HGC ENGINEERING

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Noise Impact Study, Proposed Infill Development 44 – 45 Longview Place (formerly 0 Derry Road West)

Mississauga, Ontario

Prepared for:
Harvinder Babra
45 Timberlane Drive
Brampton, ON
L6Y4B3

Prepared by

Sheeba Paul, MEng, PEng

February 23, 2021

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1 Introduction and Summary

Howe Gastmeier Chapnik Limited (HGC Engineering) was retained by Harvinder Babra to perform a Noise Impact Study for a proposed infill residential development consisting of 3 new lots at 44 – 45 Longview Place (formerly 0 Derry Road West). The site is located south of Derry Road West, north of a green belt, east of existing residences and Longview Place in the City of Mississauga, Ontario. The study is required by the City of Mississauga as part of the planning and approvals process.

Air traffic noise from the Lester B. Pearson International Airport is a dominant noise source. Noise exposure forecast contours were obtained from the Greater Toronto Airports Authority (GTAA). The noise contours 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 sound levels from air traffic from the Lester B. Pearson Airport exceed the recommended guidelines of the MECP. All the dwelling units require central air conditioning systems and upgraded building constructions. Noise warning clauses are required for all the lots in the proposed infill development to warn the future occupants of the sound level excesses due to air traffic and existing warehousing facilities further to the southeast. Specific recommendations are provided in this report.

2 Site Description and Noise Sources

The subject site is situated approximately 425 m to the south of Derry Road and approximately 342 m east of McLaughlin Road. Figure 1 is a key plan showing the site in relation to the roadways. A site plan prepared by Technoarch dated 2020-12-01 is provided as Figure 2 and shows the three proposed lots and the location of noise monitoring discussed in Section 6.

Numerous site visits have been completed in the months of March and April 2020 to observe the area for additional noise sources, potential shielding, and area characteristics. There are existing dwellings on the west side of Longview Place. There is an existing forest to the south. To the southeast is Walmart Canada Logistics office, warehouse and distribution centre. There are existing residences at approximately the same distance as the proposed residences at the infill development. Sound levels were monitored at the property of the nearby warehousing facility to the southeast. These are discussed in Section 6.

Air traffic from Lester B. Pearson Airport is the dominant transportation noise source. The future residential lots are located near Pearson International Airport, and lies between the 30 and 35 Noise Exposure Forecast/Noise Exposure Projection (NEF/NEP) contour (see Figure 3). Air traffic is expected to have some impact on the lots and is considered in the following analysis. Noise from McLaughlin Road and Derry Road West are not expected to contribute to the noise at the infill development because of the shielding provided by intervening existing houses. Other roadways and rail lines are more than 500 m from the site and therefore have not been considered in the analysis.

3 Sound Level Criteria for the Assessment of Traffic Noise on the Proposed Dwellings

3.1 Criteria Governing Road Traffic Noise

Guidelines for acceptable levels of road traffic noise impacting residential developments are given in the MECP publication NPC-300, “Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning”, 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: MECP Road Traffic Noise Criteria (dBA)

Area	Daytime L_{EQ} (16 hour) Road	Nighttime L_{EQ}(8 hour) Road
Outdoor Living Area	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. Nighttime refers to the time 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. Small balconies are not considered OLAs for the purposes of assessment. Terraces greater than 4 m in depth (measured perpendicular to the building façade) are considered to be OLAs.

The guidelines in the MECP publication allow the daytime sound levels in an Outdoor Living Area to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the purchase and rental agreements to the property. Where OLA sound levels exceed 60 dBA, physical mitigation is required to reduce the OLA sound level to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible.

A central air conditioning system as an alternative means of ventilation to open windows is required for dwellings where nighttime sound levels outside bedroom or living/dining room windows exceed 60 dBA (or equal to 60 dBA or greater, Region of Peel) or daytime sound levels outside bedroom or living/dining room windows exceed 65 dBA. Forced-air ventilation with ducts sized to accommodate the future installation of air conditioning 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.

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, family rooms 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.

3.3 Criteria Governing Stationary (Industrial) Noise Sources

An industrial or commercial facility is classified in MECP guidelines as a stationary source of sound (as compared to sources such as traffic or construction, for example) for noise assessment purposes. In terms of background sound, the development is located in an urban (Class 1) acoustical environment which is characterized by an acoustical environment dominated by road traffic and human activity.

The facade of a sensitive use (i.e., in the plane of a window), or any associated usable outdoor area is considered a sensitive point of reception. NPC-300 stipulates that the exclusionary minimum sound level limit for a stationary noise source in an urban Class 1 area is 50 dBA during daytime (07:00 to

23:00) hours, and 45 dBA during nighttime hours (23:00 to 07:00). If the background sound levels due to road traffic exceed the exclusionary minimum limits, then the background sound level becomes the criterion. The background sound level is defined as the sound level that is present when the source under consideration is not operating, and may include traffic noise and natural sounds.

Commercial activities such as the occasional movement of customer vehicles, occasional deliveries, and garbage collection are not of themselves considered to be significant noise sources in the MECP guidelines. Accordingly, these sources have not been considered in this study. Noise from safety equipment (e.g. back-up beepers) is also exempt from consideration. Frequent truck movements at a warehouse or busy shipping/receiving docks at an industry must generally be assessed. Trucking activities have not been included in this assessment since they will occur on an infrequent basis.

The MECP guidelines stipulate that the sound level impact during a "predictable worst case hour" be considered. This is defined to be an hour when a typically busy "planned and predictable mode of operation" occurs at the subject facility, coincident with a period of minimal background sound. Compliance with MECP criteria generally results in acceptable levels of sound at sensitive use receptors although there may still be residual audibility during periods of low background sound.

4 Traffic Noise Assessment

The Noise Exposure Forecast (NEF) contours were obtained from the Greater Toronto Airports Authority (GTAA) in terms of NEF contours. From the NEF contour map, the proposed development lies within the 30 – 35 NEF contour. In accordance with MECP guidelines, the more conservative noise contour was used in the analysis.

The NEF contour map was used to determine the Acoustical Insulation Factors (AIF) required for the building components for the proposed dwellings. The Ministry of the Environment, Conservation and Parks' (MECP) indoor noise criteria for aircraft traffic noise was used as a guideline.

5 Discussion and Recommendations

A review of the airport noise contours indicate that the future air traffic sound levels will exceed MECP guidelines at all of the dwelling units in the development. Recommendations are discussed below.

5.1 Indoor Living Areas

All of the infill lots in the development are located between the 30 to 35 NEF contour lines. Therefore, central air conditioning is required for all dwelling units in the development to provide an alternative means of ventilation to opening windows in accordance with MECP guidelines. Window or through-the-wall air conditioning units are not recommended because of the noise they produce and because the units penetrate through the exterior wall which degrades the overall sound 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 MECP publication NPC-300.

5.2 Building Facade Constructions

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 architectural drawings prepared by Technoarch dated 02/16/2021, attached in Appendix A, were reviewed. Calculations have been performed to determine the building envelope constructions likely to be required to maintain indoor sound levels within MECP guidelines. The calculation methods were developed by the National Research Council (NRC). They are based on the predicted future sound levels at the building facades, the area of the façade components (walls, windows and doors) relative to the floor area of the adjacent room.

Exterior Wall Construction

For all the dwellings, the exterior wall is proposed to include stone/brick on the first two floors and a mansard roof on the third floor and a ventilated attic above. These constructions will provide adequate sound insulation for the dwelling units.

Exterior Doors

Any insulated metal exterior door meeting OBC requirements will be sufficient to provide noise insulation. Patio doors proposed for the dwellings have been included in the window area.

