NOISE IMPACT STUDY

Proposed Residential Development

"1004 Mapleview Drive East"

Plan 51M-1221, Block 211
City of Barrie

Prepared for:

970 Mapleview Inc.
c/o Fernbrook Homes

Prepared by:

Ralph Bouwmeester, P. Eng.

June 9, 2023

R. BOUWMEESTER & ASSOCIATES
165 Browning Trail
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RBA File: A22020

EXECUTIVE SUMMARY

R. BOUWMEESTER & ASSOCIATES has been retained to assess potential noise impacts on residential uses within a proposed Site Plan on the north side of Mapleview Drive East midway between Prince William Way and 20 Sideroad in southeast Barrie.

The goals and objectives of this study are four-fold, namely:

1. To identify noise sources and noise-sensitive land uses.
2. To recommend mitigation measures, if and where required.
3. To identify those areas, if any, requiring more detailed studies.
4. To satisfy the development approval requirements of the City of Barrie.

The noise source potentially impacting this project is future traffic on Mapleview Drive East and future Terry Fox Drive.

Traffic data were provided by the City of Barrie. Roadway noise from cars and medium and heavy trucks has been accounted for in this analysis. The traffic volumes have been applied to Year 2033 thereby providing the 10-year minimum projection window required by the MECP.

The predicted equivalent outdoor sound levels at the subject site resulting from road traffic exceed the limits established by the MECP in certain areas. Mitigation measures are required to bring day and night-time sound levels down to acceptable levels.

Based on the configuration of the proposed Site Plan, no acoustic barriers are required.

Certain dwelling units require forced-air heating systems with ductwork sized to accommodate the future installation of central air conditioning at the owners' option and expense. These units also require warning clauses registered on title; wording is provided. Construction meeting the minimum non-acoustical requirements of the Ontario Building Code will provide adequate sound insulation for these units.

The above applies to buildings fronting Mapleview Drive East or Terry Fox Drive; no acoustic requirements apply to the interior buildings.

The noise control requirements are summarized in Section 7, in Table 4, and in Figure 3.

In summary, the subject development as proposed can be developed in a manner that satisfies the requirements of MECP noise guideline NPC-300.

TABLE OF CONTENTS

1. INTRODUCTION

R. BOUWMEESTER & ASSOCIATES has been retained to assess potential noise impacts on residential uses within a proposed Site Plan on the north side of Mapleview Drive East midway between Prince William Way and 20 Sideroad in southeast Barrie. See Fig 1.

Our analysis is based on the configuration of the development as shown on a Site Plan by 4Architecture (plotted May 4, 2023). See Appendix 'C'.

2. GOALS AND OBJECTIVES

The goals and objectives of this study are four-fold, namely:

1. To identify noise sources and noise-sensitive land uses.
2. To recommend mitigation measures, if and where required.
3. To identify those areas, if any, requiring more detailed studies.
4. To satisfy the development approval requirements of the City of Barrie.

3. NOISE SOURCES

The noise source potentially impacting this project is future traffic on Mapleview Drive East and future Terry Fox Drive. Traffic data were provided by the City of Barrie.

4. GUIDELINES AND CRITERIA

Reference is made to the Ministry of the Environment, Conservation and Parks (MECP) publication, Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning (Publication NPC-300, Aug 2013 ver. #22) which recommends the following sound level limits for indoor and outdoor settings.

4.1 Sound Level Limits

The following NPC-300 sound level limits apply to road traffic:

TABLE 1 - Sound Level Limits (Leq)

Location	Time Period		Limit (dBA)
Outdoor			
Outdoor Living Area	Day	0700-2300 hrs	55
Indoor			
Living/Dining Room	All	0700-0700 hrs	45
Bedroom (day)	Day	0700-2300 hrs	45
Bedroom (night)	Night	2300-0700 hrs	40

As compared to earlier MECP noise guidelines, NPC-300 has set indoor sound level limits in bedrooms for the daytime period in addition to nighttime.

4.2 Noise Control Measures

NPC-300 states that *"Noise control measures are not required if the sound level estimated in the OLA is 55 dBA or less during the daytime and 50 dBA or less in the plane of bedroom windows during either daytime or nighttime"*.

4.2.1 Outdoor Living Areas

The above-noted outdoor limit of 55 dBA applies to a protected Outdoor Living Area (OLA) of at least 56 m^2 (600 sq. ft.) in the case of single-family detached homes, 46 m^2 (500 sq. ft.) in the case of semi-detached units, and 37 m^2 (400 sq. ft.) in the case of row or townhouse units.

The MECP guidelines indicate that *"Noise control measures are not required if the sound level estimated in the OLA is 55 dBA or less during the daytime"*.

The guidelines state that if the sound level is greater than 55 dBA and less than or equal to 60 dBA, *"noise control measures may be applied to reduce the sound level to 55 dBA. If measures are not provided, prospective purchasers or tenants should be informed of potential noise problems by a warning clause Type A"*.

The guidelines further state that if the sound level in the Outdoor Living Area is greater than 60 dBA, *"noise control measures should be implemented to reduce the level to 55 dBA. Only in cases where the required noise control measures are not feasible for technical, economic or administrative reasons would an excess above the limit (55 dBA) be acceptable with a warning clause Type B. In the above situations, any excess above the limit will not be acceptable if it exceeds 5 dBA."* Acoustic barriers typically provide the mitigation needed, and warning clauses are required to be registered on title against the affected units.

4.2.2 Plane of Window - Ventilation Requirements

Ventilation requirements to reduce indoor sound levels, by allowing windows to remain closed if so desired by the occupants, include the following:

- For outdoor daytime sound levels in the plane of living/dining/bedroom windows greater than 55 dBA and less than or equal to 65 dBA, dwelling units must be equipped with forced air heating systems with ducting sized for the future installation of central air conditioning. Window, wall, and door components meeting normal Ontario Building Code requirements are typically adequate under these conditions, although warning clauses (Types B and C) must be registered on title against the affected lots.

- For outdoor daytime sound levels in the plane of living/dining/bedroom windows greater than 65 dBA, dwelling units must be equipped with central air conditioning. Warning clauses (Types B and D) must be registered on title against the affected lots.

Ventilation requirements under night-time conditions are similar to the above except that 50 and 60 dBA are used in place of 55 dBA and 65 dBA, respectively.

The location and installation of outdoor air conditioning devices must comply with the sound level limits of Publication NPC-216 and guidelines contained in Environmental Noise Guidelines for Installation of Residential Air Conditioning Devices or such other criteria as specified by the municipality.

4.2.3 Indoor Living Areas - Building Component Requirements

If day-time sound levels outside living/dining/bedroom windows exceed 65 dBA (or night-time levels exceed 60 dBA) building components including windows, walls and doors must be designed so that the indoor sound levels meet the sound level limits quoted in Table 1.

The above sound level limits and mitigation requirements can be summarized as follows:

TABLE 2 - Sound Level Limits and Standard Mitigation Requirements

	Outdoor Sound Level Limits (dBA)		
	Plane of Window		
	Day	Night	OLA
Do nothing	≤55	≤50	≤55
Noise barrier or Warning Clause A			56 - 60
Mandatory noise barrier *			>60
Provision for future A/C **	56 - 65	51 - 60	
Mandatory A/C **	>65	>60	
Special building component design	>65	>60	

Notes:
* Warning Clause B is required if the net resultant sound level is 56-60 dBA (to the max. allowable 60 dBA).
** Warning clauses required (A, B and C for future central air; A, B and D for mandatory central air).

5. ANALYSIS PROCEDURES

5.1 Surroundings and Site Characteristics

The subject site is located on the northeast corner of Mapleview Drive East and Terry Fox Drive. See Figure 1. The surrounding lands are under development; residential to the west and north, SWM facilities to the east, and mixed-use south across Mapleview.

The site is 1.73 ha in size. The proposed development consists of 127 residential units in 11 buildings together with a central common outdoor amenity area.

5.2 Noise Sources

The noise source of concern is future traffic on Mapleview Drive East and future Terry Fox Drive. Nearby local roads are assumed insignificant.

Roadway noise from cars and medium and heavy trucks has been accounted for in this analysis. The noise source heights used are per MECP criteria.

This analysis includes all of Mapleview Drive and Terry Fox Drive north of Mapleview.

Mapleview Drive East adjacent to the subject site is currently a 2-lane rural road within a 20 m right-of-way. It is proposed for future widening to a 5-lane cross-section consisting of two lanes of through traffic in each direction and a centre left turn lane within a 34 m right-of-way. Terry Fox Drive is a 26 m wide major collector.

For roads with up to four lanes of through traffic, the MECP allows an even directional split in traffic with noise levels assumed to originate from the centreline of travel. For more than four through lanes, separate analyses must be carried out for each direction of travel (in sets of up to four lanes each).

5.3 Traffic Data

The City of Barrie provided current (Year 2022) traffic counts, truck percentages, and projected annual growth rates to Year 2031 and beyond for Mapleview Drive East; Terry Fox projections were provided for Years 2031 and 2041. Our analysis is based on Year 2033 traffic volumes which provide the 10-year minimum projection window required by the MECP.

We have assumed that truck traffic is split 50/50 between medium and heavy trucks.

The MECP requires increased truck noise on uphill grades to be accounted for when the grade is at least 2% and where the climb exceeds 6 m. The average road grades adjacent to the subject site are less than 2%.

The MECP-recommended percentage splits for day and night time traffic volumes were used in this study (i.e. 90/10 for arterial roads).

The posted speed limit on Mapleview Drive East is currently 60/80 kph; the City has advised that this can be assumed to be 60 kph by 2033. 50 kph is assumed for Terry Fox.

See Appendix ‘A’ for further road traffic details.

5.4 Study Periods

The study periods, as per MECP guidelines, are the 16-hour day-time period between 7:00 AM and 11:00 PM, and the 8-hour night-time period from 11:00 PM and 7:00 AM.

5.5 Sound Level Prediction Model

Noise level calculations were carried out per MECP guidelines (Environmental Noise Assessment in Land Use Planning, Training Manual, Ontario Ministry of the Environment, 1987) and through the use of their road noise model ORNAMENT. See References.

5.6 Correction Factors

The corrections required by the MECP to be applied to the noise levels have been taken into account where applicable. These include corrections such as:

a) Road segment lengths
b) Ground surface type
c) Source - receiver distance
d) Height of elevated source/receiver, and
e) Day/night split in traffic volumes.

