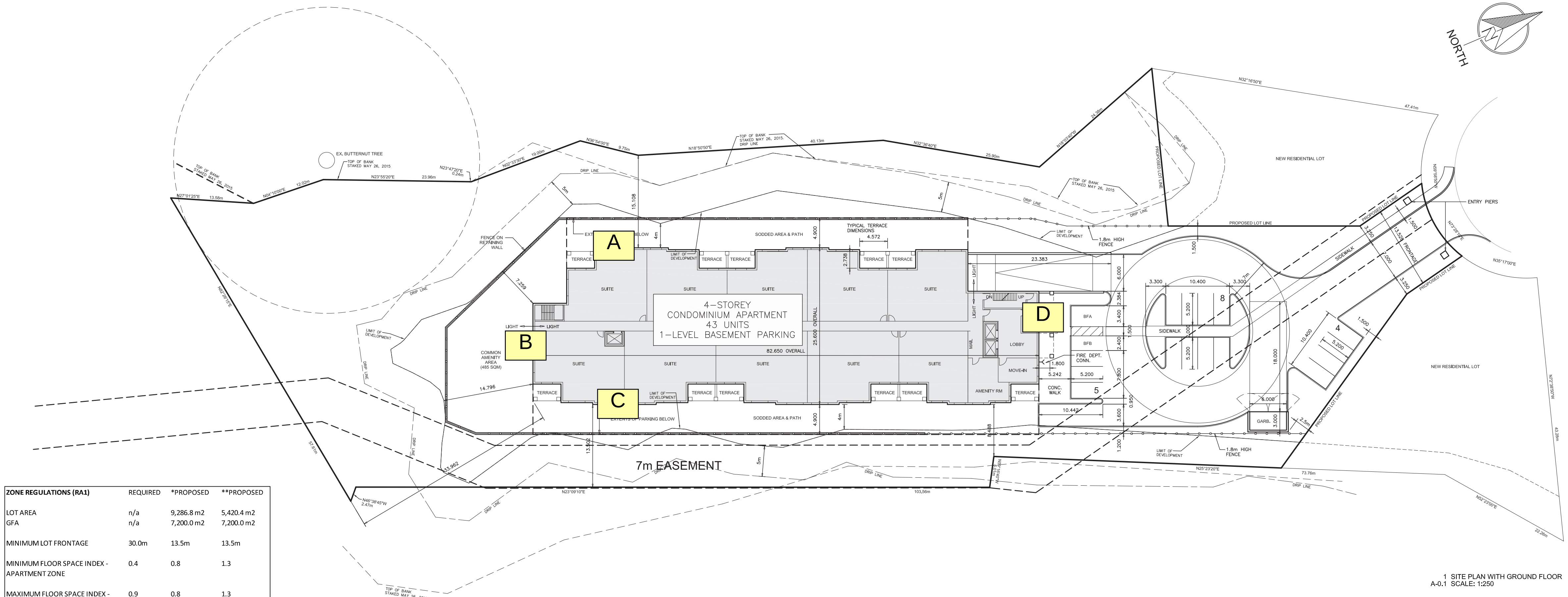


Figure 1: Aerial Photo



ZONE REGULATIONS (RA1)	REQUIRED	*PROPOSED	**PROPOSED
LOT AREA	n/a	9,286.8 m2	5,420.4 m2
GFA	n/a	7,200.0 m2	7,200.0 m2
MINIMUM LOT FRONTAGE	30.0m	13.5m	13.5m
MINIMUM FLOOR SPACE INDEX - APARTMENT ZONE	0.4	0.8	1.3
MAXIMUM FLOOR SPACE INDEX - APARTMENT ZONE	0.9	0.8	1.3
MAXIMUM HEIGHT	13.0m	13.0m	13.0m
MINIMUM FRONT AND EXTERIOR SIDE YARDS	7.5m	+50.0m	+50.0m
MINIMUM INTERIOR SIDE YARD	4.5m	8.4m	4.0m
Where an interior lot line, or any portion thereof, abuts a zone permitting detached and/or semi-detached	4.5m	n/a	n/a
MINIMUM REAR YARD	7.5m	31.1m	14.7m
PARKING, LOADING, SERVICING AREA AND PARKING STRUCTURES			
Minimum setback from surface parking spaces or aisles to any other lot line	3.0m	1.5m	1.5m
Minimum setback from a parking structure completely below finished grade, inclusive of external access stairwells, to any lot line	3.0m	3.5m	0.0m
Minimum setback from a waste enclosure/loading area to a zone permitting detached and/or semi-detached	3.0m	2.5m	2.5m
MINIMUM LANDSCAPED AREA, LANDSCAPED BUFFER AND AMENITY AREA			
Minimum landscaped area	40%	65%	40%
Minimum depth of a landscaped buffer abutting a lot line that is a street line and/or abutting lands with an Open Space, Greenlands and/or a Residential Zone with the exception of an Apartment Zone	4.5m	8.4m	4.0m
Minimum depth of a landscaped buffer along any other lot line	3.0m	1.5m	1.5m
Minimum amenity area	10%	10% (930 m2)	10% (542 m2)
Minimum percentage of total required amenity area to be provided in one contiguous area	50%	52% (485 m2)	179% (485 m2)
Minimum amenity area to be provided outside at grade	55.0 m2	485.0 m2	485.0 m2

*ZONE REGULATIONS BASED ON TOTAL LOT AREA

**ZONE REGULATIONS BASED ON DEVELOPABLE LOT AREA

STATISTICS

4th FLOOR	11 UNITS	1,800 SQM	19,375 SF
3rd FLOOR	11 UNITS	1,800 SQM	19,375 SF
2nd FLOOR	11 UNITS	1,800 SQM	19,375 SF
GROUND FLOOR	10 UNITS	1,800 SQM	19,375 SF
TOTAL	43 UNITS	7,200 SQM	77,500 SF
BASEMENT		2,710 SQM	29,170 SF

PARKING

43 UNITS @ 2.00 = 86 SPACES (86 RESIDENT PROVIDED)
43 UNITS @ 0.20 = 9 SPACES (19 VISITOR PROVIDED)

pml.A

patrick markus luckle, Architect

BLOCK 21 CONDO

RESIDENTIAL APARTMENT

ROTHSCHILD TRAIL, MISSISSAUGA

SITE PLAN
SCALE 1:250

SP File No.:

PROJECT No.: 16-23

A-0.1

Figure 2: Site Plan Showing Road Traffic Noise Prediction Locations

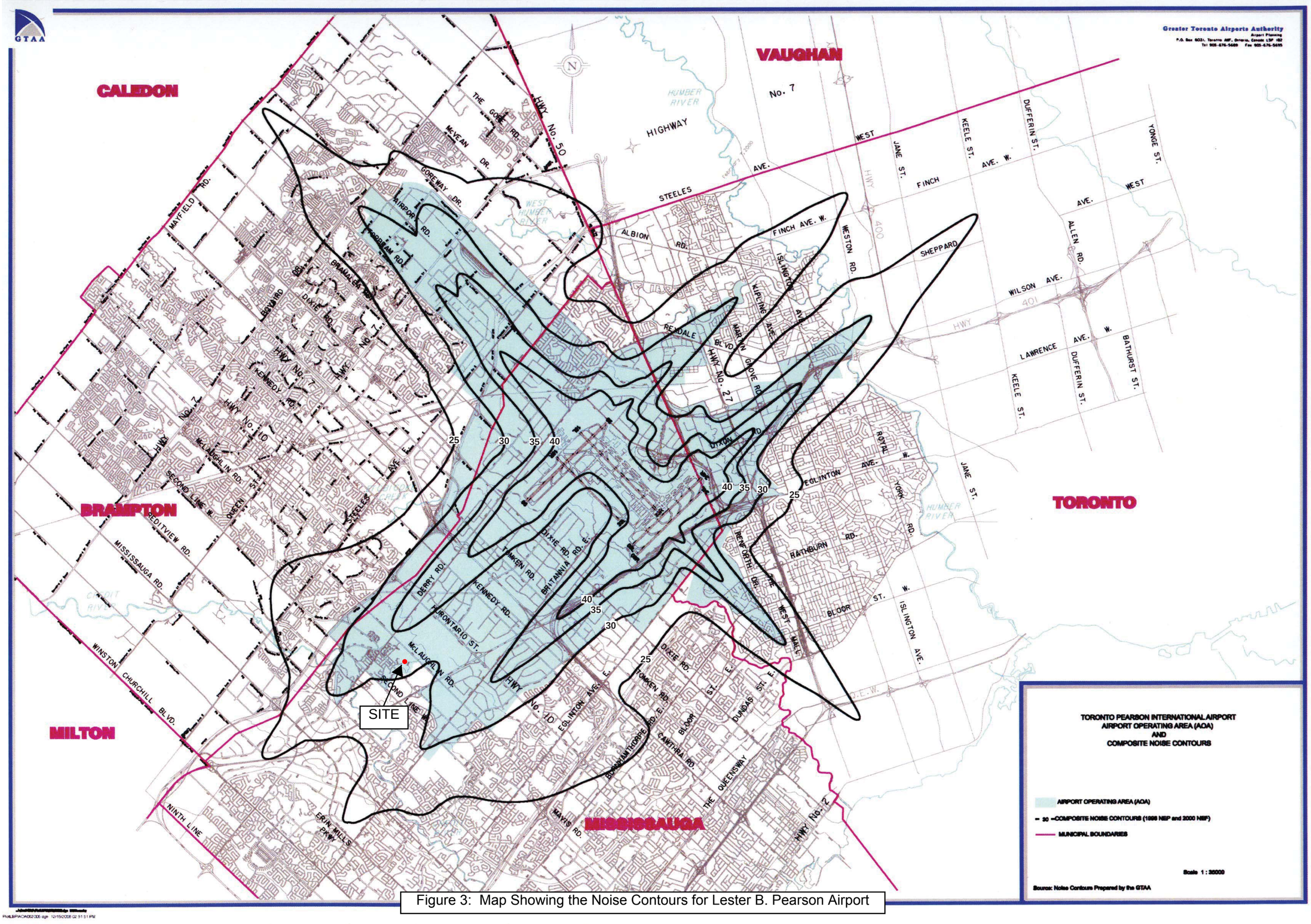


Figure 3: Map Showing the Noise Contours for Lester B. Pearson Airport

APPENDIX A
SUPPORTING DRAWINGS

DRAWINGS:

A-0.1	SITE PLAN
A-1.1	FLOOR PLANS
A-2.1	ELEVATIONS
A-7.1	UNIT PLANS
C102	GRADING PLAN

NORTH-WEST VIEW (CONCEPT)

WEST VIEW FROM STREET (CONCEPT)

pml.A

patrick markus luckie, Architect

BLOCK 21 CONDO

SP File No.:

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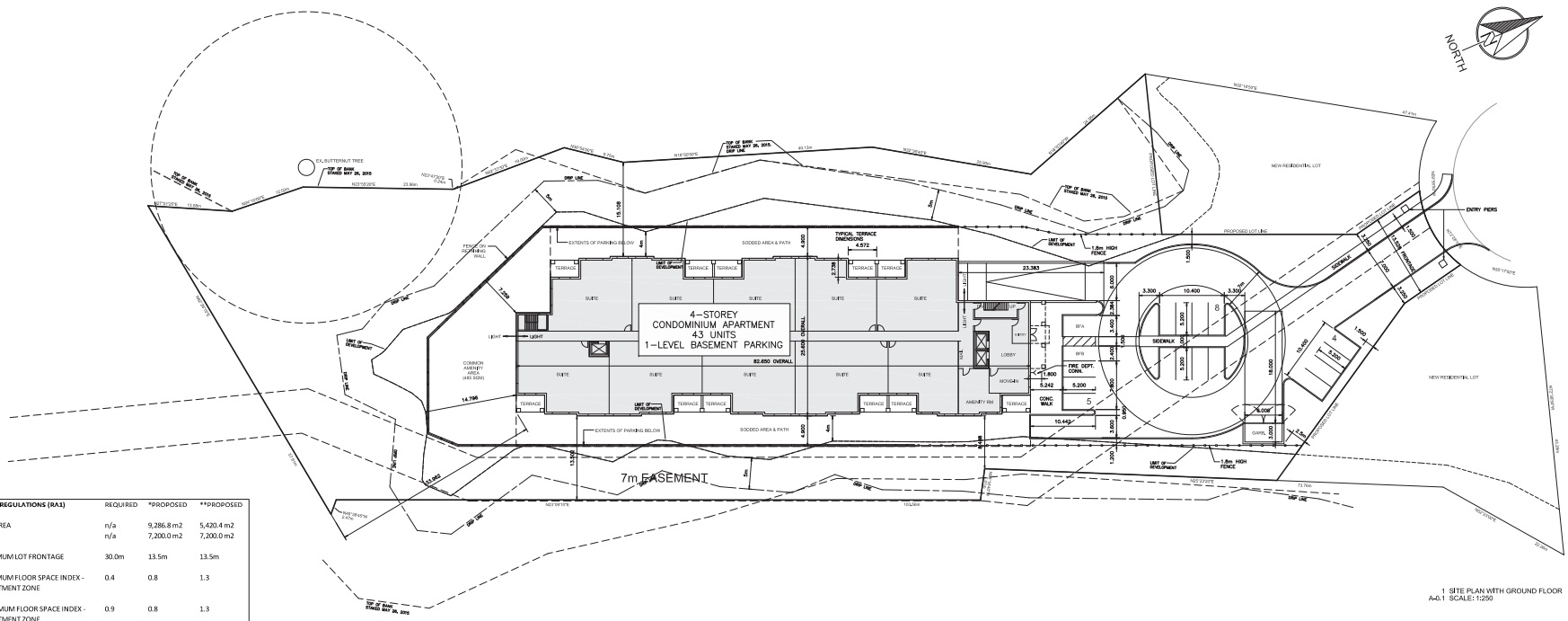
A-0.0



1 SITE PLAN WITH GROUND FLOOR
A-0.1 SCALE: 1:250

ZONE REGULATIONS (RA1)	REQUIRED	*PROPOSED	**PROPOSED
LOT AREA	n/a	9,286.8 m2	5,420.4 m2
GFA	n/a	7,200.0 m2	7,200.0 m2
MINIMUM LOT FRONTAGE	30.0m	13.5m	13.5m
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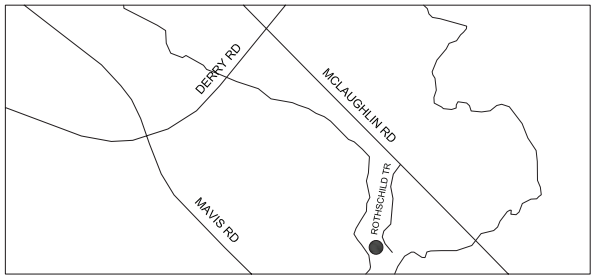
Minimum amenity area to be provided outside at grade	55.0 m2	485.0 m2	485.0 m2
*ZONE REGULATIONS BASED ON TOTAL LOT AREA			
**ZONE REGULATIONS BASED ON DEVELOPABLE LOT AREA			



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SITE PLAN
SCALE 1:250

SP File No.:
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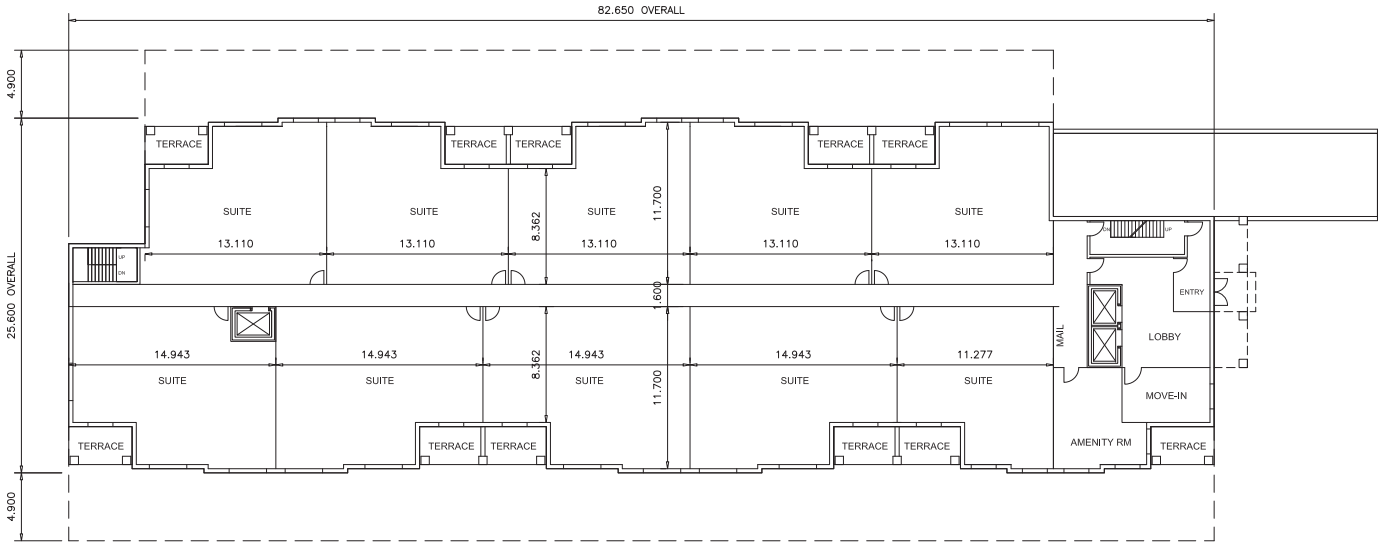