Glazing Requirements

Table II summarizes the maximum window to floor area ratios obtained for the spaces and the minimum recommended sound transmission class (STC) rating for the glazing constructions to achieve the indoor sound level criteria.

Table III: Summary of Minimum Glazing Requirements

Area	Location	Maximum Window to Floor Area Ratio	Minimum STC[1] Requirement
All lots in development are within NEF 30 to 35	Bedrooms	27%	STC-36
	Living/dining/ family rooms and dens	33%	STC-33

Note: If these ratios are exceeded, HGC Engineering should be contacted for a revised recommendation.
1 STC requirement refers to installed performance, and seals on operable windows and doors. Test data should be provided where available.

5.3 Warning Clauses

The MECP guidelines recommend that warning clauses be included in the property and tenancy agreements for all lots with sound level excesses.

The suggested wording of the warning clauses to account for the air traffic levels is as follows.

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 air traffic may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks.

Type 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 sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks.

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

6 Stationary Source Investigation

6.1 Site Visits and Measurements

HGC Engineering visited the site on various occasions during the months of March and April 2020 at various times of the daytime, evening and nighttime hours to investigate sounds emanating from the nearby Walmart Canada Logistics site, specifically, to perform sound level measurements and to make observations of the acoustic environment. This is detailed in Table IV of this report.

Road traffic from the roadways was audible but not measured. Air traffic noise due to aircraft flyovers were audible at the site and excluded from the monitored data as per MECP guidelines. There is a forest to the south of the subject site, approximately 115 m in depth. There are numerous tractor trailers parked at the Walmart Logistics site. The area is noted to be a Class 1 Area as defined

by the MECP guidelines, as will be discussed in further detail below.

6.2 Acoustic Terminology

The following paragraphs provide a brief summary of the acoustical terminology used throughout this report. The discussion and conclusions contained herein will be most beneficial to readers with an understanding of these principles. The number in [ ] refers to the original document in the references section.

- **Class 1 area** means an area with an acoustical environment typical of a major population centre, where the background sound level is dominated by the activities of people, usually road traffic, often referred to as "urban hum" [2].

- **Sound Level -** The human ear perceives oscillations in air pressure as sound. The magnitude of the oscillations determines the loudness of the sound, and is typically measured logarithmically, in terms of sound pressure level, in units of decibels [dB]. A decibel is a logarithmic quantity, and therefore sound levels expressed in these units must be added and subtracted logarithmically instead of arithmetically. For instance, adding two sound levels of 50 dBA yields a result of 53 dBA. The addition of 40 dBA and 50 dBA yields a result of 50 dBA. A faint whisper might produce only a few decibels, while a loud shout can exceed 100 dB at close range. As a rule of thumb, an increase or decrease of 10 dB in sound level is perceived as a doubling or halving of the loudness, approximately. Likewise, an increase/decrease of 5 dB in sound level equates to a perceived change of about 25% in loudness, and an increase/decrease of less than about 3 dB is typically considered imperceptible [2].

- **A-weighting and Octave Bands -** Most sounds can contain a mixture of many frequencies simultaneously. The human ear varies in its sensitivity to sounds of different frequency. Therefore, sound levels are often measured using a frequency-weighted filter which emulates the frequency sensitivity of the human ear. The frequency-weighting is referred to as the "A-scale." Most instrumentation for measuring sound has the capability to weight all of the component frequencies of a sound, and sum them into a single number; sounds measured in this way are designated in units of A-weighted decibels [dBA]. A dBA spectral-sum sound pressure level is a reasonable single-number representation of the perceived overall loudness of a complex sound that contains multiple different frequencies. For this reason, most guidelines and limits for noise outdoors, such as the MECP guidelines and some city bylaws, are specified in terms of a single-number dBA level [2].

- **L_{EQ}** "Leq (T): Leq (16), Leq (8), Leq (1)" means the A-weighted sound level of a steady sound carrying the same total energy in the time period T as the observed fluctuating sound. The time period T is given in hours. Leq without a specific time period means Leq (1) [2].

- **L_{90}** is the level exceeded for 90% of the time. For 90% of the time, the noise level is above this level. It is generally considered to be representing the background or ambient level of a noise environment.

- **Stationary source** is a source of sound which does not normally move from place to place, including the premises of a person as one stationary source, unless the dominant source of sound on those premises is construction or a conveyance [1].

Specifically, NPC-300 stipulates that the sound level limit in a Class 1 Area for a stationary source which could operate during daytime/evening hours and nighttime hours is the greater of

- the minimum one-hour L_{EQ} background sound level; or
- the "exclusion limit" of 50 dBA during the daytime and 45 dBA during the nighttime (this is, in essence, a minimum permissible limit that protects stationary facilities that are located in areas with low background noise levels).

The guidelines also stipulate that the noise assessment shall consider a *predictable worst-case hour*, which is defined as an hour when typically, full operation of the stationary sources under consideration could coincide with an hour of low background sound.

MECP Guidelines provide further instruction on what types of noises constitute the type of background noise that is to be taken into consideration when conducting the above-noted comparison.

6.3 Site Review and Actual Measurements & Observations

In order to quantify the background sound in the vicinity, HGC Engineering personnel visited the site on numerous occasions to measure sound levels at the proposed residences.

The sound level measurements were completed using a *Norsonic* model NOR140 Precision Sound Level Analyzer and a *Brüel & Kjær* model 2238 Precision Integrating Sound Level Meter. All instrumentation was within its annual laboratory calibration, and correct calibration was verified at the start and end of the monitoring period using a *Brüel & Kjær* model 4231 Acoustic Calibrator. The weather during the monitoring period was suitable for outdoor acoustical measurements. Short term attended L_{EQ} sound level measurements were conducted at the proposed Lot 2 as shown on Figure 2. Figures A1, A2 and A3 in Appendix B provide the monitored data during the day, evening

and nighttime hours and are also summarized in Table I.

Table IV – Attended Sound Level Measurements

Date	Time	$L_{EQ20min}$ [dBA]	L_{90} [dBA]	Comments
April 1, 2020	7:05 pm	47	44	Traffic audible/dominant, backup beepers audible, plane passover, bang
April 1, 2020	7:10 pm	46	43	Traffic audible/dominant, backup beepers audible, bang, plane passover
April 1, 2020	11:28 pm	45	43	Traffic audible/dominant, backup beepers audible, bang, plane passover

Note: Values in parentheses indicate the momentary peak sound levels recorded

In essence, the $L_{EQ20MIN}$ column lists the average calculated sound level during the measurement period, whereas the L_{90} column lists the measurement of the noise that is attributable to the Logistics facility. The monitored sound levels average less than 50 dBA during the daytime and evening periods and average 45 dBA during the nighttime period.

While HGC Engineering did not calculate the background sound levels due to road traffic in the area, during the site visits, road traffic volumes are audible and dominant on the subject site.

6.4 Discussion and Recommendations With Regard to Existing Stationary Noise Sources

Sound levels on the subject site due to the operation of the neighbouring Logistics facility meet the MECP criteria at the proposed residences. This is to be expected as there are existing residences at approximately the same distance as the subject site to the west of the Logistics facility.

The following noise warning clause is recommended in the property agreements for the proposed lots in the infill development.

Warning Clause Type C:

> "Purchasers are advised that due to the proximity of nearby and adjacent commercial/industrial facility (Walmart Canada Logistics), sound levels from these facilities may at times be audible."

This sample clause is provided by the MECP as an example and can be modified by the Municipality as required.

While the MECP does not generally accept central air conditioning or mechanical ventilation as mitigation measures for stationary noise sources per se, it is noted that in this case such measures are required for the proposed dwellings so that the windows can remain closed.