6. CALCULATED EQUIVALENT SOUND LEVELS

Indoor sound levels are typically estimated by calculating outdoor levels along the face of a wall exposed to the noise source (i.e. in the plane of windows). Under NPC-300, day and night-time receiver heights are set at bedroom windows which are typically assumed to be 4.5 m (plus 3.0 m for each additional floor) above grade in a typical single or semi-detached house or townhouse when building plans are unavailable.

Since sound levels generally increase with building height (due to a reduction in the effect of ground attenuation), worst-case receptors are typically located at the top floor in multi-storey scenarios. Accordingly, we have used receptor heights of 7.8 m to 8.2 m, for the top-floor windows per the architectural elevations (see Appendix 'D').

Shielding by the proposed dwellings was accounted for in the determination of sound levels. Potential shielding by vegetation was not taken into account.

OLA sound levels are typically calculated for receivers 3.0 m from the mid-point of the rear wall of a dwelling at a height of 1.5 m above grade; this applies to only Building 1.

Decks and balconies are exempt from the MECP outdoor noise limits unless they are the only outdoor living area available, and they are at least 4.0 m deep, outside the building façade, and unenclosed. Accordingly, the proposed balconies are exempt.

This analysis includes sample noise levels along the building faces. These noise level predictions were used to flag those areas requiring mitigation.

An overall summary of the predicted outdoor daytime and nighttime sound levels for each of the receptor locations is presented in Table 3. See Figure 2 for receptor locations and Appendix 'B' for sample calculations.

TABLE 3 - Predicted Outdoor Sound Levels (dBA)

Receptor	Source / Receiver Dist. (m) (MVE / TFD)	Outdoor Equivalent Sound Levels (Leq) Due to Road Traffic (dBA)		
		Day	Night	OLA
Bldg 1, OLA	------ / 19.5	---	---	57
Bldg 1, 3rd flr	222.0 / 16.4	60	54	--
Bldg 3, 3rd flr	175.0 / 16.2	61	54	--
Bldg 4, 3rd flr	127.0 / 16.2	61	54	--
Bldg 7, 3rd flr	49.0 / 17.3	61	55	--
Bldg 10, 3rd flr	23.1 / 15.6	64	57	--
Bldg 11, 3rd flr	18.6 / 78.0	63	57	--
Amenity Area	99.0 / 40.8	--	--	51

Note: 1. MVE and TFD denote Mapleview Drive East and Terry Fox Drive, respectively.
2. Source-Receiver distances are to road C/L.

The results shown in Table 3 confirm that mitigation measures are required to ensure that the predicted sound levels meet the MECP criteria.

The following summarizes typical acoustic requirements and describes how they apply to this proposed development. See Section 7 and Figure 3 for detailed requirements.

Warning clauses must be registered on title and included in Agreements of Purchase and Sale or Lease where sound level limits are exceeded. Based on the predicted noise levels at the building faces, warning clauses are required for all buildings fronting Mapleview Drive East or Terry Fox Drive (see Table 4 and Figure 3) - suggested wording is given in the Notes to Table 4.

Central air conditioning is required where the sound level due to road traffic in the plane of a living/dining/bedroom window exceeds 65 dBA day-time or 60 dBA night-time. Air-cooled condenser units should be located in a noise-insensitive location. Central air conditioning is not meant to be a sound mitigating measure, although it does provide the dwelling occupants with the option of closing windows if so desired. This requirement does not apply to any units.

Special building component design, to ensure that indoor sound levels due to road traffic meet the limits specified in Section 4, is required for residential dwelling units where the sound level in the plane of a living/dining/bedroom window exceeds 65 dBA day-time or 60 dBA night-time. This requirement does not apply to any units.

Forced air heating systems, with ductwork sized to accommodate the future installation of central air conditioning, are required where the sound level due to road traffic in the plane of a living/dining/bedroom window exceeds 55 dBA day-time or 50 dBA night-time. Future air-cooled condenser units should be located in a noise-insensitive location. Construction meeting the minimum non-acoustical requirements of the Ontario Building

Code will provide adequate sound insulation. This requirement applies to all buildings fronting Mapleview or Terry Fox. See Section 7, Table 4 and Figure 3 for details.

Acoustic barriers, to protect outdoor living areas, are required where the daytime outdoor sound level in the OLA exceeds 60 dBA. The MECP's sound level objective for outdoor living areas is 55 dBA; however, sound level excesses of up to 5 dBA are permitted with an appropriate warning clause. Residual noise levels (over 55 dBA) resulting from reduced fence heights must be covered through the use of an appropriately worded warning clause to be included in the Site Plan Agreement and all Offers of Purchase and Sale or Lease for the affected units, and the clause is to be registered on title against those units.

Based on the configuration of the proposed Site Plan, no acoustic barriers are required.

7. RECOMMENDATIONS

1. All dwelling units in the buildings fronting Mapleview Drive East or Terry Fox Drive require warning clauses registered on title and included in Development Agreements and Agreements of Purchase and Sale or Lease. See Figure 3 and Table 4, and see Notes to Table 4 for wording.
2. All dwelling units in the buildings fronting Mapleview Drive East or Terry Fox Drive require forced air heating systems sized for the future installation of central air conditioning at the dwelling owners' option and expense. See Figure 3 and Table 4 for locations.

8. CONCLUSIONS

With the incorporation of the recommended noise controls summarized in Section 7 and as contained in Table 4 and shown in Figures 3 and 4, the MECP noise guidelines can be met in all dwelling and commercial units.

In summary, the subject development as proposed can be developed in a manner that satisfies the requirements of MECP noise guideline NPC-300.

Respectfully submitted,

R. BOUWMEESTER & ASSOCIATES

Ralph Bouwmeester, P. Eng.
Principal

TABLE 4 - Summary of Noise Controls

Location	Central Air Conditioning	Exterior Windows, Walls and Doors	Acoustic Barrier	Warning Clauses [1.]
Buildings 1, 3, 4, 7, 10 and 11	Provision for Adding	OBC	No	A + B + C
Buildings 2, 5, 6, 8 and 9	No	OBC	No	None

Note:
1. See Notes to Table 4 on the following page for wording.

NOTES TO TABLE 4

1. Air-cooled condenser units should be located in a noise-insensitive location. In addition, the location and installation of outdoor air conditioning devices must comply with the sound level limits of Publication NPC-216 and guidelines contained in Environmental Noise Guidelines for Installation of Residential Air Conditioning Devices or such other criteria as specified by the municipality.

2. 'OBC' indicates that construction meeting the minimum non-acoustical requirements of the Ontario Building Code will provide adequate sound insulation. 'Special' indicates that exterior building components such as windows, walls and doors have to be determined by an acoustic consultant when house plans are available and before building permit issuance.

3. Acoustic barriers shall be of solid construction with no cracks, holes or gaps, and have a surface density of no less than 20 kg/sm. Any gaps under the noise barrier that are necessary for drainage purposes must be minimized and localized, and must not deteriorate the acoustical performance. A barrier may consist of a berm, a fence, or both.

4. The following warning clauses must be registered on title and included in the Subdivision Agreement and all Agreements of Purchase and Sale or Lease for those lots and blocks as specified in Table 4:

   TYPE A: *"Purchasers/tenants are advised that sound levels due to increasing road traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."*

   TYPE B: *"Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic may on 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."*

   TYPE C: *"This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."*

   TYPE D: *"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."*

5. Conventional ventilated attic roof construction meeting OBC requirements is satisfactory.

6. All exterior doors must be fully weather-stripped.

REFERENCES

1. Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning (MOE Publication NPC-300, Aug 2013 ver. #22)
2. Environmental Noise Assessment in Land Use Planning (MOE Training Manual, 1987)
3. Road and Rail Noise: Effects on Housing (CMHC, Rev. 1981)
4. ORNAMENT (Ontario Road Noise Analysis Method for Environment and Transportation) (MOE, October 1989)
5. Traffic data (City of Barrie)