1 1st FLOOR PLAN (UPPER FLOORS SIMILAR)
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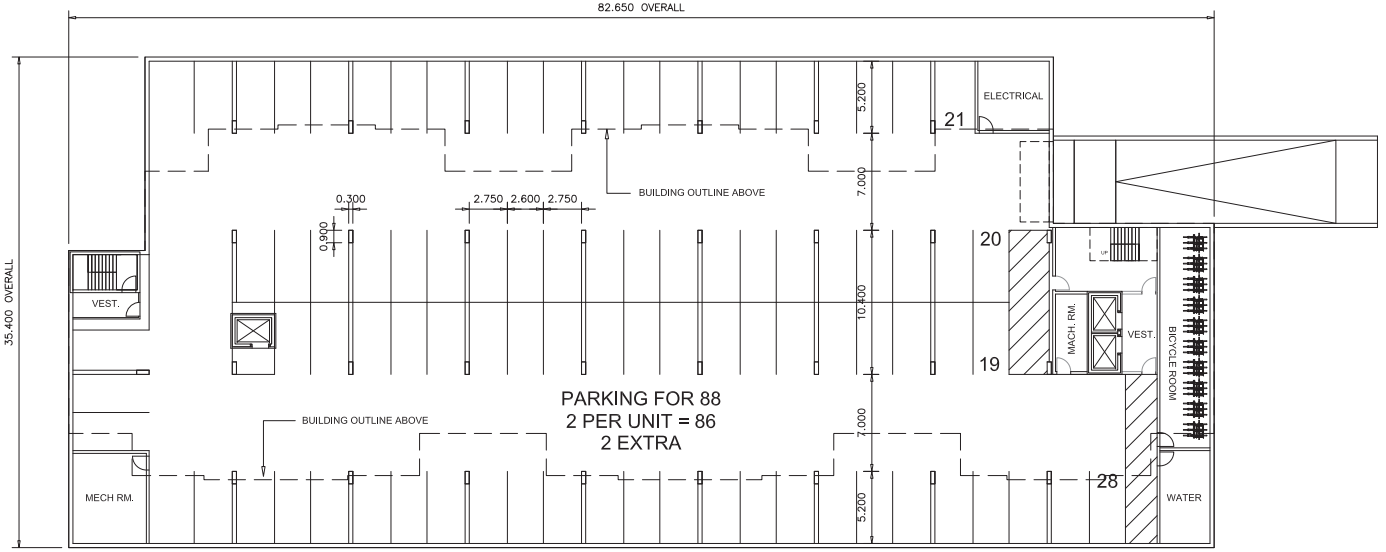

2 BASEMENT PARKING PLAN
A-1.1 SCALE: 1:125

NORTH

pml.A

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BLOCK 21 CONDO

FLOOR PLANS
SCALE: 1:125

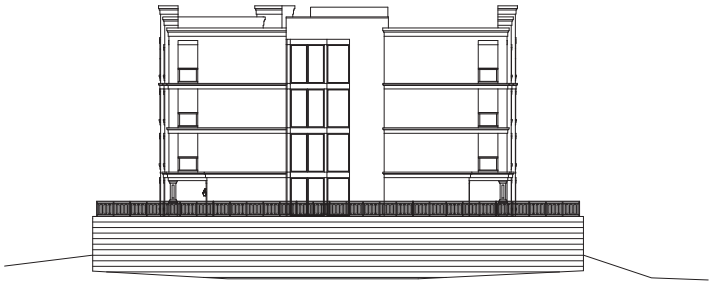
SP File No.:

PROJECT No.: 16-23

A-1.1

1 EAST ELEVATION
A-2.1 SCALE: 1:125

2 NORTH (ENTRANCE) ELEVATION
A-2.1 SCALE: 1:125



3 SOUTH (REAR) ELEVATION
A-2.1 SCALE: 1:125

4 WEST ELEVATION
A-2.1 SCALE: 1:125

pml.A

patrick markus luckie, Architect

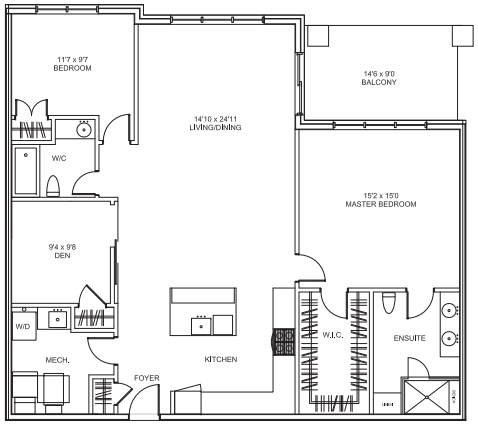
BLOCK 21 CONDO

ELEVATIONS
SCALE 1:125

SP File No.:

PROJECT No.: 16-23

A-2.1



1 1500sf SUITE
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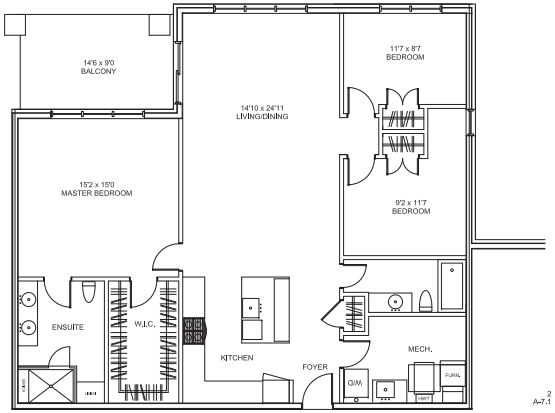

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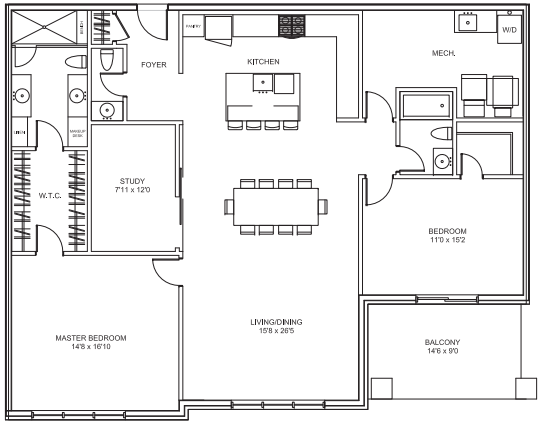

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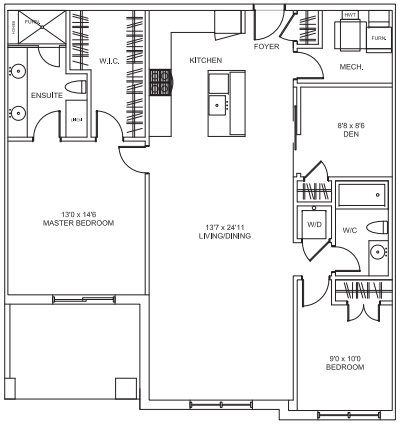


4 1350sf SUITE
A-7.1 SCALE: 1:50

NOTE: SUITE PLANS SUBJECT TO CHANGE

pml.A

patrick markus luckie, Architect

Revisions	
Date:	Particular:

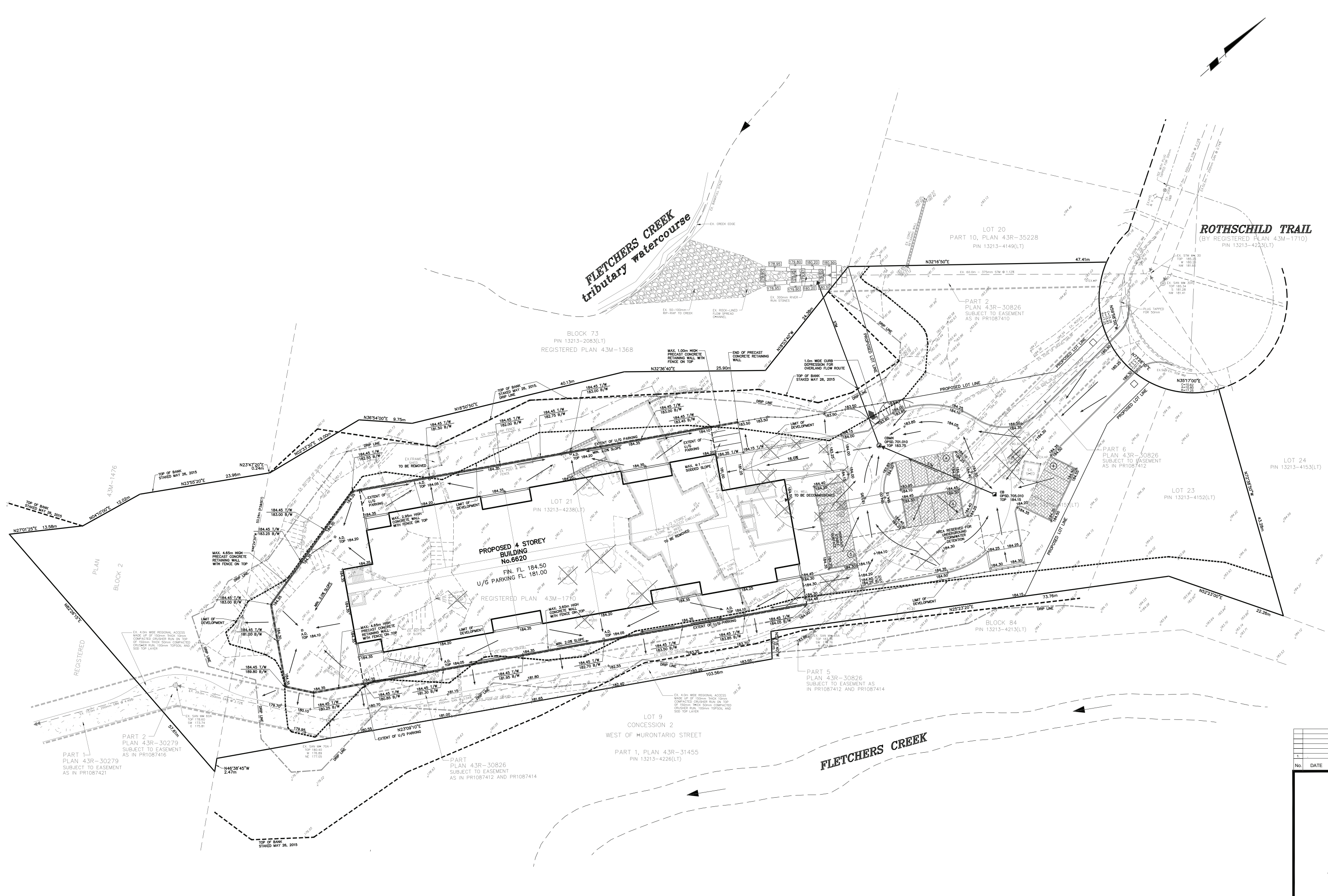
Issues	
Date:	Particular:
NOV 30 19	ISSUED FOR REVIEW

BLOCK 21 CONDO
RESIDENTIAL APARTMENT

SUITE PLANS
SCALE 1:125

SP File No.:
PROJECT No.: 16-23

A-7.1



STANDARD SITE PLAN DEVELOPMENT NOTES

(A) DEVELOPMENT DIVISION, PLANNING AND BUILDING DEPARTMENT

(i) I/WE HEREBY CERTIFY THAT THIS DRAWING CONFORMS IN ALL RESPECTS TO THE SITE DEVELOPMENT PLANS AS APPROVED BY THE CITY OF MISSISSAUGA UNDER FILE NUMBER: **S.P. I.-**

SIGNED BY ARCHITECT OR ENGINEER

(ii) 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 IN CONFORMITY WITH THE SITE DEVELOPMENT PLAN AS APPROVED BY THE **CITY OF MISSISSAUGA, DEVELOPMENT AND DESIGN DIVISION.**

(iii) THE OWNER 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 PLANING AND BUILDING DEPARTMENT. NO MATERIALS (BUILDING MATERIALS, SOILS, 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.

SIGNED BY OWNER

(iv) SHOULD THE INSTALLATION OF BELOW GROUND SERVICES REQUIRE HOARDING TO BE REMOVED, PLANNING AND BUILDING STAFF ARE TO BE CONTACTED PRIOR TO THE COMMENCEMENT OF SUCH WORK. SHOULD AN ALTERNATIVE SERVICE ROUTE NOT BE POSSIBLE, STAFF WILL INSPECT AND DOCUMENT THE CONDITION OF THE VEGETATION AND SERVICING INSTALLATION IN ORDER TO MINIMIZE DAMAGE TO THE VEGETATION.

(v) THE APPLICANT WILL BE RESPONSIBLE FOR THE COST OF ANY UTILITIES RELOCATIONS NECESSITATED BY THE SITE PLAN.

(vi) CONSTRUCTION MATERIALS ARE **NOT** TO BE PUT OUT FOR COLLECTION.

(vii) ALL DAMAGED LANDSCAPE AREAS TO BE REINSTATED WITH TOPSOIL AND SOD PRIOR TO THE RELEASE OF SECURITIES.

(viii) ALL EXCESS EXCAVATED MATERIALS WILL BE REMOVED OFF SITE.

(ix) ALL EXTERIOR LIGHTING WILL BE DIRECTED ONTO THE SITE AND WILL NOT INFRINGE UPON THE ADJACENT PROPERTIES.

(x) 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 612/64) AND ANY OTHER APPLICABLE REGULATIONS AND GUIDELINES.

(xi) ANY FENCING ADJACENT TO MUNICIPAL LANDS IS TO BE LOCATED 15cm (6.0in.) INSIDE THE PROPERTY LINE.

(xii) THE APPLICANT WILL BE RESPONSIBLE FOR ENSURING THAT ALL PLANS CONFORM TO TRANSPORT CANADA'S RESTRICTIONS.

(xiii) THE DESIGN AND NUMBER OF BARRIER FREE PARKING SPACES ARE TO CONFORM TO THE REQUIREMENTS OF BY-LAW NUMBER 0190-2014 TO ZONING BY-LAW 0225-2007, AS AMENDED, AND TO THE REVISED ACCESSIBLE PARKING BY-LAW NUMBER 0010-2016. PARKING SPACES RESERVED FOR PEOPLE WITH DISABILITIES BUST BE IDENTIFIED BY A SIGN, INSTALLED AT THE APPLICANT'S EXPENSE. ONE BARRIER FREE PARKING SIGN MUST BE RPOVIDED FOR EACH ACCESSIBLE SPACE. SIGNS FOR TYPE 'A' SPACES MUCT INCLUDE A 'VAN ACCESSIBLE' DESIGNATION. EACH SPACE MUCT BE IDENTIFIED BY PAVEMENT MARKINGS CONSISTING OF A 1525x1525mm WHITE BORDER CONTAINING THE INTERNATIONAL SYMBOL OF ACCESS ON A BLUE BACKGROUND FIELD.

(xiv) ALL ROOF TOP UNITS MUST BE SCREENED FROM VIEW BY THE APPLICANT.

(xv) TYPICAL AISLE WIDTH SHALL BE **7.00m** (23.0') WHERE ADJACENT TO PARKING SPACES.

(B) DESIGN DIVISION, PLANNING AND BUILDING DEPARTMENT

(i) GRADE WILL BE MET WITHIN A 33% MAXIMUM SLOPE AT THE PROPERTY LINES AND WITHIN THE SITE.

(ii) UNDERGROUND PARKING STRUCTURES WITH LANDSCAPING ARE TO BE CAPABLE OF SUPPORTING THE FOLLOWING LOADS:

15cm OF DRAINAGE GRAVEL PLUS 40cm TOPSOIL FOR SOD
15cm OF DRAINAGE GRAVEL PLUS 60cm TOPSOIL FOR SHRUBS
15cm OF DRAINAGE GRAVEL PLUS 90cm TOPSOIL FOR TREES

(iii) THE STRUCTURAL DESIGN OF ANY RETAINING WALL OVER **0.6m** IN HEIGHT OR ANY RETAINING WALL LOCATED ON THE PROPERTY LINE IS TO BE SHOWN ON THE SITE GRADING PLAN FOR THIS PROJECT AND IS TO BE APPROVED BY THE CONSULTING ENGINEER FOR THIS PROJECT.