7 Summary of Recommendations

The following list summarizes the recommendations made in this report.

For transportation noise sources

1. Central air conditioning systems will be required for the proposed dwellings on all lots. The location, installation and sound ratings of the air conditioning devices should comply with NPC-300, as applicable.

2. Upgraded building constructions will be required for the proposed dwellings as outlined in Section 5.2.

3. Warning clauses should be included in the purchase and sale agreements to inform the future owners of the proposed dwellings of the traffic noise issues. Recommended wording for these warning clauses is provided in Section 5.2 and Section 6.

For stationary noise sources

1. A noise warning clause is required to inform future owners of the dwellings of the presence of the nearby commercial/industrial facility.

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

Table V: Summary of Noise Control Requirements and Noise Warning Clauses for the Hotel Building

Lot No.	Acoustic Barrier	Ventilation	Type of Warning Clause	Required Glazing Constructions	Mitigation for Stationary Noise Sources
1	--	Central A/C	A, B, C	BR: STC-36 LR/DR/den/FR: STC	--
2	--		A, B, C	STC-33	--
3	--		A, B, C	STC-33	--

Notes:
-- no specific requirement
OBC – Ontario Building Code Requirements
BR – bedroom
LR/DR/den/FR – living room/dining room/den/family room

The reader is referred to the previous sections of the report where these recommendations are discussed in more detail.

7.1 Implementation

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

1. Prior to occupancy, a Professional Engineer qualified to perform acoustical services in the Province of Ontario or the Municipal Building Department shall conduct a site inspection to confirm that the sound control measures have been installed and constructed in their entirety.