FIGURES

Location Plan

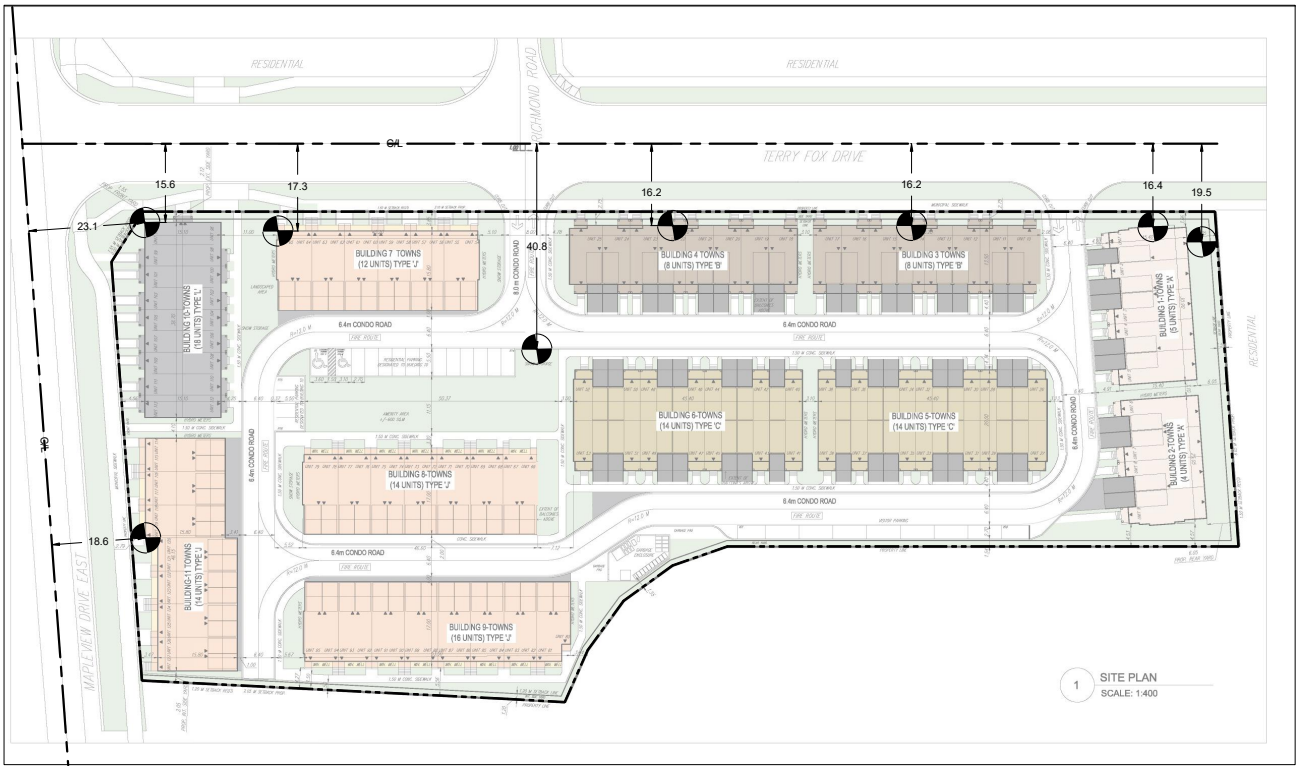
Scale: NTS

FIG. 1

June 9, 2023

R. Bouwmeester & Associates

Base map source: Simcoe County



LEGEND

Receptor Location

Receptor Plan

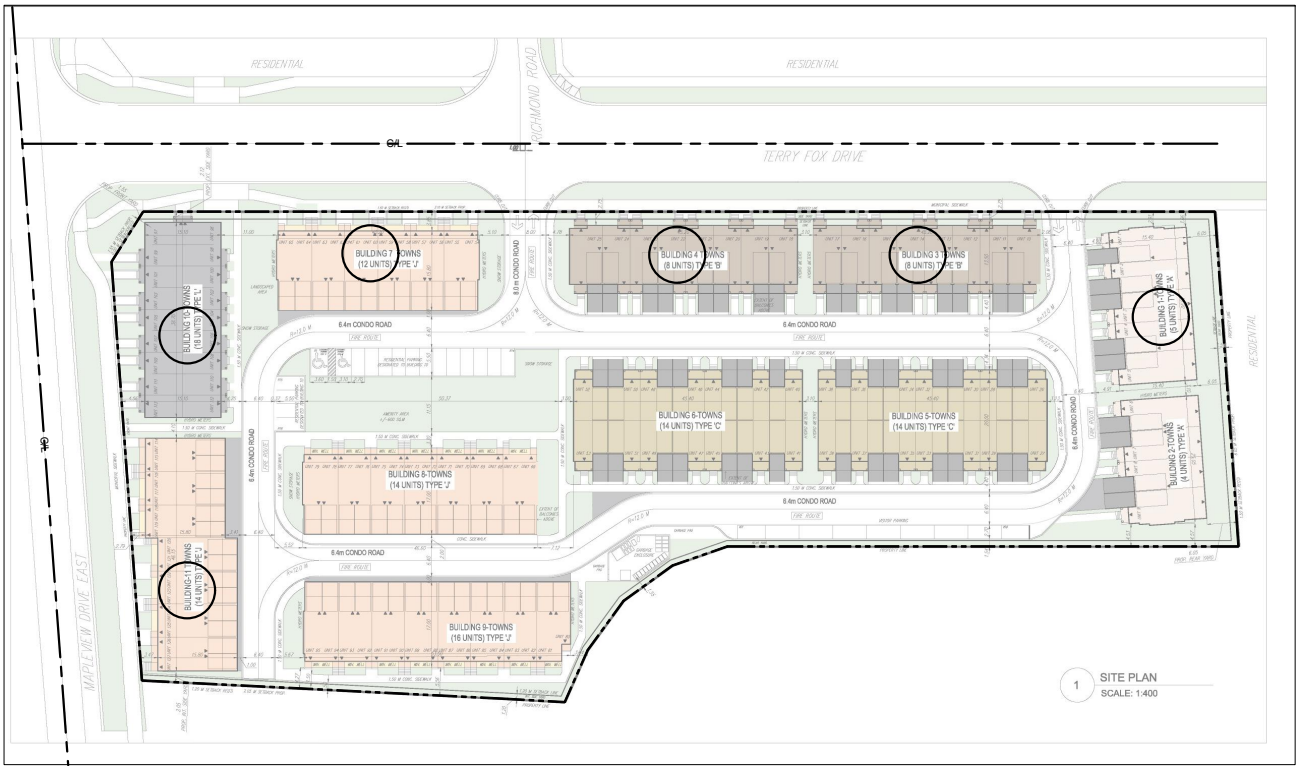
Scale: 1 : 1500

FIG. 2

June 9, 2023

R. Bouwmeester & Associates

Site Plan source: 4 Architecture Inc. (plot date May 4/23)



LEGEND

◯ Dwellings requiring forced air heating + Warning Clauses (See Section 7. Recommendations.)

Noise Control Plan

Scale: 1 : 1500

FIG. 3

June 9, 2023

R. Bouwmeester & Associates

Site Plan source: 4 Architecture Inc. (plot date May 4/23)

APPENDICES

A. Road Traffic Data
B. Sample Sound Level Calculations
C. Site Plan Concept (source: 4Architecture)
D. Architectural Plans (source: 4Architecture)

APPENDIX 'A'

ROAD TRAFFIC DATA

City of Barrie

- Mapleview Drive East:
  - Current (Yr. 2022) ADT is 3,500 with 4% commercial and heavy vehicles.
  - Growth rate 8% compounded annually to a horizon year of 2031; 3% beyond 2031.
  - 60 kph (assumed by Year 2033 – currently partially 60 kph, partially 80 kph).
- Terry Fox Drive:
  - Year 2031 projected 5,500 ADT, Year 2041 projected 7,000 with 3% commercial and heavy vehicles.
  - Growth rate derived to be 2.44% compounded annually.

Ministry of the Environment, Conservation and Parks

The MECP recommended splits for day/night traffic are:

- arterial roads – 90/10

SUMMARY OF DATA USED IN THIS STUDY

For the purpose of this noise assessment, the following Year 2033 data apply:

	Mapleview	**Terry Fox**
Traffic volume (AADT) *	7,423	5,772
Day/night split (%)	90 / 10	90 / 10
Percent trucks M / H **	2.0 / 2.0	1.5 / 1.5
Posted Speed (kph)	60 (future)	50
Number of lanes	4 (future, + centre left turn lane)	4
ROW width (m)	34 (future)	26
Road Grade (%)	<2	<2
Pavement Type	normal asphalt	normal asphalt

* Note: Year 2033 AADT derived as follows:
Mapleview: (3500 x (1.08^9)) x (1.03^2) = 7,425
Terry Fox: 5,500 x 1.0244^2 = 5,772

**Note: assumed split 50/50

Ralph Bouwmeester

Subject: RE: Traffic Data Request - Mapleview east of Prince William
From: Justin MacDonald <Justin.MacDonald@barrie.ca>
Date: 04/21/2023, 10:06 AM
To: Ralph Bouwmeester <rbouwmeester@rogers.com>

Good morning Ralph,

I do not have detailed counts for Terry Fox; but the forecasted traffic it is anticipated to be 5,500 vpd by 2031 and 7,000 vpd by 2041. I would assume a 3% commercial and heavy given the roadway is classified as a major collector.

Hopefully this is sufficient and if you require further information, please let me know.

Justin MacDonald, C.E.T., PTP
Project Delivery – Transportation Planning, Development Services
The City of Barrie
Mobile 705-734-8020
Please consider the environment before printing this email.

From: Ralph Bouwmeester <rbouwmeester@rogers.com>
Sent: Thursday, April 20, 2023 3:08 PM
To: Justin MacDonald <Justin.MacDonald@barrie.ca>
Subject: Re: Traffic Data Request - Mapleview east of Prince William

Hi Justin -

Hope you're doing well. In addition to the info you provided below, kindly send me the data for Terry Fox Drive north of Mapleview. Thank you.

Regards -
Ralph

Ralph Bouwmeester, P. Eng.
rbouwmeester@rogers.com

R. BOUWMEESTER & ASSOCIATES
Land Development Engineering
Barrie, ON Canada
tel/fax 705-726-3392

On 12/15/2022 1:16 PM, Justin MacDonald wrote:

> Sorry it applies to 2022.
>
> Justin MacDonald, C.E.T., PTP
> Project Delivery – Transportation Planning, Development Services
> The City of Barrie
> Mobile 705-734-8020
> Please consider the environment before printing this email.
>
> ---
>
> **From:** Ralph Bouwmeester <rbouwmeester@rogers.com>
> **Sent:** Thursday, December 15, 2022 12:17 PM
> **To:** Justin MacDonald <Justin.MacDonald@barrie.ca>
> **Subject:** Re: Traffic Data Request - Mapleview east of Prince William
>
> Hi Justin -

Thank you kindly. Just to clarify, what year does 'current' apply to?

Regards -
Ralph

Ralph Bouwmeester, P. Eng.
rbouwmeester@rogers.com

R. BOUWMEESTER & ASSOCIATES
Land Development Engineering
Barrie, ON Canada
tel/fax 705-726-3392

On 12/15/2022 10:16 AM, Justin MacDonald wrote:

> Good morning Ralph,
>
> As per your request, please see the updated numbers for MVD – East of Prince William Way
> Current ADT – 3,500
> Growth Rate – 8% per year to a horizon year of 2031; and 3% per year post 2031.
> Heavy Vehicle – 4%
> Posted Speed – 60km/h
> Cross Section – future 5 lanes
>
> Thanks.
>
> Justin MacDonald, C.E.T., PTP
> Project Delivery – Transportation Planning, Development Services
> The City of Barrie
> Mobile 705-734-8020
> Please consider the environment before printing this email.
>
> ---
>
> **From:** Ralph Bouwmeester <rbouwmeester@rogers.com>
> **Sent:** Wednesday, December 7, 2022 4:22 PM
> **To:** Justin MacDonald <Justin.MacDonald@barrie.ca>
> **Subject:** Traffic Data Request - Mapleview east of Prince William
>
> Hi Justin -
>
> Hope you are doing well. Could you please review the attached projections you provided in 2016 in connection with the LM Barrie Subdivision and let me know if they are still valid. I am currently working on noise reports for two site plans which are Blocks 536 and 537 in the subdivision.
>
> The relevant portion of the attached email is highlighted for your convenience.
>
> Thank you.
>
> --
> Regards -
> Ralph
>
> Ralph Bouwmeester, P. Eng.
> rbouwmeester@rogers.com
>
> **R. BOUWMEESTER & ASSOCIATES**
> **Land Development Engineering**
> Barrie, ON Canada
> tel/fax 705-726-3392
> ---

APPENDIX 'B'