(iv) CONTINUOUS **15cm** HIGH BARRIER-TYPE POURED CONCRETE CURBING WILL BE PROVIDED BETWEEN ALL ASPHALT AND LANDSCAPED AREAS THROUGHOUT THE SITE.

(C) TRANSPORTATION AND WORKS DEPARTMENT

(i) THE PORTIONS OF THE DRIVEWAY WITHIN THE MUNICIPAL BOULEVARD WILL BE PAVED BY THE APPLICANTS.

(ii) ALL SURFACE DRAINAGE WILL BE SELF-CONTAINED, COLLECTED AND DISCHARGED AT A LOCATION TO BE APPROVED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT AND THE EXISTING DRAINAGE PATTERN WILL BE MAINTAINED.

(iii) ALL PROPOSED CURBING WITHIN THE MUNICIPAL BOULEVARD AREA FOR THE SITE IS TO SUIT AS FOLLOWS: 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.

(iv) THE TOPS OF ANY CURBS BORDERING DRIVEWAYS WITHIN THE MUNICIPAL BOULEVARD WILL BE FLUSH WITH THE MUNICIPAL SIDEWALK.

(v) THE EXISTING DRAINAGE PATTERN WILL BE MAINTAINED EXCEPT WHERE NOTED.

(D) REGION OF PEEL WASTE MANAGEMENT

(i) ON-SITE WASTE COLLECTION WILL BE DONE THROUGH A PRIVATELY-ARRANGED CONTRACTOR.

(ii) THE STORAGE OF WASTE IN OUTDOOR AREAS OF FREE-STANDING BINS IS NOT PERMITTED.

(iii) THERE WILL BE NO CURBSIDE COLLECTION.

(iv) CARDBOARD AND GARBAGE REAR PACKER COLLECTION.

NOTES

1. ALL ROOF DOWNSPOUTS FROM EAVESTROUGH TO DISCHARGE ONTO SURFACE AND THE RUNOFF DIRECTED TOWARDS THE REAR WHERE POSSIBLE AND TO THE ROAD.
2. ROOF DOWNSPOUT IS LOCATED IN SUCH A MANNER AS TO DIRECT DRAINAGE AWAY FROM WALKWAYS, DRIVEWAYS OR PATIO AREAS.
3. FOUNDATION DRAINS TO HAVE SUMP PUMP FITTED WITH BACKWATER VALVE AND DISCHARGE ONTO SURFACE AND DIRECTED TO THE ROAD.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO VERIFY IN THE FIELD, THE EXACT SIZE AND INVERTS OF THE EXISTING W/S, SANITARY CONNECTION AND TO REPORT THEM TO THE ENGINEER.
5. CONTRACTOR TO MATCH EXISTING GRADES ALONG PROPERTY LINE.
6. APPLICANT / BUILDER IS TO BE ADVISED THAT THE EDGE OF ALL DRIVEWAYS MUST HAVE **1.20m** CLEARANCE BETWEEN IT AND THE EDGE OF ANY ABOVEGROUND UTILITIES.
7. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR IS TO OBTAIN A ROAD CUT PERMIT FOR INSTALLATION OF ANY STORM, SANITARY AND/OR WATERSERVICE CONNECTIONS.
8. IF DURING CONSTRUCTION ANY SEPTIC SYSTEM IS DISCOVERED, THE SYSTEM MUST BE DECOMMISSIONED REMOVED IN ACCORDANCE WITH ALL APPLICABLE GUIDELINES.

EROSION & SEDIMENT CONTROL

1. SEDIMENT CONTROLS ARE REQUIRED IN ACCORDANCE WITH CITY OF MISSISSAUGA BY-LAW No. **512-91** AND ANY SUBSEQUENT AMENDMENTS AND THE REQUIRED PERMIT SHALL BE OBTAINED BY THE OWNER PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORKS.
2. ALL REQUIRED EROSION AND SEDIMENT CONTROLS SHALL BE REGULARLY MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETED AND ALL DISTURBED AREAS RESTORED.
3. ALL CATCHBASINS WITHIN LANDSCAPED AREAS ARE TO HAVE SEDIMENT BARRIER **C.M. STD. 2930.030** ERECTED IMMEDIATELY AFTER CB INSTALLATION. SEDIMENT BARRIER TO BE MAINTAINED ON A REGULAR BASIS UNTIL NO LONGER REQUIRED.
4. SEDIMENT CONTROL BULKHEADS AT 1/3 DEPTH OF RECEIVING SEWER TO BE INSTALLED AT ALL CONNECTION MANHOLES WITH EXISTING STORM SEWER SYSTEMS. BULKHEADS TO BE MAINTAINED ON A REGULAR BASIS (SILT REMOVED) UNTIL THEIR REMOVAL UPON COMPLETION OF BASE COURSE PAVING.
5. ROADSIDE CATCHBASIN SEDIMENT PROTECTION TO BE INSTALLED AS PER **C.M. STD. 2930.040** AND MAINTAINED ON A REGULAR BASIS UNTIL NO LONGER REQUIRED.
6. ALL SEDIMENT CONTROL FENCE TO BE ERECTED PRIOR TO COMMENCEMENT OF ANY GRADING OPERATIONS AND TO BE INSTALLED AS PER **C.M. STD. 2940.010**.
7. DURING ALL CONSTRUCTION PHASES, MUD TRACKING CONTROL, CONSISTING OF FLUSHING AND SWEEPING ROADS, IS TO BE PROVIDED FOR ALL ROADS, AS WARRANTED, IN ACCORDANCE WITH THE CITY OF MISSISSAUGA MUD TRACKING CONTROL POLICY.
8. **CONSTRUCTION SEQUENCE**

SEDIMENT CONTROLS	- ....
SITE GRADING	- ....
UNDERGROUND SERVICING	- ....
BLDG. CONSTRUCTION	- ....
FINAL GRADING / SODDED	- ....

NOTE

SITE AREA = **X.XXX Ha**

2. "THIS CONTROL PLAN IS PREPARED FOR SUBMISSION TO THE CITY OF MISSISSAUGA IN CONJUNCTION WITH AN APPLICATION FOR EROSION AND SEDIMENTATION CONTROL PERMIT #_______ UNDER THE EROSION AND SEDIMENT CONTROL BY LAW No. 512-91 AND ANY SUBSEQUENT AMENDMENTS"
3. IF BUILDING CONSTRUCTION IS INTERRUPTED AND/OR INACTIVITY EXCEEDS 30 DAYS ALL
1. STRIPPED AND/OR BARE AREAS WILL BE STABILIZED BY SEEDING.

LEGEND

- ×(000.00) - EXISTING ELEVATION TO REMAIN
- × 000.00 - EXISTING ELEVATION
- → - DIRECTION OF SURFACE FLOW
- + 000.00 - PROPOSED ELEVATION
- PROPOSED CATCHBASIN
- PROPOSED CATCHBASIN WITH TEMPORARY SEDIMENT CONTROL