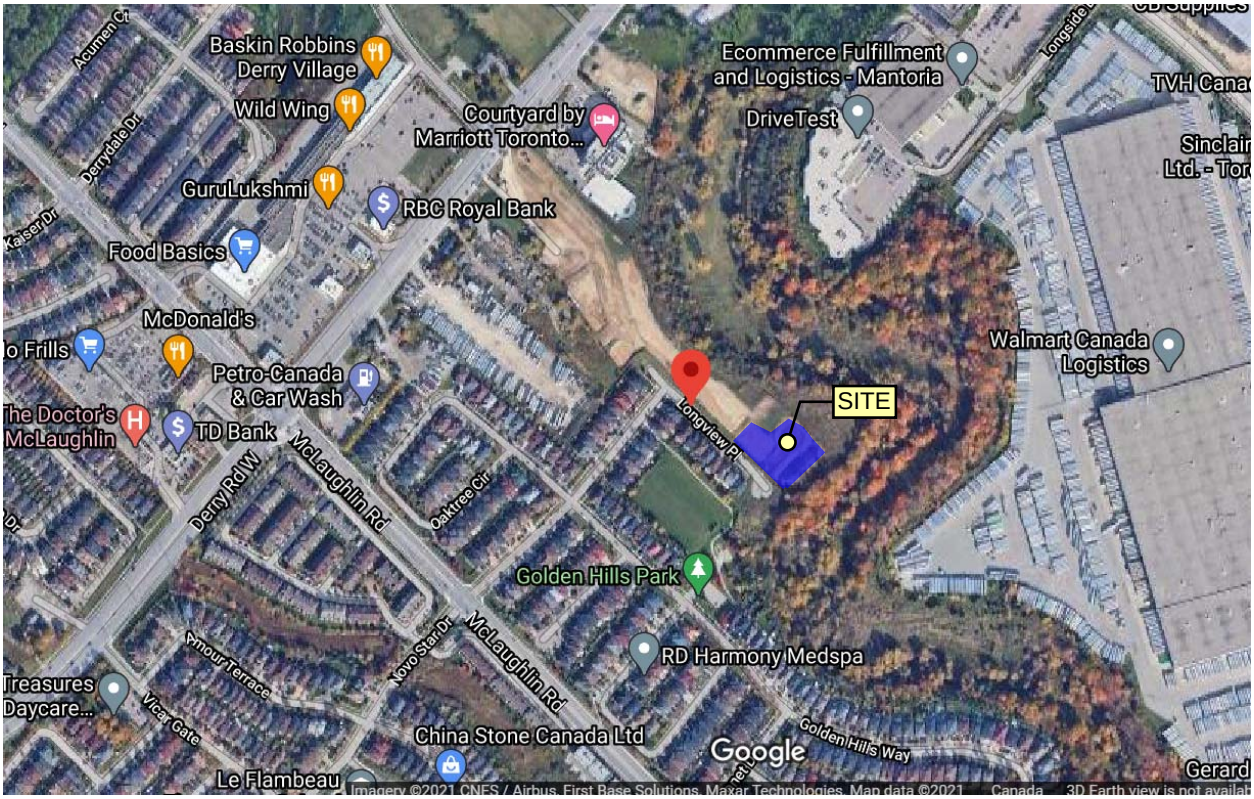

Figure 1 - Key Plan

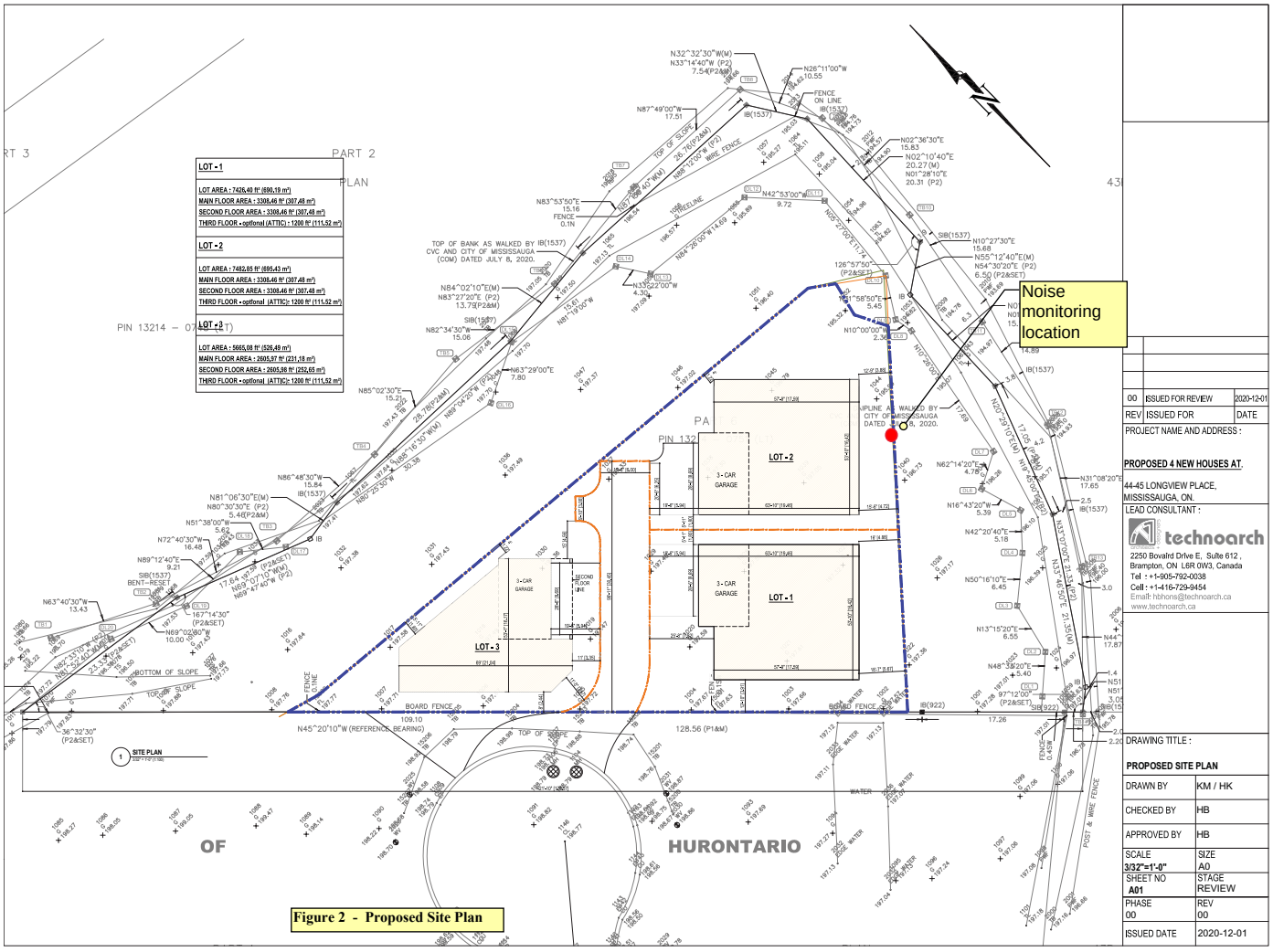

Figure 2 - Proposed Site Plan

00	ISSUED FOR REVIEW	2020-12-01
REV	ISSUED FOR	DATE

PROJECT NAME AND ADDRESS :

PROPOSED 4 NEW HOUSES AT

44-45 LONGVIEW PLACE,
MISSISSAUGA, ON.

LEAD CONSULTANT :

technoarch
2250 Bovaird Drive E, Suite 612 ,
Brampton, ON L6R 0W3, Canada
Tel : +1-905-792-0038
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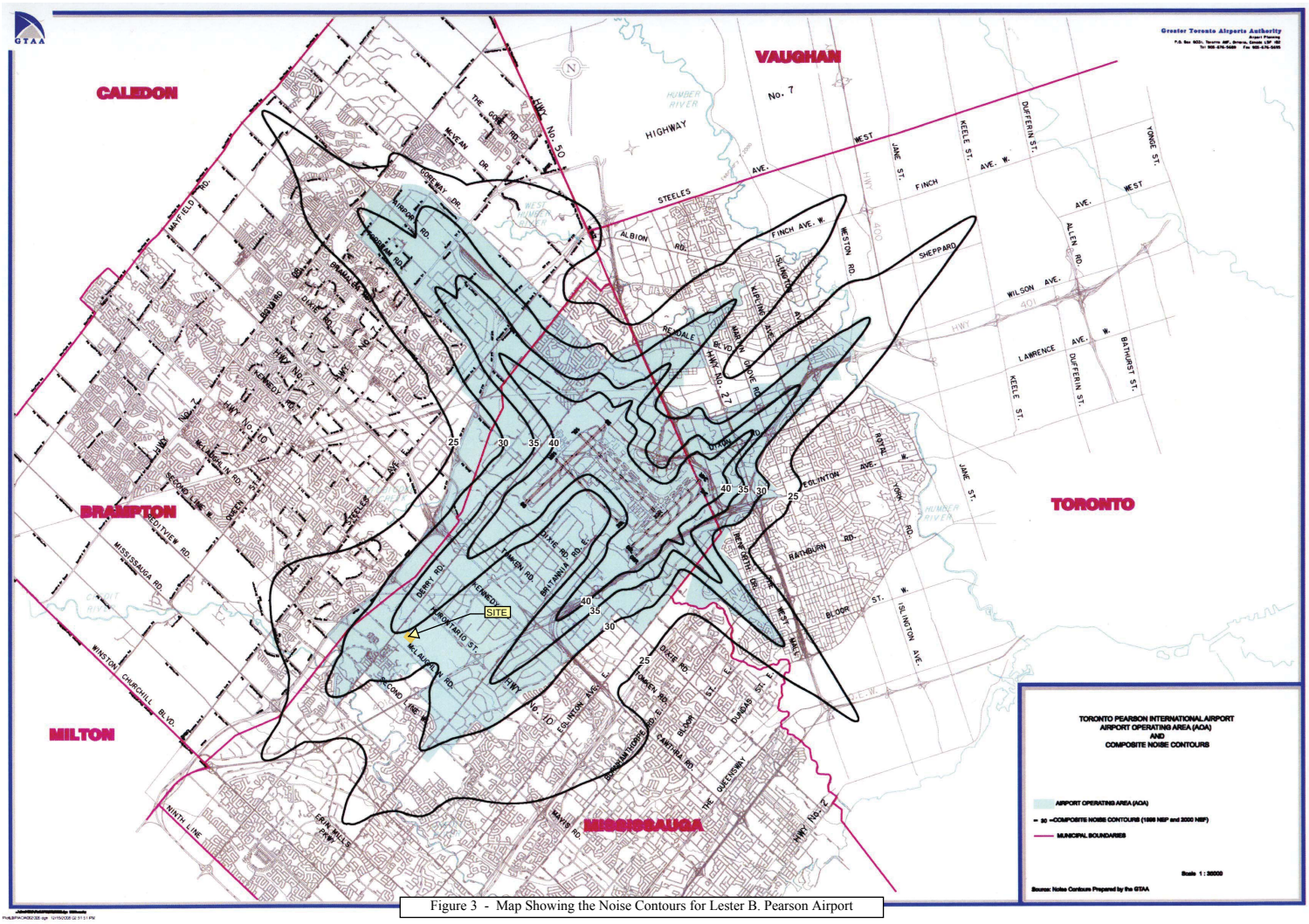
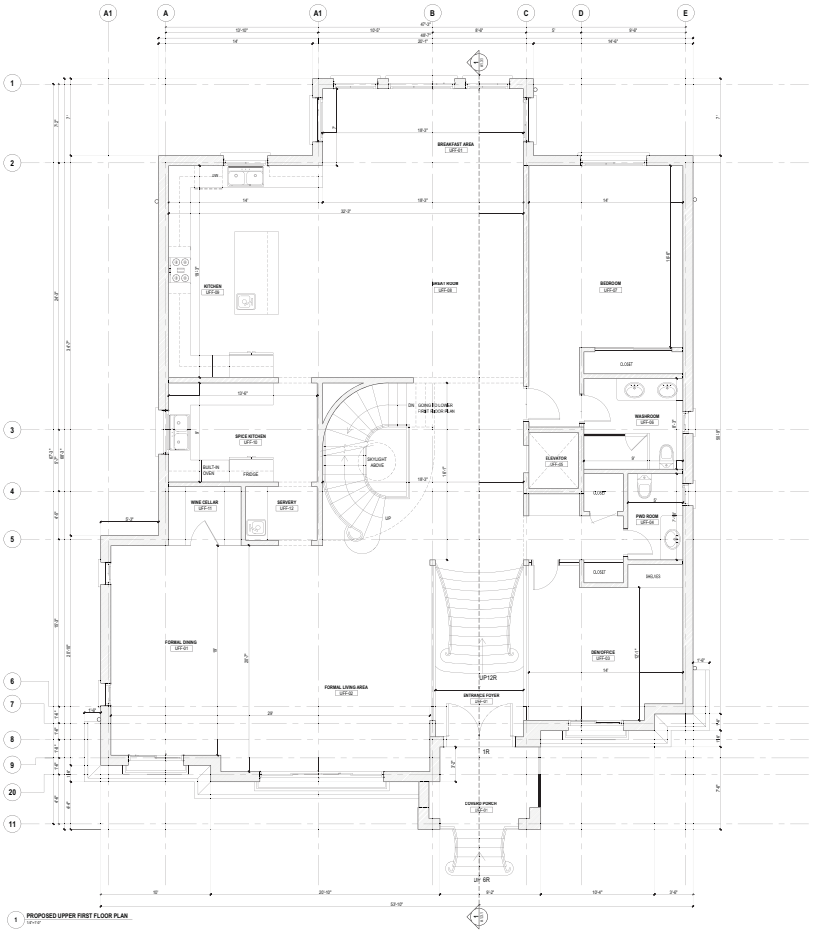