SAMPLE SOUND LEVEL CALCULATIONS

```
STAMSON 5.0        NORMAL REPORT        Date: 30-05-2023 13:39:03
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 2220b1o.te           Time Period: 16 hours
Description: Bldg 1 OLA


Road data, segment # 1: Terry Fox
----------------------------------
Car traffic volume  :  5039 veh/TimePeriod  *
Medium truck volume :    78 veh/TimePeriod  *
Heavy truck volume  :    78 veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1: Terry Fox
-------------------------------
Angle1   Angle2           : -90.00 deg   -48.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1
House density             :     95 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  19.50 m
Receiver height           :   1.50 m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: Terry Fox
----------------------------------
Car traffic volume  :  5039 veh/TimePeriod  *
Medium truck volume :    78 veh/TimePeriod  *
Heavy truck volume  :    78 veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 2: Terry Fox
-------------------------------
Angle1   Angle2           : -48.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  19.50 m
Receiver height           :   1.50 m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

Results segment # 1: Terry Fox

Source height = 1.11 m

ROAD (0.00 + 38.98 + 0.00) = 38.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-48	0.66	60.50	0.00	-1.89	-9.53	0.00	-10.10	0.00	38.98

Segment Leq : 38.98 dBA

Results segment # 2: Terry Fox

Source height = 1.11 m

ROAD (0.00 + 56.42 + 0.00) = 56.42 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-48	90	0.66	60.50	0.00	-1.89	-2.19	0.00	0.00	0.00	56.42

Segment Leq : 56.42 dBA

Total Leq All Segments: 56.50 dBA

TOTAL Leq FROM ALL SOURCES: 56.50

STAMSON 5.0 NORMAL REPORT Date: 30-05-2023 13:40:08
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 2220b1w.te Time Period: Day/Night 16/8 hours
Description: Bldg 1 day/night at 3rd floor

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

Car traffic volume : 6414/713 veh/TimePeriod *
Medium truck volume : 134/15 veh/TimePeriod *
Heavy truck volume : 134/15 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 6997
Percentage of Annual Growth : 3.00
Number of Years of Growth : 2.00
Medium Truck % of Total Volume : 2.00
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

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

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 222.00 / 222.00 m
Receiver height : 8.20 / 8.20 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Car traffic volume : 5039/560 veh/TimePeriod *
Medium truck volume : 78/9 veh/TimePeriod *
Heavy truck volume : 78/9 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 5500
Percentage of Annual Growth : 2.44
Number of Years of Growth : 2.00
Medium Truck % of Total Volume : 1.50
Heavy Truck % of Total Volume : 1.50
Day (16 hrs) % of Total Volume : 90.00

```
Data for Segment # 2: Terry Fox (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  16.40 / 16.40  m
Receiver height           :   8.20 / 8.20   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

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

Source height = 1.19 m

ROAD (0.00 + 49.27 + 0.00) = 49.27 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  63.99   0.00 -11.70  -3.01   0.00   0.00   0.00  49.27
-------------------------------------------------------------------------------

Segment Leq : 49.27 dBA

Results segment # 2: Terry Fox (day)
-----------------------------------

Source height = 1.11 m

ROAD (0.00 + 60.11 + 0.00) = 60.11 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  60.50   0.00  -0.39   0.00   0.00   0.00   0.00  60.11
-------------------------------------------------------------------------------

Segment Leq : 60.11 dBA

Total Leq All Segments: 60.45 dBA

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

Source height = 1.19 m

ROAD (0.00 + 42.76 + 0.00) = 42.76 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  57.47   0.00 -11.70  -3.01   0.00   0.00   0.00  42.76
-------------------------------------------------------------------------------

Segment Leq : 42.76 dBA
```

Results segment # 2: Terry Fox (night)

Source height = 1.12 m

ROAD (0.00 + 53.67 + 0.00) = 53.67 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	54.06	0.00	-0.39	0.00	0.00	0.00	0.00	53.67

Segment Leq : 53.67 dBA

Total Leq All Segments: 54.01 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.45
(NIGHT): 54.01

STAMSON 5.0 NORMAL REPORT Date: 30-05-2023 13:40:28
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 2220b3w.te Time Period: Day/Night 16/8 hours
Description: Bldg 3 day/night at 3rd floor

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

Car traffic volume	: 6414/713	veh/TimePeriod *
Medium truck volume	: 134/15	veh/TimePeriod *
Heavy truck volume	: 134/15	veh/TimePeriod *
Posted speed limit	: 60 km/h	
Road gradient	: 0 %	
Road pavement	: 1 (Typical asphalt or concrete)	

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

24 hr Traffic Volume (AADT or SADT)	:	6997
Percentage of Annual Growth	:	3.00
Number of Years of Growth	:	2.00
Medium Truck % of Total Volume	:	2.00
Heavy Truck % of Total Volume	:	2.00
Day (16 hrs) % of Total Volume	:	90.00

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

Angle1 Angle2	: 0.00 deg	90.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 0 / 0	
Surface	: 2	(Reflective ground surface)
Receiver source distance	: 175.00 / 175.00 m	
Receiver height	: 8.20 / 8.20 m	
Topography	: 1	(Flat/gentle slope; no barrier)
Reference angle	: 0.00	

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

Car traffic volume	: 5039/560	veh/TimePeriod *
Medium truck volume	: 78/9	veh/TimePeriod *
Heavy truck volume	: 78/9	veh/TimePeriod *
Posted speed limit	: 50 km/h	
Road gradient	: 0 %	
Road pavement	: 1 (Typical asphalt or concrete)	

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

24 hr Traffic Volume (AADT or SADT)	:	5500
Percentage of Annual Growth	:	2.44
Number of Years of Growth	:	2.00
Medium Truck % of Total Volume	:	1.50
Heavy Truck % of Total Volume	:	1.50
Day (16 hrs) % of Total Volume	:	90.00

```
Data for Segment # 2: Terry Fox (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  16.20 / 16.20  m
Receiver height           :   8.20 / 8.20   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

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

Source height = 1.19 m

ROAD (0.00 + 50.31 + 0.00) = 50.31 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  63.99   0.00 -10.67  -3.01   0.00   0.00   0.00  50.31
-------------------------------------------------------------------------------

Segment Leq : 50.31 dBA

Results segment # 2: Terry Fox (day)
-----------------------------------

Source height = 1.11 m

ROAD (0.00 + 60.17 + 0.00) = 60.17 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  60.50   0.00  -0.33   0.00   0.00   0.00   0.00  60.17
-------------------------------------------------------------------------------

Segment Leq : 60.17 dBA

Total Leq All Segments: 60.60 dBA

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

Source height = 1.19 m

ROAD (0.00 + 43.79 + 0.00) = 43.79 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  57.47   0.00 -10.67  -3.01   0.00   0.00   0.00  43.79
-------------------------------------------------------------------------------

Segment Leq : 43.79 dBA

Results segment # 2: Terry Fox (night)
-------------------------------------
```

Source height = 1.12 m

ROAD (0.00 + 53.72 + 0.00) = 53.72 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	54.06	0.00	-0.33	0.00	0.00	0.00	0.00	53.72

Segment Leq : 53.72 dBA

Total Leq All Segments: 54.14 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.60
(NIGHT): 54.14

STAMSON 5.0 NORMAL REPORT Date: 30-05-2023 13:40:51
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 2220b4w.te Time Period: Day/Night 16/8 hours
Description: Bldg 4 day/night at 3rd floor

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

Car traffic volume	6414/713	veh/TimePeriod *
Medium truck volume	134/15	veh/TimePeriod *
Heavy truck volume	134/15	veh/TimePeriod *
Posted speed limit	60 km/h	
Road gradient	0 %	
Road pavement	1 (Typical asphalt or concrete)	

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

24 hr Traffic Volume (AADT or SADT)	6997
Percentage of Annual Growth	3.00
Number of Years of Growth	2.00
Medium Truck % of Total Volume	2.00
Heavy Truck % of Total Volume	2.00
Day (16 hrs) % of Total Volume	90.00

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

Angle1 Angle2	0.00 deg	90.00 deg
Wood depth	0	(No woods.)
No of house rows	0 / 0	
Surface	2	(Reflective ground surface)
Receiver source distance	127.00 / 127.00 m	
Receiver height	8.20 / 8.20 m	
Topography	1	(Flat/gentle slope; no barrier)
Reference angle	0.00	

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

Car traffic volume	5039/560	veh/TimePeriod *
Medium truck volume	78/9	veh/TimePeriod *
Heavy truck volume	78/9	veh/TimePeriod *
Posted speed limit	50 km/h	
Road gradient	0 %	
Road pavement	1 (Typical asphalt or concrete)	

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

24 hr Traffic Volume (AADT or SADT)	5500
Percentage of Annual Growth	2.44
Number of Years of Growth	2.00
Medium Truck % of Total Volume	1.50
Heavy Truck % of Total Volume	1.50
Day (16 hrs) % of Total Volume	90.00

```
Data for Segment # 2: Terry Fox (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  16.20 / 16.20  m
Receiver height           :   8.20 / 8.20   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

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

Source height = 1.19 m

ROAD (0.00 + 51.70 + 0.00) = 51.70 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  63.99   0.00  -9.28  -3.01   0.00   0.00   0.00  51.70
-------------------------------------------------------------------------------

Segment Leq : 51.70 dBA

Results segment # 2: Terry Fox (day)
-----------------------------------

Source height = 1.11 m

ROAD (0.00 + 60.17 + 0.00) = 60.17 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  60.50   0.00  -0.33   0.00   0.00   0.00   0.00  60.17
-------------------------------------------------------------------------------

Segment Leq : 60.17 dBA

Total Leq All Segments: 60.75 dBA

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

Source height = 1.19 m

ROAD (0.00 + 45.19 + 0.00) = 45.19 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  57.47   0.00  -9.28  -3.01   0.00   0.00   0.00  45.19
-------------------------------------------------------------------------------