GENERAL NOTES

1. THE CONTRACTOR IS TO CHECK AND VERIFY ALL DIMENSIONS. IF ANY DISCREPANCIES, THEY MUST BE REPORTED TO THE ENGINEER IMMEDIATELY PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION. GAS, HYDRO, TELEPHONE OR ANY OTHER UTILITIES THAT MAY EXIST ON THE SITE OR WITHIN THE STREETLINES MUST BE LOCATED BY ITS OWN UTILITIES AND VERIFIED PRIOR TO CONSTRUCTION.
3. ALL CONNECTIONS SHALL BE INSTALLED AS PER MUNICIPAL STANDARDS AND SPECIFICATIONS.
4. BUILDER IS TO VERIFY TO THE ENGINEER THAT THE FINAL FOOTING ELEVATION AND TOP OF FOUNDATION WALL ELEVATION ARE IN CONFORMITY WITH THE BUILDING CODE AND THE CERTIFIED GRADING PLAN PRIOR TO PROCEEDING.
5. THE ELEVATION OF THE SIDE SWALE AT THE BUILDING LINE SHALL BE A MINIMUM OF **150mm** BELOW THE BUILDING LINE AT THE CENTRE OF THE SWALE.
6. OUTSIDE FINISHED GRADE TO BE A MINIMUM OF **150mm** BELOW BRICK VENEER ELEVATION.
7. PRIOR TO ANY SODDING, THE BUILDER IS TO ENSURE TO THE SOILS CONSULTANT AND/OR THE ENGINEER THAT THE LOT HAS BEEN GRADED AND TOPSOILED AND SODDED COMPLETELY WITH A MINIMUM DEPTH OF **100mm** OF TOPSOIL AND **NO 1**. NURSERY SOD AND A MINIMUM DEPTH OF **150mm** OF CRUSHED STONE TO BE PROVIDED ON THE ENTIRE LENGTH OF EACH DRIVEWAY ON A FIRM SUBGRADE AND THE DRIVEWAY TO BE PAVED WITH A MINIMUM COMPACTED DEPTH OF **75mm** OF ASPHALT BETWEEN THE CURB AND THE GARAGE.
8. NO SODDING ON ANY LOTS IS PERMITTED UNTIL PRELIMINARY INSPECTION IS DONE BY THE ENGINEER AND THE BUILDER.
9. AT ALL ENTRANCES TO THE SITE THE ROAD CURB AND SIDEWALK WILL BE CONTINUOUS THROUGH THE DRIVEWAY, THE DRIVEWAY GRADE WILL BE COMPATIBLE WITH THE EXISTING OR FUTURE SIDEWALK AND CURB DEPRESSION WILL BE PROVIDED FOR EACH ENTRANCE.
10. DRIVEWAY GRADES SHOULD NOT BE LESS THAN **2.0%** AND NOT GREATER THAN **8%**.
11. LAWN AND SWALES SHALL HAVE A MINIMUM SLOPE OF **1.5%** (PREFERRED 2%) AND A MAXIMUM SLOPE OF **6%**.
12. WHERE GRADES IN EXCESS OF 6% ARE REQUIRED, THE MAXIMUM SLOPE SHALL BE 3:1. GRADE CHANGES IN EXCESS OF 1.0m ARE TO BE ACCOMPLISHED BY USE OF A RETAINING WALL. RETAINING WALLS HIGHER THAN 0.6m SHALL HAVE A FENCE INSTALLED ON THE HIGH SIDE.
13. THE SERVICE CONNECTION TRENCH WITHIN THE TRAVELLED PORTION OF THE ROAD ALLOWANCE SHALL BE BACKFILLED WITH UNSHRINKABLE BACKFILL MATERIAL AS PER **C.M. STDS. 2220.030, 2220.031 AND 2220.032** UNLESS OTHERWISE SPECIFIED PRIOR APPROVAL FOR OTHER BACKFILL MATERIAL HAS BEEN OBTAINED.
14. ALL WATERMAINS AND WATER SERVICE MATERIALS AND CONSTRUCTION METHODS MUST CORRESPOND TO CURRENT MUNICIPAL STANDARDS & SPECIFICATIONS.
15. WATERMAINS AND/OR WATER SERVICES ARE TO HAVE A MIN. DEPTH OF **1.7m** WITH A MIN. HORIZONTAL SPACING OF **1.2m** FROM THEMSELVES AND OTHER UTILITIES.
16. SEDIMENT CONTROL FENCE TO BE INSTALLED AS PER **C.M. STD. 2940.010**.
17. ALL DAMAGED AND DISTURBED AREAS TO BE REINSTATED WITH TOPSOIL AND SOD.

FIRE DEPARTMENT

1. FIRE ROUTE WILL BE DESIGNATED AS PER CITY OF MISSISSAUGA **BYLAW (1036-81)** AS AMENDED PRIOR TO OCCUPANCY OF THE BUILDINGS.
2. FIRE ROUTES TO BE DESIGNED TO WITH STAND A LOAD NOT LESS THAN **11,363Kg**. PER AXLE AND HAVE A CHANGE IN GRADIENT OF NOT MORE THAN **1 IN 12.5** OVER A DISTANCE **15.0m** AS PER **BY LAW 1036-81**.
3. ALL **12.0m** TURNING RADII HAVE MIN. CLEARANCE OF **3.0m** BETWEEN THE CENTRE LINE OF TURNING RADII AND ANY CURB OR PART OF BUILDING.
4. PRIVATE FIRE HYDRANTS SHALL BE FLOW TESTED AND COLOUR CODED IN CONFORMANCE WITH THE REGION OF PEEL "UNIFORM MARKING OF HYDRANTS".

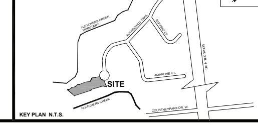
ROADS

1. ALL FILL WITHIN ROAD ALLOWANCE AND EASEMENTS TO BE COMPACTED TO MIN **95%** STANDARD PROCTOR DENSITY. THE SUITABILITY AND COMPACTION OF ALL FILL MATERIALS TO BE CONFIRMED BY A RECOGNIZED SOIL CONSULTANT TO THE CITY ENGINEER AND THE SUBGRADE OF ALL ROADWAYS SHALL BE PROOF ROLLED UNDER THE SUPERVISION OF THE SOILS CONSULTANT PRIOR TO THE INSTALLATION OF ANY ROAD BASE MATERIALS.
2. THE DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES PRIOR TO AND DURING CONSTRUCTION. LOCATION OF EXISTING UTILITIES, WATERMAINS, SEWERS AND OTHER UNDERGROUND OR ABOVEGROUND UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN ON THE DRAWINGS. PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR MUST EXAMINE THE ACCURACY OF SUCH EXISTING UTILITIES AND STRUCTURES WHETHER SHOWN OR NOT AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM. ANY DISCREPANCIES TO LOCATION OF EXISTING WATERMAINS AND SEWERS TO BE RECTIFIED AT DEVELOPER/ CONTRACTOR'S EXPENSE.
3. THE DEVELOPER/CONTRACTOR MUST ENSURE THAT A SUBGRADE CERTIFICATE IS ISSUED BY THE GEOTECHNICAL SOILS CONSULTANT TO THE ENGINEER. ONLY UPON VERIFICATION AND APPROVAL OF THE SUBGRADE BY THE LOCAL AUTHORITY INSPECTION DEPARTMENT WILL COMMENCEMENT OF ANY ROAD BASE MATERIALS BE PLACED. FAILURE TO FOLLOW THIS PROCEDURE WILL MEAN THE REMOVAL OF ROAD BASE MATERIALS AND/OR ADDITIONAL TESTING THAT PROPER COMPACTION HAS BEEN ACHIEVED AT THE SUBGRADE AT DEVELOPER/CONTRACTOR'S EXPENSE.
4. TRENCH BACKFILLING ON PROPOSED ROADS SHALL COMPLY WITH CITY OF MISSISSAUGA **SECTION 4.02.06** - (TRENCH BACKFILLING ON ROADS) AS PROVIDED IN THE CITY'S DEVELOPMENT REQUIREMENT MANUAL.
   a) THE TOP **1000mm** OF THE SUBGRADE IS TO BE COMPACTED TO A MINIMUM **98%** OF SPD WITHIN **2%** OF THE OPTIMUM MOISTURE CONTENT.
5. ALL CONNECTIONS WITHIN PAVED PORTION OF ANY EXISTING ROAD TO BE BACKFILLED WITH UNSHRINKABLE BACKFILL MATERIAL AS PER **C.M. STDS. 2220.030, 2220.031 AND 2220.032**, UNLESS OTHERWISE SPECIFIED PRIOR APPROVAL FOR OTHER BACKFILL MATERIAL HAS BEEN OBTAINED.
6. ALL OTHER EXCAVATIONS WITHIN EXISTING ROAD ALLOWANCE SHALL BE BACKFILLED TO SUBGRADE ELEVATION WITH GRANULAR 'C' MATERIAL AND COMPACTED TO A MINIMUM OF **95%** STANDARD PROCTOR DENSITY. SURFACE RESTORATION SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITION IN ACCORDANCE WITH **O.P.S.S. 507**
7. CURB TO BE AS PER **O.P.S.D. 600.110** UNLESS OTHERWISE NOTED.
8. SUBDRAIN UNDERNEATH ALL CURBS TO BE MINIMUM **100dia.** AS PER **C.M. STDS. 2220.040 AND 2220.05** AND ON EXISTING ROADS.
9. ALL DISTURBED AREAS WITHIN EXISTING ROAD ALLOWANCE TO BE REINSTATED WITH TOPSOIL AND SOD TO THE SATISFACTION OF CITY OF MISSISSAUGA.
10. SIDEWALKS TO BE AS PER **C.M. STD. 2240.010** AND PEDESTRIAN RAMPS TO BE PROVIDED AT ALL INTERSECTIONS AS PER **C.M. STDS. 2240.020 AND 2240.030.**

C.M. BENCHMARK No. 1050 ELEVATION: 194.056m

DESCRIPTION: A TABLET SET HORIZONTALLY AT THE BASE OF A 750mm DIAMETER CONCRETE TRAFIC POLE AT THE SOUTHEAST CORNER OF McLAUGHLIN ROAD AND ARROWSMITH DRIVE

No.	DATE	REVISION	INIT.
1.	.	.	.