Figure 3 - Map Showing the Noise Contours for Lester B. Pearson Airport

APPENDIX A

Supporting Drawings



1 **PROPOSED UPPER FIRST FLOOR PLAN**
1/4"=1'-0"

FLOOR AREA =2469.56 (SQ.FT)

PROJECTED NORTH | TRUE NORTH

KEY PLAN

REV.	ISSUED FOR	DATE
R0	SITE PLAN APP.	2021-02-16

PROJECT NAME AND ADDRESS :
PROPOSED NEW 2 STOREY DWELLING
PROPOSED SINGLE FAMILY RESIDENTIAL, HOUSES AT 44-45 LONGVIEW PLACE, MISSISSAUGA ,ON

LEAD CONSULTANT :

technoarch
2250 Bovaird Drive E, Suite 612 ,
Brampton, ON L6R 0W3, Canada
Tel : +1-905-792-0038
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Email: hbhons@technoarch.ca
www.technoarch.ca

STRUCTURAL CONSULTANT :

MEP CONSULTANT :

DRAWING TITLE :
PROPOSED UPPER FIRST FLOOR PLAN (LOT 1)

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APPROVED BY	HB
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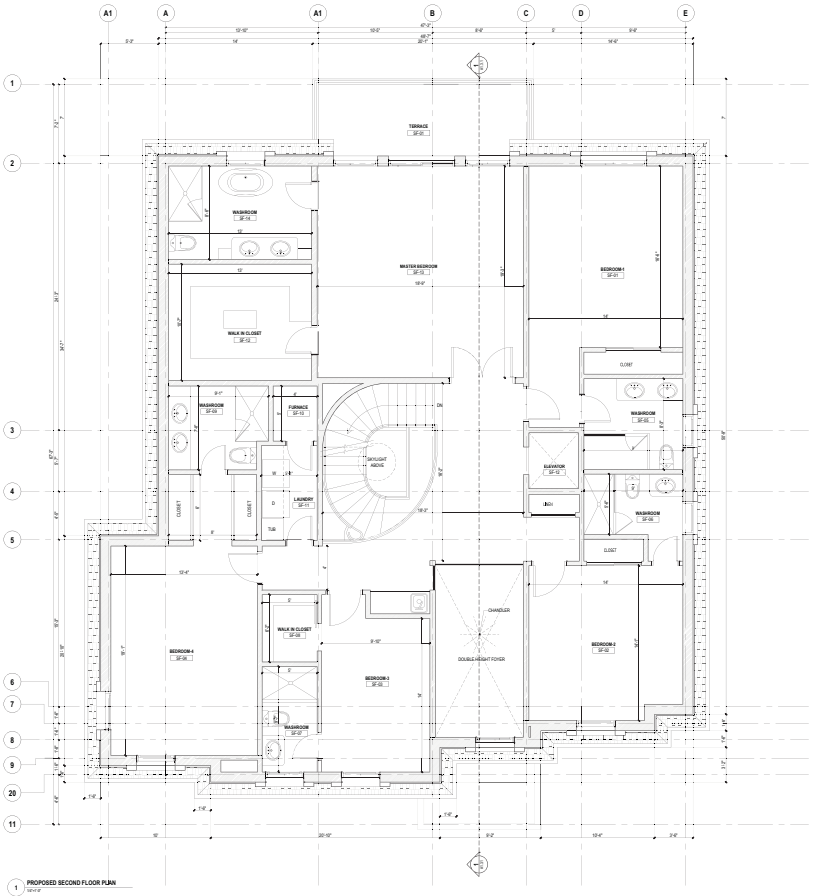

1 PROPOSED SECOND FLOOR PLAN
1/4"=1'-0"

FLOOR AREA =2768.78 (SQ-FT)

PROJECTED NORTH | TRUE NORTH

KEY PLAN
1/64"=1'-0"

REV	ISSUED FOR	DATE
R0	SITE PLAN APP.	2021-02-16

PROJECT NAME AND ADDRESS :
PROPOSED NEW 2 STOREY DWELLING
PROPOSED SINGLE FAMILY RESIDENTIAL HOUSES AT 44-45 LONGVIEW PLACE, MISSISSAUGA ,ON

LEAD CONSULTANT :

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2250 Bovaird Drive E, Suite 612 ,
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STRUCTURAL CONSULTANT :

MEP CONSULTANT :

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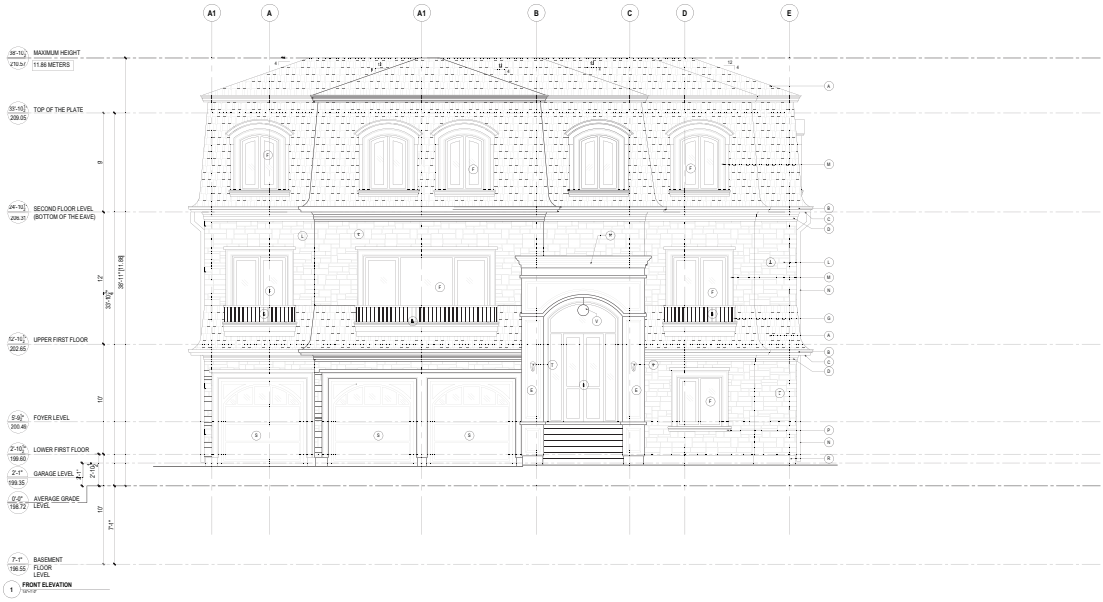

TYPICAL EXTERIOR MATERIAL & COLOR SCHEDULE

	IMAGE	MATERIAL ITEM	FINISH/COLOR	DESCRIPTION/ SIZES
A		ASPHALT SHINGLES (SELF-SEALING)	COLOR: CHARCOAL BLACK	
B		ALUMINUM GUTTER ATTACHED TO DOWNSPOUTS	COLOR TO MATCH ROOF SHINGLES	6" ALUMINUM GUTTER
C		EAVES SOFFIT	BLACK SOFFIT	VENTILATED EAVE PANELS
D		GFRG STYROFOAM PVC FRIEZE BOARD	COLOR TO BE MATCH WITH WINDOW CASING	10" HEIGHT FRIEZE BOARD
E		PRECAST PORCH COLUMN		
F		WINDOW AND WINDOW FRAME	BLACK COLOR FRAME	CLEAR GLASS SEALED DOUBLE GLAZED WINDOW
G		METAL RAILING		TOP OF RAILING 3'-6" FROM FLOOR FINISH
H		12" THICK PRE CAST MOLDING		
J		BRICK	VERIDIAN	
K		STUCCO	COLOUR TO BE MATCH WITH PORCH COLUMN COLOUR	EGG SHELL FINISH