Segment Leq : 45.19 dBA

Results segment # 2: Terry Fox (night)
-------------------------------------
```

Source height = 1.12 m

ROAD (0.00 + 53.72 + 0.00) = 53.72 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	54.06	0.00	-0.33	0.00	0.00	0.00	0.00	53.72

Segment Leq : 53.72 dBA

Total Leq All Segments: 54.29 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.75
(NIGHT): 54.29

STAMSON 5.0 NORMAL REPORT Date: 30-05-2023 13:41:24
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 2220b7w.te Time Period: Day/Night 16/8 hours
Description: Bldg 7 day/night at 3rd floor

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

Car traffic volume	:	6414/713 veh/TimePeriod	*
Medium truck volume	:	134/15 veh/TimePeriod	*
Heavy truck volume	:	134/15 veh/TimePeriod	*
Posted speed limit	:	60 km/h	
Road gradient	:	0 %	
Road pavement	:	1 (Typical asphalt or concrete)	

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

24 hr Traffic Volume (AADT or SADT)	:	6997
Percentage of Annual Growth	:	3.00
Number of Years of Growth	:	2.00
Medium Truck % of Total Volume	:	2.00
Heavy Truck % of Total Volume	:	2.00
Day (16 hrs) % of Total Volume	:	90.00

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

Angle1 Angle2	:	0.00 deg	90.00 deg
Wood depth	:	0	(No woods.)
No of house rows	:	0 / 0	
Surface	:	2	(Reflective ground surface)
Receiver source distance	:	49.00 / 49.00	m
Receiver height	:	8.00 / 8.00	m
Topography	:	1	(Flat/gentle slope; no barrier)
Reference angle	:	0.00	

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

Car traffic volume	:	5039/560 veh/TimePeriod	*
Medium truck volume	:	78/9 veh/TimePeriod	*
Heavy truck volume	:	78/9 veh/TimePeriod	*
Posted speed limit	:	50 km/h	
Road gradient	:	0 %	
Road pavement	:	1 (Typical asphalt or concrete)	

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

24 hr Traffic Volume (AADT or SADT)	:	5500
Percentage of Annual Growth	:	2.44
Number of Years of Growth	:	2.00
Medium Truck % of Total Volume	:	1.50
Heavy Truck % of Total Volume	:	1.50
Day (16 hrs) % of Total Volume	:	90.00

```
Data for Segment # 2: Terry Fox (day/night)
-----------------------------------------
Angle1   Angle2           : -71.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  17.30 / 17.30  m
Receiver height           :   8.00 / 8.00   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

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

Source height = 1.19 m

ROAD (0.00 + 55.83 + 0.00) = 55.83 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  63.99   0.00  -5.14  -3.01   0.00   0.00   0.00  55.83
-------------------------------------------------------------------------------

Segment Leq : 55.83 dBA

Results segment # 2: Terry Fox (day)
-----------------------------------

Source height = 1.11 m

ROAD (0.00 + 59.40 + 0.00) = 59.40 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -71     90   0.00  60.50   0.00  -0.62  -0.48   0.00   0.00   0.00  59.40
-------------------------------------------------------------------------------

Segment Leq : 59.40 dBA

Total Leq All Segments: 60.98 dBA

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

Source height = 1.19 m

ROAD (0.00 + 49.32 + 0.00) = 49.32 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  57.47   0.00  -5.14  -3.01   0.00   0.00   0.00  49.32
-------------------------------------------------------------------------------

Segment Leq : 49.32 dBA

Results segment # 2: Terry Fox (night)
-------------------------------------
```

Source height = 1.12 m

ROAD (0.00 + 52.95 + 0.00) = 52.95 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-71	90	0.00	54.06	0.00	-0.62	-0.48	0.00	0.00	0.00	52.95

Segment Leq : 52.95 dBA

Total Leq All Segments: 54.51 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.98
(NIGHT): 54.51

STAMSON 5.0 NORMAL REPORT Date: 30-05-2023 13:42:02
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 2220b10w.te Time Period: Day/Night 16/8 hours
Description: Bldg 10 day/night at 3rd floor

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

Car traffic volume	:	6414/713 veh/TimePeriod	*
Medium truck volume	:	134/15 veh/TimePeriod	*
Heavy truck volume	:	134/15 veh/TimePeriod	*
Posted speed limit	:	60 km/h	
Road gradient	:	0 %	
Road pavement	:	1 (Typical asphalt or concrete)	

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

24 hr Traffic Volume (AADT or SADT)	:	6997
Percentage of Annual Growth	:	3.00
Number of Years of Growth	:	2.00
Medium Truck % of Total Volume	:	2.00
Heavy Truck % of Total Volume	:	2.00
Day (16 hrs) % of Total Volume	:	90.00

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

Angle1 Angle2	:	-90.00 deg	90.00 deg
Wood depth	:	0	(No woods.)
No of house rows	:	0 / 0	
Surface	:	2	(Reflective ground surface)
Receiver source distance	:	23.10 / 23.10	m
Receiver height	:	7.80 / 7.80	m
Topography	:	1	(Flat/gentle slope; no barrier)
Reference angle	:	0.00	

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

Car traffic volume	:	5039/560 veh/TimePeriod	*
Medium truck volume	:	78/9 veh/TimePeriod	*
Heavy truck volume	:	78/9 veh/TimePeriod	*
Posted speed limit	:	50 km/h	
Road gradient	:	0 %	
Road pavement	:	1 (Typical asphalt or concrete)	

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

24 hr Traffic Volume (AADT or SADT)	:	5500
Percentage of Annual Growth	:	2.44
Number of Years of Growth	:	2.00
Medium Truck % of Total Volume	:	1.50
Heavy Truck % of Total Volume	:	1.50
Day (16 hrs) % of Total Volume	:	90.00

```
Data for Segment # 2: Terry Fox (day/night)
------------------------------------------
Angle1   Angle2           : -35.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  15.60 / 15.60  m
Receiver height           :   7.80 / 7.80   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

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

Source height = 1.19 m

ROAD (0.00 + 62.11 + 0.00) = 62.11 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  63.99   0.00  -1.88   0.00   0.00   0.00   0.00  62.11
-------------------------------------------------------------------------------

Segment Leq : 62.11 dBA

Results segment # 2: Terry Fox (day)
-----------------------------------

Source height = 1.11 m

ROAD (0.00 + 58.75 + 0.00) = 58.75 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -35     90   0.00  60.50   0.00  -0.17  -1.58   0.00   0.00   0.00  58.75
-------------------------------------------------------------------------------

Segment Leq : 58.75 dBA

Total Leq All Segments: 63.76 dBA

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

Source height = 1.19 m

ROAD (0.00 + 55.60 + 0.00) = 55.60 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  57.47   0.00  -1.88   0.00   0.00   0.00   0.00  55.60
-------------------------------------------------------------------------------

Segment Leq : 55.60 dBA

Results segment # 2: Terry Fox (night)
-------------------------------------
```

Source height = 1.12 m

ROAD (0.00 + 52.30 + 0.00) = 52.30 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-35	90	0.00	54.06	0.00	-0.17	-1.58	0.00	0.00	0.00	52.30

Segment Leq : 52.30 dBA

Total Leq All Segments: 57.27 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 63.76
(NIGHT): 57.27

STAMSON 5.0 NORMAL REPORT Date: 30-05-2023 13:42:28
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 2220b11w.te Time Period: Day/Night 16/8 hours
Description: Bldg 11 day/night at 3rd floor

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

Car traffic volume : 6414/713 veh/TimePeriod *
Medium truck volume : 134/15 veh/TimePeriod *
Heavy truck volume : 134/15 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 6997
Percentage of Annual Growth : 3.00
Number of Years of Growth : 2.00
Medium Truck % of Total Volume : 2.00
Heavy Truck % of Total Volume : 2.00
Day (16 hrs) % of Total Volume : 90.00

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

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 18.60 / 18.60 m
Receiver height : 8.00 / 8.00 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Car traffic volume : 5039/560 veh/TimePeriod *
Medium truck volume : 78/9 veh/TimePeriod *
Heavy truck volume : 78/9 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 5500
Percentage of Annual Growth : 2.44
Number of Years of Growth : 2.00
Medium Truck % of Total Volume : 1.50
Heavy Truck % of Total Volume : 1.50
Day (16 hrs) % of Total Volume : 90.00

```
Data for Segment # 2: Terry Fox (day/night)
------------------------------------------
Angle1   Angle2           :   0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  78.00 / 78.00  m
Receiver height           :   8.00 / 8.00   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

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

Source height = 1.19 m

ROAD (0.00 + 63.05 + 0.00) = 63.05 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  63.99   0.00  -0.93   0.00   0.00   0.00   0.00  63.05
-------------------------------------------------------------------------------

Segment Leq : 63.05 dBA

Results segment # 2: Terry Fox (day)
-----------------------------------

Source height = 1.11 m

ROAD (0.00 + 50.33 + 0.00) = 50.33 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  60.50   0.00  -7.16  -3.01   0.00   0.00   0.00  50.33
-------------------------------------------------------------------------------

Segment Leq : 50.33 dBA

Total Leq All Segments: 63.28 dBA

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

Source height = 1.19 m

ROAD (0.00 + 56.54 + 0.00) = 56.54 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  57.47   0.00  -0.93   0.00   0.00   0.00   0.00  56.54
-------------------------------------------------------------------------------

Segment Leq : 56.54 dBA

Results segment # 2: Terry Fox (night)
-------------------------------------
```

Source height = 1.12 m

ROAD (0.00 + 43.89 + 0.00) = 43.89 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	54.06	0.00	-7.16	-3.01	0.00	0.00	0.00	43.89

Segment Leq : 43.89 dBA

Total Leq All Segments: 56.77 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 63.28
(NIGHT): 56.77

STAMSON 5.0 NORMAL REPORT Date: 30-05-2023 13:43:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 2220amen.te Time Period: 16 hours
Description: Central Amenity Area

Road data, segment # 1: Mapleview

Car traffic volume : 6414 veh/TimePeriod *
Medium truck volume : 134 veh/TimePeriod *
Heavy truck volume : 134 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Mapleview

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1
House density : 95 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 99.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Terry Fox

Car traffic volume : 5039 veh/TimePeriod *
Medium truck volume : 78 veh/TimePeriod *
Heavy truck volume : 78 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Terry Fox

Angle1 Angle2 : -68.00 deg -27.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1
House density : 95 %
Surface : 2 (Reflective ground surface)
Receiver source distance : 40.80 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

```
Road data, segment # 3: Terry Fox
--------------------------------
Car traffic volume  :  5039 veh/TimePeriod  *
Medium truck volume :    78 veh/TimePeriod  *
Heavy truck volume  :    78 veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 3: Terry Fox
------------------------------
Angle1   Angle2           : -27.00 deg   15.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  40.80 m
Receiver height           :   1.50 m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 4: Terry Fox
--------------------------------
Car traffic volume  :  5039 veh/TimePeriod  *
Medium truck volume :    78 veh/TimePeriod  *
Heavy truck volume  :    78 veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 4: Terry Fox
------------------------------
Angle1   Angle2           :  15.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1
House density             :     95 %
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  40.80 m
Receiver height           :   1.50 m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Mapleview
------------------------------

Source height = 1.19 m

ROAD (0.00 + 40.04 + 0.00) = 40.04 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.66  63.99   0.00 -13.60  -1.46   0.00  -8.88   0.00  40.04
-------------------------------------------------------------------------------