KEY PLAN N.T.S.

SKIRA & ASSOCIATES LTD.
CONSULTING ENGINEERS
3464 Semenyk Court, Suite 100, Mississauga, Ontario L5C 4P8
Tel. (905) 276-5100 Fax. (905) 270-1936 Email - info@skiraconsult.ca

PROPOSED 4 STOREY BUILDING

LOT 21, 22 & 23 REG. PLAN 43M-1710

6620 ROTHSCHILD TRAIL

COMPANY

ADDRESS

MISSISSAUGA

SITE GRADING PLAN

S.P.

DATE: MARCH 2018	AREA: Z-00	DWG.No. C102
SCALE: 1:300	DRAWN BY: E.W.	
CITY FILE:	REGION FILE:	PROJECT No. 218-M14-V8

APPENDIX B
ROAD TRAFFIC DATA

Date:	21-Dec-18

NOISE REPORT FOR PROPOSED DEVELOPMENT

REQUESTED BY:

Name:	Mandy Chan
Company	HGC Engineering

PREPARED BY:

Name:	Loudel Uy
Tel#:	(905) 615-3200

Location:	- McLaughlin Road between Courtneypark Dr to Derry Rd - Mavis Road between Courtneypark Dr to Derry Rd
Look Up ID#:	396

ON SITE TRAFFIC DATA

Specific	***Street Names***				
	McLaughlin Road	Mavis Road			
AADT:	38,500	55,000			
# of Lanes:	4 lanes	6 lanes			
% Trucks:	3%	10%			
Medium/Heavy Trucks Ratio:	55/45	55/45			
Day/Night Traffic Split:	90/10	90/10			
Posted Speed Limit:	70 km/h	70 km/h			
Gradient of Road:	<2%	<2%			
Ultimate R O W:	30m	35m			

Comments:	Ultimate Traffic Data only.