TYPICAL EXTERIOR MATERIAL & COLOR SCHEDULE

	IMAGE	MATERIAL ITEM	FINISH/COLOR	DESCRIPTION/ SIZES
L		ROUGH STONE		
M		WINDOW CASING	DARK BEIGE	5" WIDE CASING
N		RAIN WATER LEADER	COLOR TO MATCH GUTTER	DOWNSPOUT WITH 7'-0"X1'-0" (CONCRETE SPLASH PAD)
P		STONE SILL	COLOR TO BE MATCH WITH WINDOW CASING	
R		EXPOSED FOUNDATION	CONCRETE FINISH	CONCRETE WALL TO BE MINIMUM 8" HIGH FROM GRADE LEVEL
S		GARAGE DOOR	DOOR TEXTURE: BACK FINISH	CUSTOM MADE GARAGE DOOR
T		WALL LIGHT	BLUE FINISH CLEAR BEVELED GLASS	LIGHT - RED STYLE - TRADITIONAL
U		CUSTOM WOODEN ENTRY DOOR WITH SIDELIGHT	NATURAL WOOD COLOR	
V		OUTDOOR HANGING LIGHT	BLACK WITH CLEAR GLASS	LIGHT - RED STYLE - TRADITIONAL

PROJECTED NORTH | TRUE NORTH

R0	SITE PLAN APP.	2021-02-16
REV.	ISSUED FOR	DATE

PROJECT NAME AND ADDRESS :
PROPOSED NEW 2 STOREY DWELLING
PROPOSED SINGLE FAMILY RESIDENTIAL HOUSES AT 44-45 LONGVIEW PLACE, MISSISSAUGA ,ON

LEAD CONSULTANT :

technoarch
2250 Bovaird Drive E, Suite 612 ,
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Cell : +1-416-729-9454
Email: hbhons@technoarch.ca
www.technoarch.ca

STRUCTURAL CONSULTANT :

MEP CONSULTANT :

DRAWING TITLE : PROPOSED NORTH SIDE ELEVATION (LOT 1)	
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CHECKED BY	HK
APPROVED BY	HB
SCALE 1/4"=1'-0"	SIZE A1
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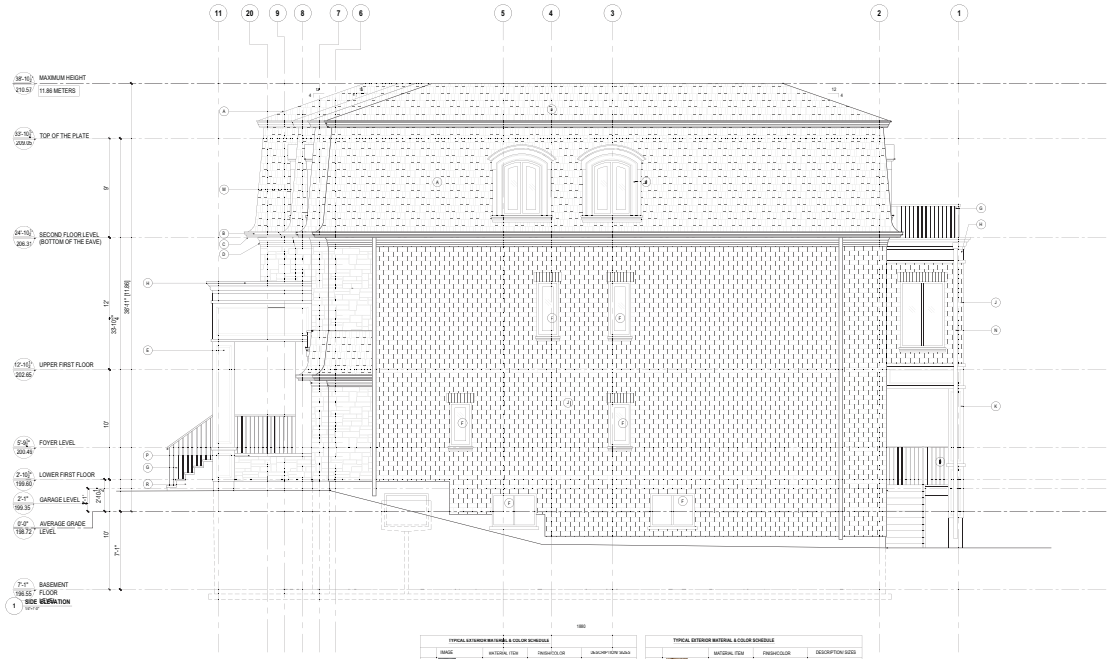
PHASE 00	REV R0
ISSUED DATE	2021-02-16



TYPICAL EXTERIOR MATERIAL & COLOR SCHEDULE

IMAGE		MATERIAL ITEM	FINISH COLOR	DESCRIPTION/ SIZES
A		ASPHALT SHINGLES (SELF-SEALING)	COLOR: CHARCOAL BLACK	
B		ALUMINUM GUTTER W/THROUGH TO DOWNSPOUTS	COLOR TO MATCH ROOF SHINGLES	6" ALUMINUM GUTTER
C		EAVES SOFFIT	BLACK SOFFIT	VENTILATED EAVE PANELS
D		GEREC STYROFOAM/ PVC FRIEZE BOARD	COLOR TO BE MATCH WITH WINDOW CASING	10" HEIGHT FRIEZE BOARD
E		PRECAST PORCH COLUMN		
F		WINDOW AND WINDOW FRAME	BLACK COLOR FRAME	CLEAR GLASS SEALED DOUBLE GLAZED WINDOW
G		METAL RAILING		TOP OF RAILING 3'-0" FROM FLOOR FINISH
H		12" THICK PRE CAST MOULDING		
J		BRICK	VERDIAN	
K		STUCCO	COLOUR TO BE MATCH WITH PORCH COLUMN COLOUR	EGG SHELL FINISH

TYPICAL INTERIOR MATERIAL & COLOR SCHEDULE

		MATERIAL ITEM	FINISH COLOR	DESCRIPTION/ SIZES
L		ROUGH STONE		
M		WINDOW CASING	DARK BEIGE	5" WIDE CASING
N		RAIN WATER LEADER	COLOR TO MATCH GUTTER	DOWNSPOUT WITH 1'-0"X1'-0" CONCRETE SPLASH PAD
P		STONE SILL	COLOR TO BE MATCH WITH WINDOW CASING	
R		EXPOSED FOUNDATION	CONCRETE FINISH	CONCRETE WALL TO BE MINIMUM 8" HIGH FROM GRADE LEVEL
S		GARAGE DOOR	DOOR TEXTURE: BACK FINISH	CUSTOM MADE GARAGE DOOR
T		WALL LIGHT	RUST FINISH CLEAR BEVELED GLASS	LIGHT : RED STYLE : TRADITIONAL
U		CUSTOM WOODEN ENTRY DOOR WITH SIDELIGHT	NATURAL WOOD COLOR	
V		OUTDOOR HANGING LIGHT	BLACK WITH CLEAR GLASS	LIGHT : RED STYLE : TRADITIONAL