Segment Leq : 40.04 dBA
```

Results segment # 2: Terry Fox

Source height = 1.11 m

ROAD (0.00 + 39.88 + 0.00) = 39.88 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	-27	0.00	60.50	0.00	-4.35	-6.42	0.00	-9.85	0.00	39.88

Segment Leq : 39.88 dBA

Results segment # 3: Terry Fox

Source height = 1.11 m

ROAD (0.00 + 49.83 + 0.00) = 49.83 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-27	15	0.00	60.50	0.00	-4.35	-6.32	0.00	0.00	0.00	49.83

Segment Leq : 49.83 dBA

Results segment # 4: Terry Fox

Source height = 1.11 m

ROAD (0.00 + 42.50 + 0.00) = 42.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
15	90	0.00	60.50	0.00	-4.35	-3.80	0.00	-9.85	0.00	42.50

Segment Leq : 42.50 dBA

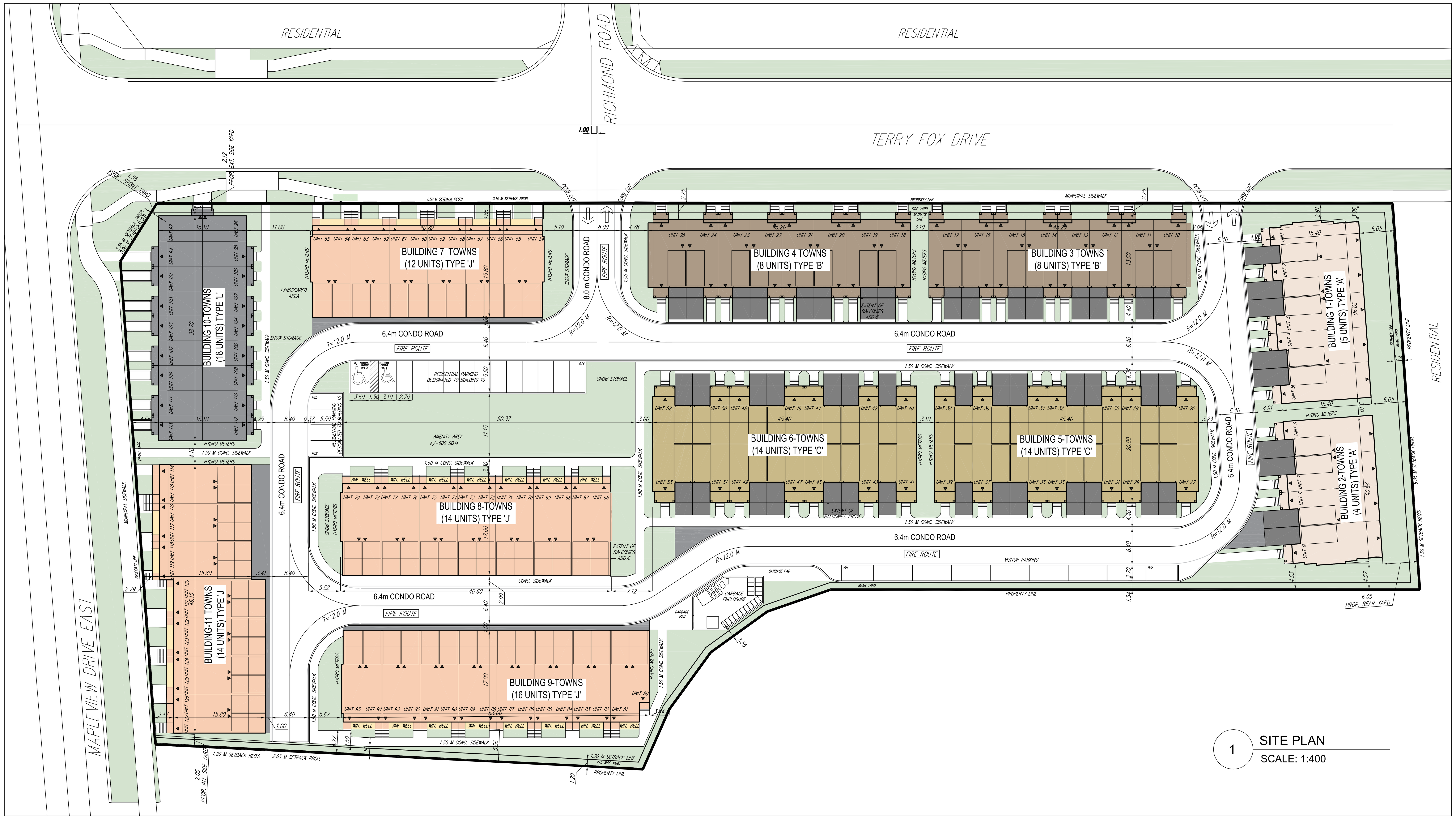
Total Leq All Segments: 51.26 dBA

TOTAL Leq FROM ALL SOURCES: 51.26

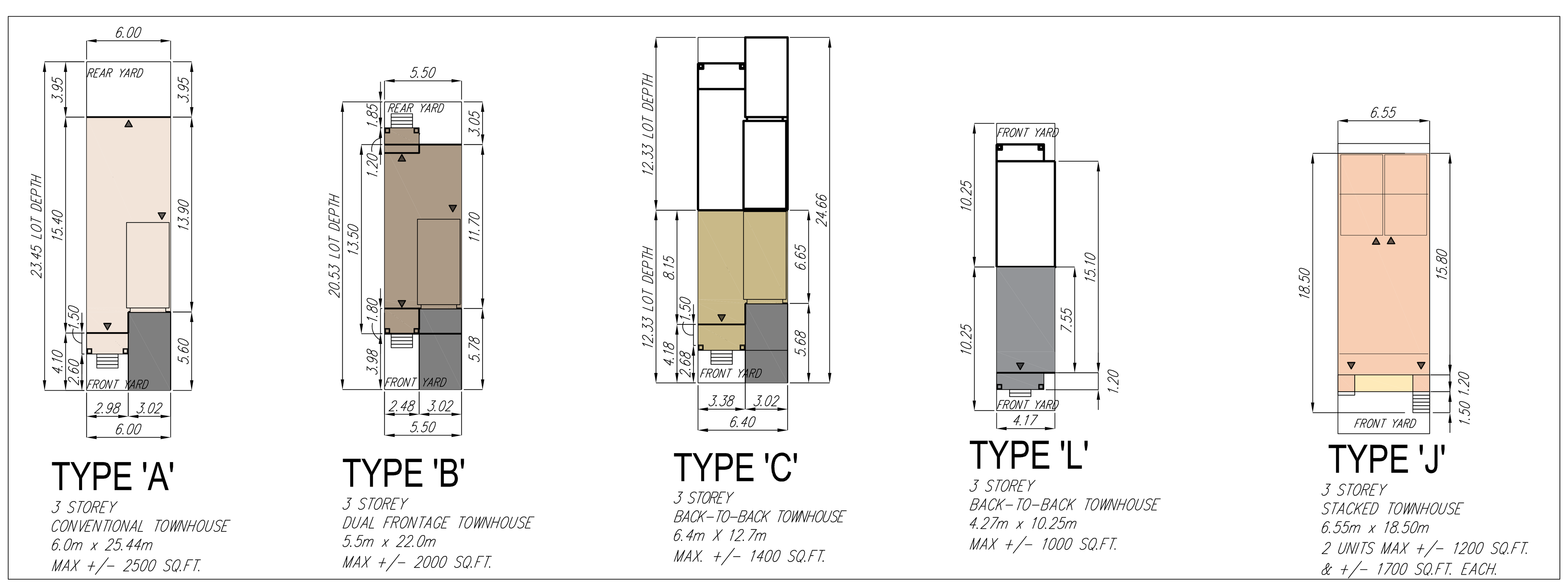
APPENDIX 'C'

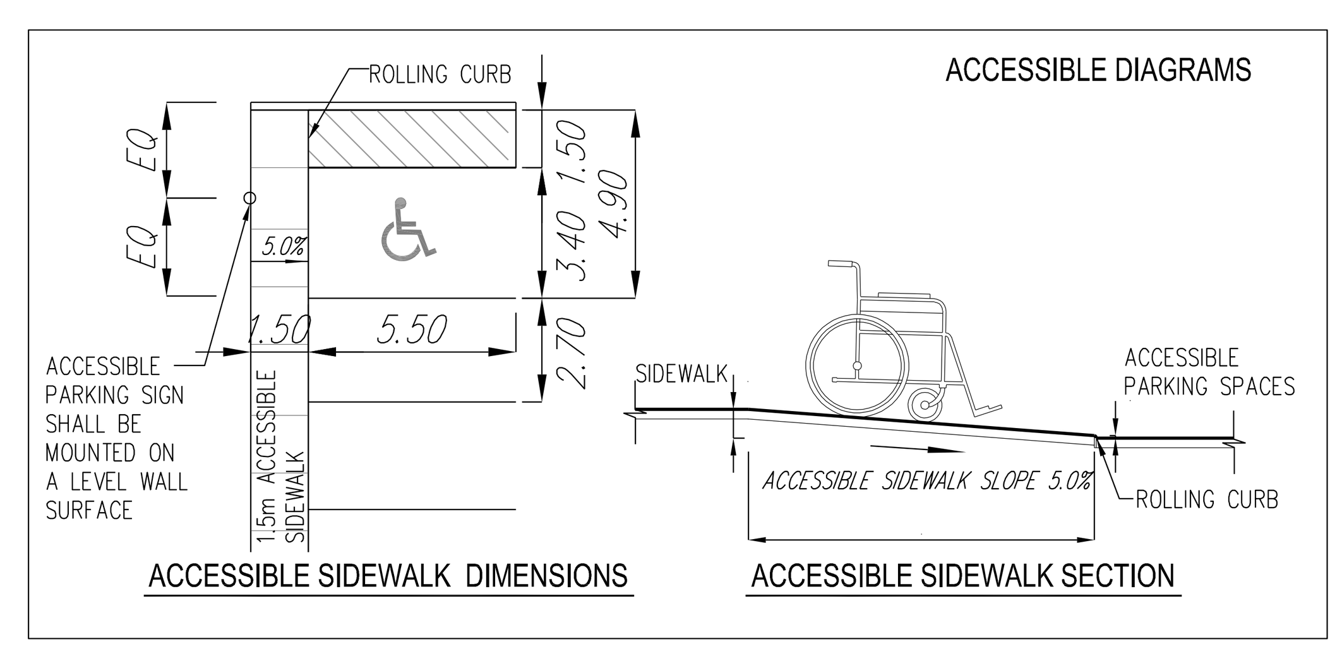
SITE PLAN

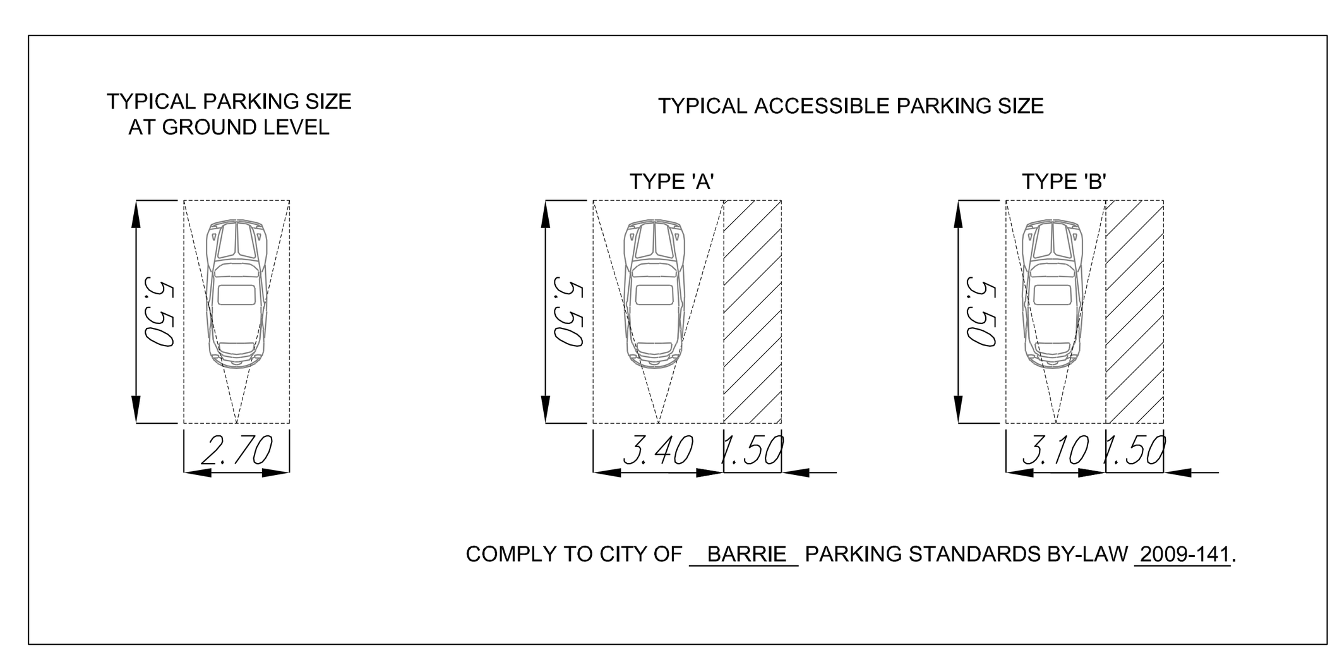
(Source: 4Architecture)

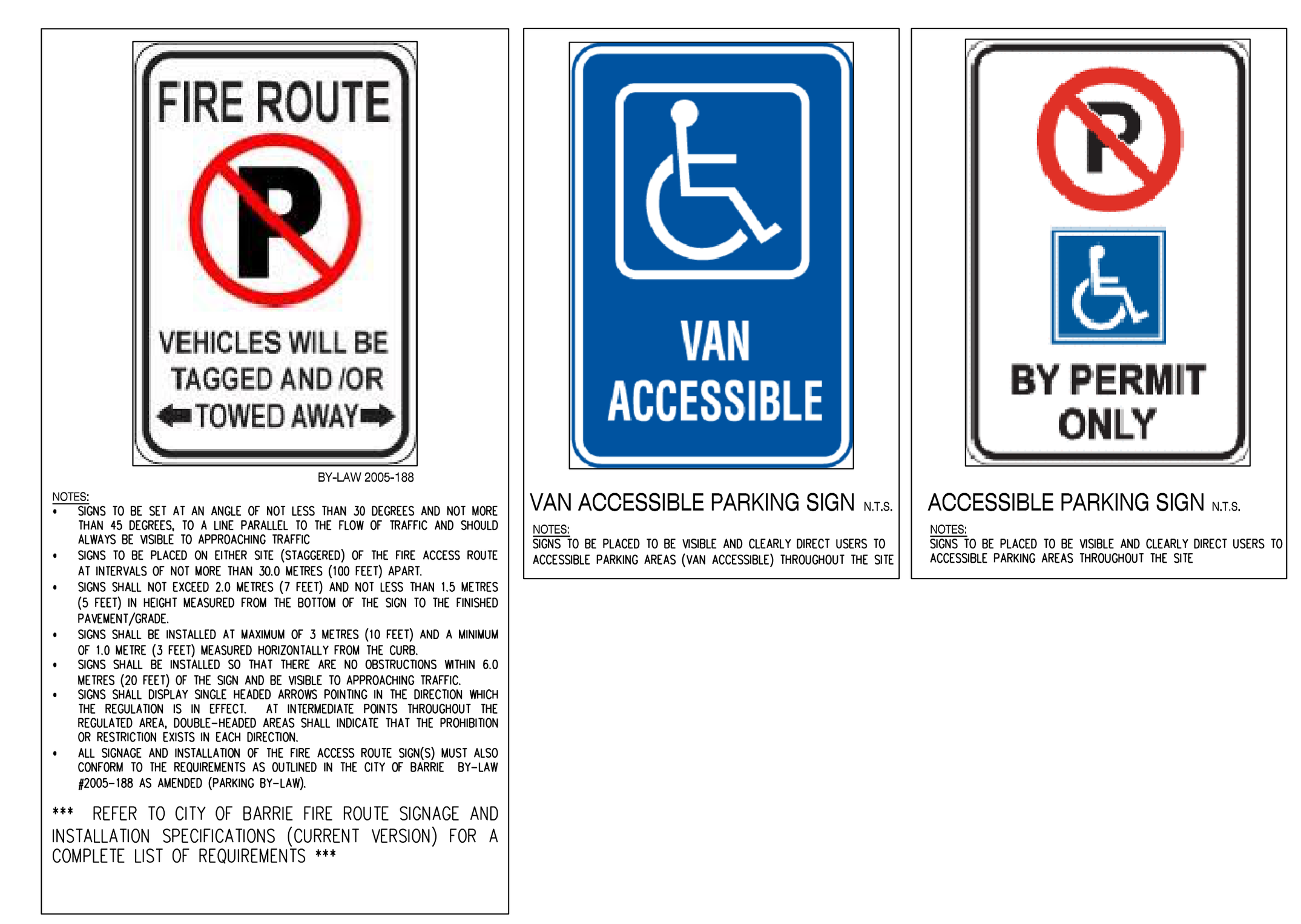


1 SITE PLAN
SCALE: 1:400









SITE STATISTICS

STANDARDS REFLECT PARENT BYLAW REQUIREMENTS UNLESS DENOTED OTHERWISE.
NUMBERS IN SQUARE BRACKETS INDICATES ZONING BYLAW ASSOCIATED WITH SPECIFIED STANDARD.

PARENT BYLAW: 2009-141
SITE SPECIFIC BYLAW:
PROPOSED ZONING DESIGNATION: MIXED USE (SECTION 14 -HEWITT & SALEM LANDS)

1.0 SITE STANDARDS

SITE AREA	17,309 sq.m (4.28 ac) [1.73 ha]		
PROPOSED DENSITY	127 units / 1.73 ha = 73.41 units per hectare (ha)		
PROPOSED FAR	+/-18,374 sq.m. / 17,309 sq.m. = +/-1.06		
GROSS FLOOR AREA (GFA)	PROPOSED		
	BUILDING 1	TYPE A X 5	+/-12,485 sq.ft.
	BUILDING 2	TYPE A X 4	+/-10,020 sq.ft.
	BUILDING 3	TYPE B X 8	+/-16,185 sq.ft.
	BUILDING 4	TYPE B X 8	+/-16,185 sq.ft.
	BUILDING 5	TYPE C X 14	+/-20,490 sq.ft.
	BUILDING 6	TYPE C X 14	+/-20,490 sq.ft.
	BUILDING 7	TYPE J X 6	+/-18,140 sq.ft.
	BUILDING 8	TYPE J X 7	+/-21,140 sq.ft.
	BUILDING 9	TYPE J X 8	+/-23,930 sq.ft.