APPENDIX C
SAMPLE STAMSON OUTPUT

```
STAMSON 5.0        NORMAL REPORT        Date: 13-03-2019 12:21:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: west.te              Time Period: Day/Night 16/8 hours
Description: Predicted daytime & nighttime sound levels at the top storey windows
at the West Façade, Prediction Location [A]

Road data, segment # 1: MavisNB (day/night)
-------------------------------------------
Car traffic volume  : 22275/2475  veh/TimePeriod
Medium truck volume :  1361/151   veh/TimePeriod
Heavy truck volume  :  1114/124   veh/TimePeriod
Posted speed limit  :    70 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1: MavisNB (day/night)
-----------------------------------------
Angle1   Angle2           : -20.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 325.00 / 325.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: MavisSB (day/night)
-------------------------------------------
Car traffic volume  : 22275/2475  veh/TimePeriod  *
Medium truck volume :  1361/151   veh/TimePeriod  *
Heavy truck volume  :  1114/124   veh/TimePeriod  *
Posted speed limit  :    70 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):  27500
    Percentage of Annual Growth        :   2.50
    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: MavisSB (day/night)
-----------------------------------------
Angle1   Angle2           : -20.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 345.00 / 345.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Road data, segment # 3: McLaughlin (day/night)
-----------------------------------------------
Car traffic volume  : 33611/3735  veh/TimePeriod  *
Medium truck volume :   572/64    veh/TimePeriod  *
Heavy truck volume  :   468/52    veh/TimePeriod  *
Posted speed limit  :    70 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):  38500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :  10.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 3: McLaughlin (day/night)
--------------------------------------------
Angle1   Angle2           :  20.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 370.00 / 370.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: MavisNB (day)
----------------------------------

Source height = 1.46 m

ROAD (0.00 + 51.90 + 0.00) = 51.90 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20     90   0.39  73.40   0.00 -18.58  -2.92   0.00   0.00   0.00  51.90
-------------------------------------------------------------------------------
Segment Leq : 51.90 dBA

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

Source height = 1.46 m

ROAD (0.00 + 51.54 + 0.00) = 51.54 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20     90   0.39  73.40   0.00 -18.95  -2.92   0.00   0.00   0.00  51.54
-------------------------------------------------------------------------------

Segment Leq : 51.54 dBA
```

```
Results segment # 3: McLaughlin (day)
-------------------------------------

Source height = 1.08 m

ROAD (0.00 + 46.98 + 0.00) = 46.98 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    20     90   0.40  71.91   0.00 -19.53  -5.40   0.00   0.00   0.00  46.98
-------------------------------------------------------------------------------

Segment Leq : 46.98 dBA

Total Leq All Segments: 55.41 dBA

Results segment # 1: MavisNB (night)
-------------------------------------

Source height = 1.46 m

ROAD (0.00 + 45.37 + 0.00) = 45.37 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20     90   0.39  66.87   0.00 -18.58  -2.92   0.00   0.00   0.00  45.37
-------------------------------------------------------------------------------

Segment Leq : 45.37 dBA

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

Source height = 1.46 m

ROAD (0.00 + 45.01 + 0.00) = 45.01 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20     90   0.39  66.87   0.00 -18.95  -2.92   0.00   0.00   0.00  45.01
-------------------------------------------------------------------------------

Segment Leq : 45.01 dBA

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

Source height = 1.08 m

ROAD (0.00 + 40.45 + 0.00) = 40.45 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    20     90   0.40  65.38   0.00 -19.53  -5.40   0.00   0.00   0.00  40.45
-------------------------------------------------------------------------------

Segment Leq : 40.45 dBA

Total Leq All Segments: 48.88 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.41
                           (NIGHT): 48.88
```

```
STAMSON 5.0        NORMAL REPORT        Date: 13-03-2019 12:15:57
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: south.te             Time Period: Day/Night 16/8 hours
Description: Predicted daytime & nighttime sound levels at the top storey windows at
the South Façade, Prediction Location [B]

Road data, segment # 1: MavisNB (day/night)
-------------------------------------------
Car traffic volume  : 22275/2475  veh/TimePeriod
Medium truck volume :  1361/151   veh/TimePeriod
Heavy truck volume  :  1114/124   veh/TimePeriod
Posted speed limit  :    70 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1: MavisNB (day/night)
-----------------------------------------
Angle1   Angle2           : -90.00 deg   40.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 315.00 / 315.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: MavisSB (day/night)
-------------------------------------------
Car traffic volume  : 22275/2475  veh/TimePeriod  *
Medium truck volume :  1361/151   veh/TimePeriod  *
Heavy truck volume  :  1114/124   veh/TimePeriod  *
Posted speed limit  :    70 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):  27500
    Percentage of Annual Growth        :   2.50
    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: MavisSB (day/night)
-----------------------------------------
Angle1   Angle2           : -90.00 deg   40.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 335.00 / 335.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Road data, segment # 3: McLaughlin (day/night)
-----------------------------------------------
Car traffic volume  : 33611/3735  veh/TimePeriod  *
Medium truck volume :   572/64    veh/TimePeriod  *
Heavy truck volume  :   468/52    veh/TimePeriod  *
Posted speed limit  :    70 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):  38500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :  10.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 3: McLaughlin (day/night)
--------------------------------------------
Angle1   Angle2           :   0.00 deg   15.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 380.00 / 380.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: MavisNB (day)
----------------------------------

Source height = 1.46 m

ROAD (0.00 + 52.90 + 0.00) = 52.90 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     40   0.39  73.40   0.00 -18.40  -2.11   0.00   0.00   0.00  52.90
-------------------------------------------------------------------------------

Segment Leq : 52.90 dBA

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

Source height = 1.46 m

ROAD (0.00 + 52.53 + 0.00) = 52.53 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     40   0.39  73.40   0.00 -18.77  -2.11   0.00   0.00   0.00  52.53
-------------------------------------------------------------------------------

Segment Leq : 52.53 dBA
```

```
Results segment # 3: McLaughlin (day)
-------------------------------------

Source height = 1.08 m

ROAD (0.00 + 41.41 + 0.00) = 41.41 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     15   0.40  71.91   0.00 -19.69 -10.81   0.00   0.00   0.00  41.41
-------------------------------------------------------------------------------

Segment Leq : 41.41 dBA

Total Leq All Segments: 55.89 dBA

Results segment # 1: MavisNB (night)
-------------------------------------

Source height = 1.46 m

ROAD (0.00 + 45.57 + 0.00) = 45.57 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     40   0.39  66.87   0.00 -18.40  -2.11   0.00  -0.80   0.00  45.57
-------------------------------------------------------------------------------

Segment Leq : 45.57 dBA

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

Source height = 1.46 m

ROAD (0.00 + 45.20 + 0.00) = 45.20 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     40   0.39  66.87   0.00 -18.77  -2.11   0.00  -0.80   0.00  45.20
-------------------------------------------------------------------------------

Segment Leq : 45.20 dBA

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

Source height = 1.08 m

ROAD (0.00 + 34.08 + 0.00) = 34.08 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     15   0.40  65.38   0.00 -19.69 -10.81   0.00  -0.80   0.00  34.08
-------------------------------------------------------------------------------

Segment Leq : 34.08 dBA

Total Leq All Segments: 48.56 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.89
                           (NIGHT): 48.56
```

```
STAMSON 5.0        NORMAL REPORT        Date: 13-03-2019 12:20:57
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: east.te              Time Period: Day/Night 16/8 hours
Description: Predicted daytime & nighttime sound levels at the top storey windows at
the East Façade, Prediction Location [C]

Road data, segment # 1: MavisNB (day/night)
-------------------------------------------
Car traffic volume  : 22275/2475  veh/TimePeriod
Medium truck volume :  1361/151   veh/TimePeriod
Heavy truck volume  :  1114/124   veh/TimePeriod
Posted speed limit  :    70 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1: MavisNB (day/night)
-----------------------------------------
Angle1   Angle2           :  20.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 325.00 / 325.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: MavisSB (day/night)
-------------------------------------------
Car traffic volume  : 22275/2475  veh/TimePeriod  *
Medium truck volume :  1361/151   veh/TimePeriod  *
Heavy truck volume  :  1114/124   veh/TimePeriod  *
Posted speed limit  :    70 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):  27500
    Percentage of Annual Growth        :   2.50
    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: MavisSB (day/night)
-----------------------------------------
Angle1   Angle2           :  20.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 345.00 / 345.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 3: McLaughlin (day/night)
----------------------------------------------
Car traffic volume  : 33611/3735  veh/TimePeriod  *
Medium truck volume :   572/64    veh/TimePeriod  *
Heavy truck volume  :   468/52    veh/TimePeriod  *
Posted speed limit  :    70 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):  38500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :  10.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 3: McLaughlin (day/night)
--------------------------------------------
Angle1   Angle2           : -20.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 370.00 / 370.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: MavisNB (day)
----------------------------------

Source height = 1.46 m

ROAD (0.00 + 49.45 + 0.00) = 49.45 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    20     90   0.39  73.40   0.00 -18.58  -5.37   0.00   0.00   0.00  49.45
-------------------------------------------------------------------------------

Segment Leq : 49.45 dBA

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

Source height = 1.46 m

ROAD (0.00 + 49.09 + 0.00) = 49.09 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    20     90   0.39  73.40   0.00 -18.95  -5.37   0.00   0.00   0.00  49.09
-------------------------------------------------------------------------------

Segment Leq : 49.09 dBA

Results segment # 3: McLaughlin (day)
-------------------------------------

Source height = 1.08 m

ROAD (0.00 + 49.45 + 0.00) = 49.45 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20     90   0.40  71.91   0.00 -19.53  -2.94   0.00   0.00   0.00  49.45
-------------------------------------------------------------------------------

Segment Leq : 49.45 dBA

Total Leq All Segments: 54.10 dBA
```

```
Results segment # 1: MavisNB (night)
-----------------------------------

Source height = 1.46 m

ROAD (0.00 + 42.92 + 0.00) = 42.92 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    20     90   0.39  66.87   0.00 -18.58  -5.37   0.00   0.00   0.00  42.92
-------------------------------------------------------------------------------

Segment Leq : 42.92 dBA

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

Source height = 1.46 m

ROAD (0.00 + 42.56 + 0.00) = 42.56 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    20     90   0.39  66.87   0.00 -18.95  -5.37   0.00   0.00   0.00  42.56
-------------------------------------------------------------------------------

Segment Leq : 42.56 dBA

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

Source height = 1.08 m

ROAD (0.00 + 42.92 + 0.00) = 42.92 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20     90   0.40  65.38   0.00 -19.53  -2.94   0.00   0.00   0.00  42.92
-------------------------------------------------------------------------------

Segment Leq : 42.92 dBA

Total Leq All Segments: 47.57 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 54.10
                           (NIGHT): 47.57
```

```
STAMSON 5.0        NORMAL REPORT        Date: 13-03-2019 12:20:49
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: north.te             Time Period: Day/Night 16/8 hours
Description: Predicted daytime & nighttime sound levels at the top storey windows at
the North Façade, Prediction Location [D]

Road data, segment # 1: MavisNB (day/night)
-------------------------------------------
Car traffic volume  : 22275/2475  veh/TimePeriod
Medium truck volume :  1361/151   veh/TimePeriod
Heavy truck volume  :  1114/124   veh/TimePeriod
Posted speed limit  :    70 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1: MavisNB (day/night)
-------------------------------------------
Angle1   Angle2           :  60.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 388.00 / 388.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: MavisSB (day/night)
-------------------------------------------
Car traffic volume  : 22275/2475  veh/TimePeriod  *
Medium truck volume :  1361/151   veh/TimePeriod  *
Heavy truck volume  :  1114/124   veh/TimePeriod  *
Posted speed limit  :    70 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):  27500
    Percentage of Annual Growth        :   2.50
    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: MavisSB (day/night)
-------------------------------------------
Angle1   Angle2           :  60.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 408.00 / 408.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Road data, segment # 3: McLaughlin (day/night)
------------------------------------------------
Car traffic volume  : 33611/3735  veh/TimePeriod  *
Medium truck volume :   572/64    veh/TimePeriod  *
Heavy truck volume  :   468/52    veh/TimePeriod  *
Posted speed limit  :    70 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):  38500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :  10.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 3: McLaughlin (day/night)
------------------------------------------------
Angle1   Angle2           : -40.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 300.00 / 300.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: MavisNB (day)
----------------------------------

Source height = 1.46 m

ROAD (0.00 + 43.40 + 0.00) = 43.40 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    60     90   0.39  73.40   0.00 -19.66 -10.35   0.00   0.00   0.00  43.40
-------------------------------------------------------------------------------

Segment Leq : 43.40 dBA

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

Source height = 1.46 m

ROAD (0.00 + 43.10 + 0.00) = 43.10 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    60     90   0.39  73.40   0.00 -19.96 -10.35   0.00   0.00   0.00  43.10
-------------------------------------------------------------------------------

Segment Leq : 43.10 dBA
```

```
Results segment # 3: McLaughlin (day)
-------------------------------------

Source height = 1.08 m

ROAD (0.00 + 51.54 + 0.00) = 51.54 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -40     90   0.40  71.91   0.00 -18.25  -2.12   0.00   0.00   0.00  51.54
-------------------------------------------------------------------------------

Segment Leq : 51.54 dBA

Total Leq All Segments: 52.67 dBA

Results segment # 1: MavisNB (night)
-------------------------------------

Source height = 1.46 m

ROAD (0.00 + 36.87 + 0.00) = 36.87 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    60     90   0.39  66.87   0.00 -19.66 -10.35   0.00   0.00   0.00  36.87
-------------------------------------------------------------------------------

Segment Leq : 36.87 dBA

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

Source height = 1.46 m

ROAD (0.00 + 36.57 + 0.00) = 36.57 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    60     90   0.39  66.87   0.00 -19.96 -10.35   0.00   0.00   0.00  36.57
-------------------------------------------------------------------------------

Segment Leq : 36.57 dBA

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

Source height = 1.08 m

ROAD (0.00 + 45.01 + 0.00) = 45.01 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -40     90   0.40  65.38   0.00 -18.25  -2.12   0.00   0.00   0.00  45.01
-------------------------------------------------------------------------------

Segment Leq : 45.01 dBA

Total Leq All Segments: 46.14 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 52.67
                           (NIGHT): 46.14
```