PROJECTED NORTH | TRUE NORTH

REV	ISSUED FOR	DATE
R0	SITE PLAN APP.	2021-02-16

PROJECT NAME AND ADDRESS :
PROPOSED NEW 2 STOREY DWELLING
PROPOSED SINGLE FAMILY RESIDENTIAL, HOUSES AT 44-45 LONGVIEW PLACE, MISSISSAUGA ,ON

LEAD CONSULTANT :
technoarch
2250 Bovaird Drive E, Suite 612 ,
Brampton, ON L6R 0W3, Canada
Tel : +1-905-792-0038
Cell : +1-416-729-9454
Email: hbhons@technoarch.ca
www.technoarch.ca

STRUCTURAL CONSULTANT :

MEP CONSULTANT :

DRAWING TITLE :
PROPOSED WEST SIDE ELEVATION (LOT 1)

DRAWN BY	HT
CHECKED BY	HK
APPROVED BY	HB
SCALE: 1/4"=1'-0"	SIZE: A1
SHEET NO: A1.2.2	STAGE: SITE PLAN APP.
PHASE: 00	REV: R0
ISSUED DATE	2021-02-16

TYPICAL EXTERIOR MATERIAL & COLOR SCHEDULE

	IMAGE	MATERIAL ITEM	FINISH/COLOR	DESCRIPTION/ SIZES
A		ASPHALT SHINGLES (SELF- SEALING)	COLOR: CHARCOAL BLACK	
B		ALUMINUM GUTTER ATTACHED TO DOWNSPOUTS	COLOR TO MATCH ROOF SHINGLES	6" ALUMINUM GUTTER
C		EAVES SOFFIT	BLACK SOFFIT	VENTILATED EAVE PANELS
D		EIFSC STYROFOAM SHAPE FRIEZE BOARD	COLOR TO BE MATCH WITH WINDOW CASING	10" HEIGHT FRIZE BOARD
E		PRECAST PORCH COLUMN		
F		WINDOW AND WINDOW FRAME	BLACK COLOR FRAME	CLEAR GLASS SEALED DOUBLE GLAZED WINDOW
G		METAL RAILING		TOP OF RAILING 42" FROM FLOOR FINISH
H		10" THICK PRE CAST MOLDING		
J		BRICK	MERIDIAN	
K		STUCCO	COLOUR TO BE MATCH WITH PORCH COLUMN COLOR	EGG SHELL FINISH

TYPICAL EXTERIOR MATERIAL & COLOR SCHEDULE

	IMAGE	MATERIAL ITEM	FINISH/COLOR	DESCRIPTION/ SIZES
L		ROUGH STONE		
M		WINDOW CASING	DARK BEIGE	3" WIDE CASING
N		RAIN WATER LEADER	COLOR TO MATCH GUTTER	DOWNSPOUT WITH 1'-0"X1'-0" CONCRETE SPLASH PAD
P		STONE SILL	COLOR TO BE MATCH WITH WINDOW CASING	
R		EXPOSED FOUNDATION	CONCRETE FINISH	CONCRETE WALL TO BE MINIMUM 8" HIGH FROM GRADE LEVEL
S		GARAGE DOOR	DOOR TEXTURE- BACK FINISH	CUSTOM MADE GARAGE DOOR
T		WALL LIGHT	RUST FINISH, CLEAR BEVELED GLASS	LIGHT - SIZE, STYLE - TRADITIONAL
U		CUSTOM WOODEN ENTRY DOOR WITH SIDELIGHT	NATURAL WOOD COLOR	
V		OUTDOOR HANGING LIGHT	BLACK WITH CLEAR GLASS	LIGHT - SIZE STYLE - TRADITIONAL

PROJECTED NORTH | TRUE NORTH

REV.	ISSUED FOR	DATE
R0	SITE PLAN APP.	2021-02-16

PROJECT NAME AND ADDRESS :
PROPOSED NEW 2 STOREY DWELLING
PROPOSED SINGLE FAMILY RESIDENTIAL HOUSES AT 44-45 LONGVIEW PLACE, MISSISSAUGA ,ON

LEAD CONSULTANT :
technoarch
2250 Bovaird Drive E, Suite 612 ,
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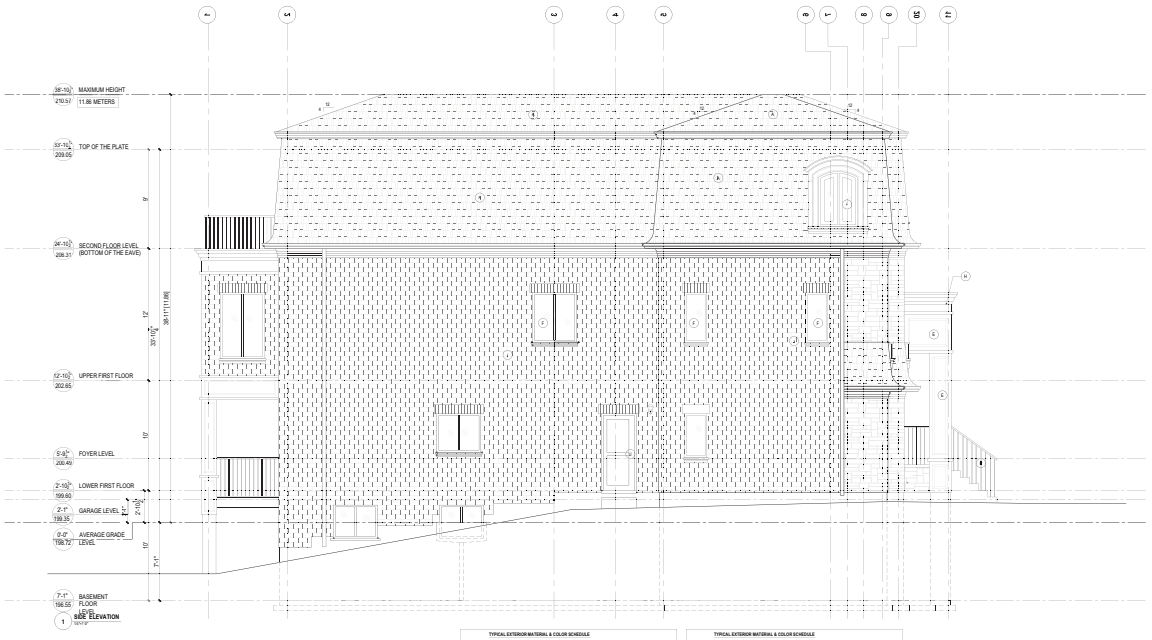
Cell : +1-416-729-9454
Email: hbhons@technoarch.ca
www.technoarch.ca

STRUCTURAL CONSULTANT :

MEP CONSULTANT :

DRAWING TITLE :
PROPOSED SOUTH SIDE ELEVATION (LOT 1)

DRAWN BY	HT
CHECKED BY	HK
APPROVED BY	HB
SCALE: 1/4"=1'-0"	SIZE: A1
SHEET NO: A1.2.3	STAGE: SITE PLAN APP.
PHASE: 00	REV: R0
ISSUED DATE	2021-02-16



TYPICAL EXTERIOR MATERIAL & COLOR SCHEDULE

IMAGE	MATERIAL ITEM	FINISH/COLOR	DESCRIPTION/ SIZES
A	ASPHALT SHINGLES (SELF-SEALING)	COLOR: CHARCOAL BLACK	
B	ALUMINUM GUTTER ATTACHED TO DOWNSPOUTS	COLOR TO MATCH ROOF SHINGLES	6" ALUMINUM GUTTER
C	EAVES SOFFIT	BLACK SOFFIT	VENTILATED EAVE PANELS
D	GFRCI STRUCFOAM / PVC FRIEZE BOARD	COLOR TO BE MATCH WITH WINDOW CASING	10" HEIGHT FRIEZE BOARD
E	PRECAST PORCH COLUMN		
F	WINDOW AND WINDOW FRAME	BLACK COLOR FRAME	CLEAR GLASS SEALED DOUBLE GLAZED WINDOW
G	METAL RAILING		TOP OF RAILING 1.4# FROM FLOOR FINISH
H	12" THICK PRE CAST MOULDING		
I	BRICK	VERDIMAN	
K	STUCCO	COLOUR TO BE MATCH WITH PORCH COLUMN COLOR	EGG SHELL FINISH