	BUILDING 10	TYPE L X 18	+/-17,640 sq.ft.
	BUILDING 11	TYPE J X 7	+/-21,075 sq.ft.
	TOTAL	+/-197,780 sq.ft.	+/-18,374 sq.m.

2.0 LOT STANDARDS

ZONING STANDARD	REQUIRED (NUMBERS HAVE BEEN CONVERTED TO METRIC AS REQUIRED)	PROPOSED		
MAXIMUM NUMBER OF DWELLING UNITS		BUILDING 1	5 UNITS	TOTAL
		BUILDING 2	4 UNITS	
		BUILDING 3	8 UNITS	
		BUILDING 4	8 UNITS	
		BUILDING 5	14 UNITS	
		BUILDING 6	14 UNITS	
		BUILDING 7	12 UNITS	
		BUILDING 8	14 UNITS	
		BUILDING 9	14 UNITS	
		BUILDING 10	18 UNITS	
		BUILDING 11	14 UNITS	127 UNITS
LOT FRONTAGE		+/- 93.6 M		
MINIMUM FLOOR AREA				
MAXIMUM BUILDING HEIGHT	12 STOREYS	3 STOREYS		
MAXIMUM COVERAGE	N/A			
SETBACKS – TOWNHOUSES: FRONT YARD	0.00 m	1.55 m		
SETBACKS – TOWNHOUSES: EAST INTERIOR SIDE YARD	1.20 m	2.05 m		
SETBACKS – TOWNHOUSES: WEST EXTERIOR SIDE YARD	1.50 m	2.12 m		
SETBACKS – TOWNHOUSES: REAR YARD	1.50 m	6.05 m		
BUILDING COVERAGE		BUILDING 1	+/- 475 sq.m	TOTAL
		BUILDING 2	+/- 385 sq.m	
		BUILDING 3	+/- 655 sq.m	
		BUILDING 4	+/- 655 sq.m	
		BUILDING 5	+/- 925 sq.m	
		BUILDING 6	+/- 925 sq.m	
		BUILDING 7	+/- 690 sq.m	
		BUILDING 8	+/- 805 sq.m	
		BUILDING 9	+/- 920 sq.m	
		BUILDING 10	+/- 665 sq.m	
		BUILDING 11	+/- 805 sq.m	+/-7,905 sq.m
MINIMUM BUILDING SEPARATION		BLDG. 1 - BLDG. 2	BLDG. 3 - BLDG. 4	
		3.10 m	3.10 m	
MINIMUM LANDSCAPE STRIP @ WEST LOT LINE				
MINIMUM FRONT YARD LANDSCAPING				
MINIMUM LANDSCAPE OPEN SPACE				

3.0 ADDITIONAL PROVISIONS

ZONING STANDARD	COMPLIANCE YES	COMPLIANCE NO

4.0 AMENITY AREAS

AMENITY AREAS (5.4.2.2) RESIDENTIAL USES	REQUIRED 12 SQ.M/ UNIT	PROPOSED	TOTAL
TYPE A = +/- 35 SQ.M PER UNIT		**35 x 9 = +/- 315 SQ.M.**	
TYPE B = +/- 12 SQ.M PER UNIT		**12 x 16 = +/- 192 SQ.M.**	
TYPE C = +/- 12 SQ.M PER UNIT		**12 x 28 = +/- 336 SQ.M.**	
TYPE J TOP+BOTTOM UNIT = +/-31 sq.m		**31 x 28 = +/- 868 SQ.M.**	
TYPE L = +/- 3 SQ.M PER UNIT		**3 x 18 = +/- 54 SQ.M.**	
AMENITY AREA		**+/- 600 SQ.M.**	