TYPICAL EXTERIOR MATERIAL & COLOR SCHEDULE

	MATERIAL ITEM	FINISH/COLOR	DESCRIPTION/ SIZES
L	ROUGH STONE		
M	WINDOW CASING	DARK BEIGE	3" WIDE CASING
N	RAIN WATER LEADER	COLOR TO MATCH GUTTER	DOWNSPOUT WITH 1'-0"X1'-0" (CONCRETE SPLASH PAD)
P	STONE SILL	COLOR TO BE MATCH WITH WINDOW CASING	
R	EXPOSED FOUNDATION	CONCRETE FINISH	CONCRETE WALL TO BE MINIMUM 8" HIGH FROM GRADE LEVEL
S	GARAGE DOOR	DOOR TEXTURE BACK FINISH	CUSTOM MADE GARAGE DOOR
T	WALL LIGHT	RUST FINISH WITH SEALED GLASS	LIGHT : RED STYLE : TRADITIONAL
W	CUSTOM WOODEN ENTRY DOOR WITH SIDELIGHT	NATURAL WOOD COLOR	
V	OUTDOOR HANGING LIGHT	BLACK WITH CLEAR GLASS	LIGHT : RED STYLE : TRADITIONAL

PROJECTED NORTH | TRUE NORTH

REV	ISSUED FOR	DATE
R0	SITE PLAN APP.	2021-02-16

PROJECT NAME AND ADDRESS :
PROPOSED NEW 2 STOREY DWELLING
PROPOSED SINGLE FAMILY RESIDENTIAL HOUSES AT 44-45 LONGVIEW PLACE, MISSISSAUGA ,ON

LEAD CONSULTANT :
technoarch
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Brampton, ON L6R 0W3, Canada
Tel : +1-905-792-0038
Cell : +1-416-729-9454
Email: hbhons@technoarch.ca
www.technoarch.ca

STRUCTURAL CONSULTANT :

MEP CONSULTANT :

DRAWING TITLE :
PROPOSED EAST SIDE ELEVATION (LOT 1)

DRAWN BY	HT
CHECKED BY	HK
APPROVED BY	HB
SCALE	1/4"=1'-0"
SIZE	A1
SHEET NO	A1.2.4
STAGE	SITE PLAN APP.
PHASE	00
REV	R0
ISSUED DATE	2021-02-16

APPENDIX B

Site Noise Monitoring

Figure A1 - Daytime Monitored Sound Levels, 6:20 pm start

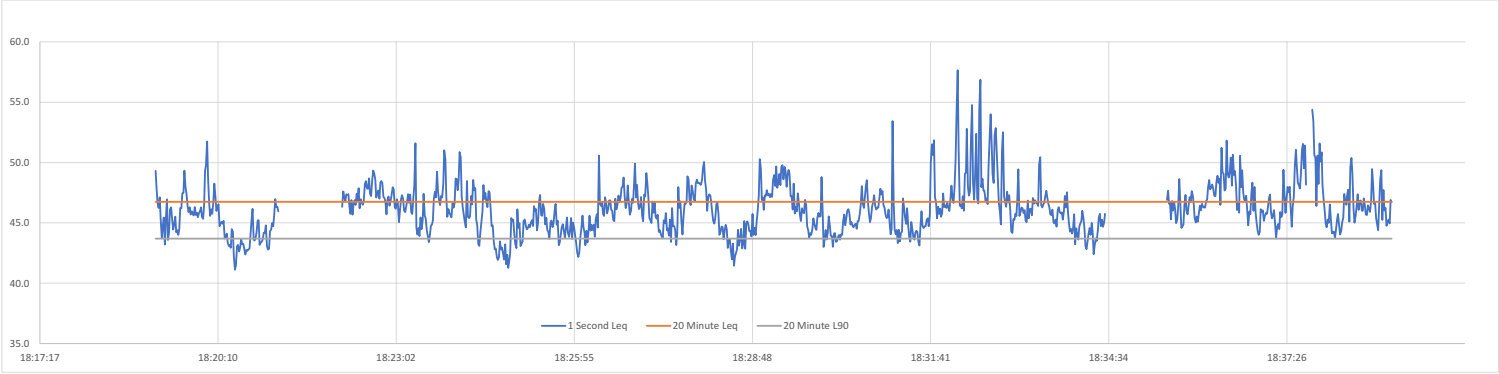

Figure A2 - Evening Monitored Sound Levels, 7:10 pm start

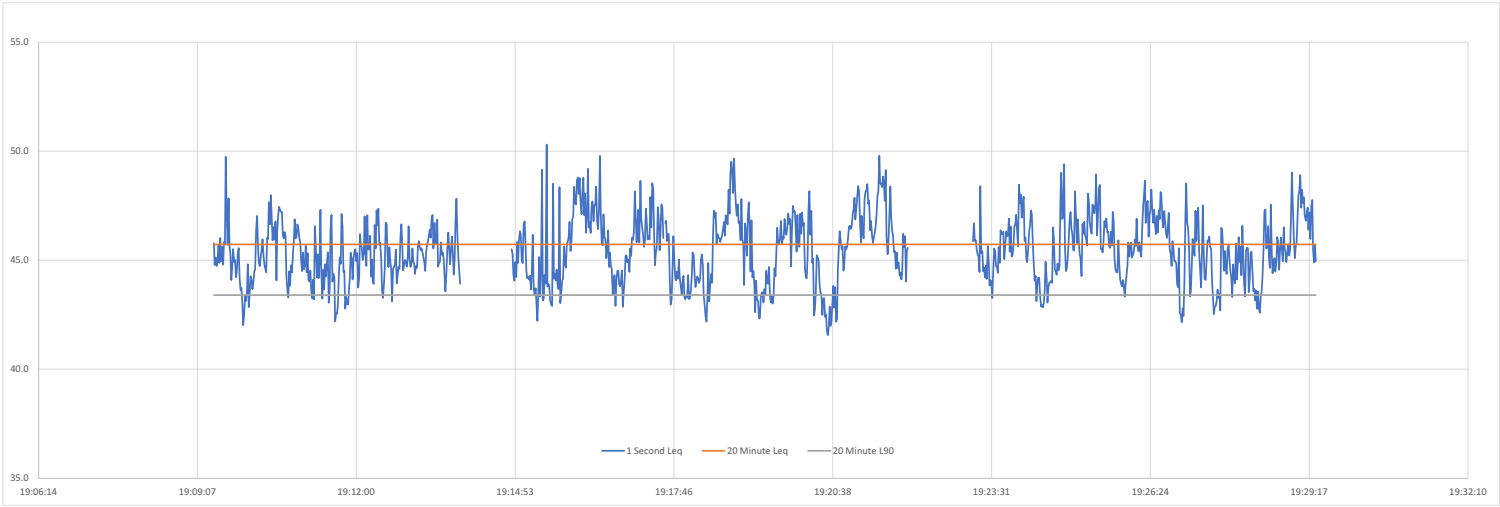

Figure A3 - Nighttime Monitored Sound Levels, 11:28 pm start