	1,524 SQ.M		+/-2,365 SQ.M COMPLIANCE

5.0 VEHICULAR PARKING REQUIREMENT

ZONING STANDARD	REQUIRED	PROPOSED AT GRADE	PROPOSED UNDERGROUND	PROPOSED TOTAL
VEHICULAR PARKING REQUIREMENTS				
RESIDENT PARKING	1 / UNIT 127	127	0	127 RESIDENT
VISITOR PARKING	0 / UNIT 0	9	0	9 VISITOR
				136
MINIMUM PARKING SPACE WIDTH	2.70 m	2.70 m		
MINIMUM PARKING SPACE LENGTH	5.50 m	5.50 m		
ACCESSIBLE PARKING				
MINIMUM NUMBER OF ACCESSIBLE PARKING SPACES	2 SPACES (1 TYPE A+ 1 TYPE B)	2	0	2 ACCESSIBLE
MIN. ACCESSIBLE PARKING	3.40m TYPE A	COMPLIANCE		
MIN. ACCESSIBLE PARKING	3.10m TYPE B	COMPLIANCE		
BICYCLE PARKING REQUIREMENTS				
RESIDENT PARKING RANGE	0 / UNIT 0			

6.0 SNOW STORAGE

AREA OF PARKING LOT	AS SHOWN
AREA OF SNOW STORAGE	AS SHOWN

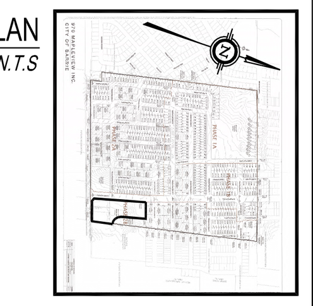
APPLICATION NUMBER:

APPLICATION NUMBER:

OWNER INFORMATION

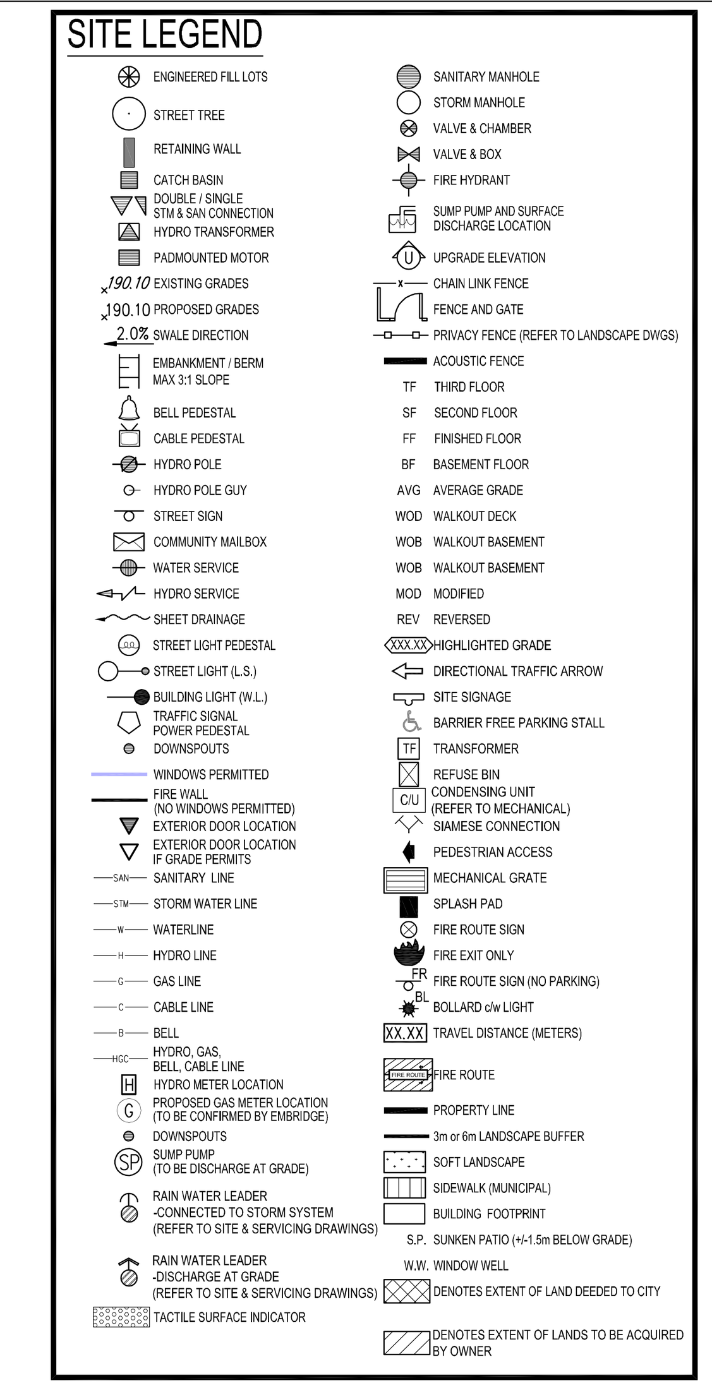
CLIENT NAME
ADDRESS 1
ADDRESS 2

KEY PLAN
N.T.S



LEGAL DESCRIPTION OF PROPERTY:
BLOCK 211 51M-1221-1004 MAPLEVIEW DRIVE.
TOWN OF BARRIE, ONTARIO

SITE LEGEND



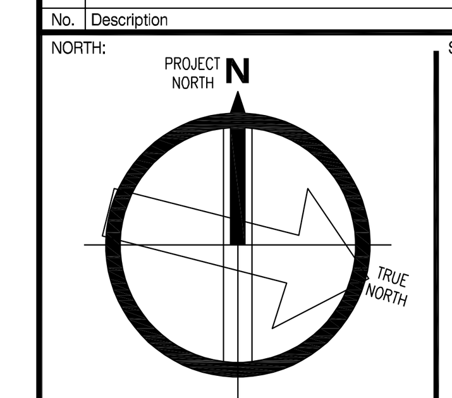
REVISIONS

No.	Description	YYYY.MM.DD	By
1.	REVISED AS PER -	-	-

SUBMITTALS

No.	Description	YYYY.MM.DD	By
1.	ISSUED FOR --	-	-

NORTH: STAMP:



4 ARCHITECTURE INC.
WWW.4ARCHITECTURE.CA
8966 Woodbine Avenue, Suite 300, Markham, ON L3R 0J7
T. (905) 470 7212 // F. (905) 737 7326 email: mail@4architecture.ca

970 MAPLEVIEW INC.
220087

BARRIE, ONTARIO 1004 MAPLEVIEW DRIVE.

SITE PLAN

Scale	Drawn By	Checked By
1:400	DS	SS

File Number
-

A001

SSHABANI \ Thursday, May 04, 2023 3:19 PM \ K:\PROJECTS\2020\220087.FERN\4.0 SITE DRAWINGS\4.5 CURRENT SITE PLAN\220087-EAST-BLOCK 211 51M-1221-1004 MAPLEVIEW DRIVE EAST.DWG

APPENDIX ‘D’

ARCHITECTURAL PLANS

(Source: 4Architecture)

ISSUED FOR –
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-
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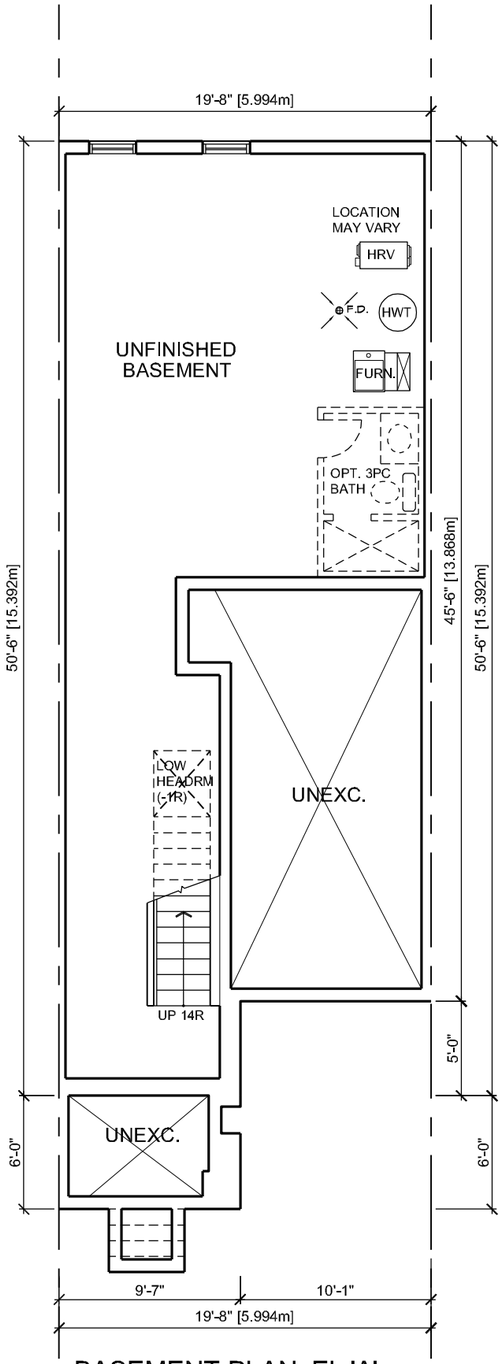
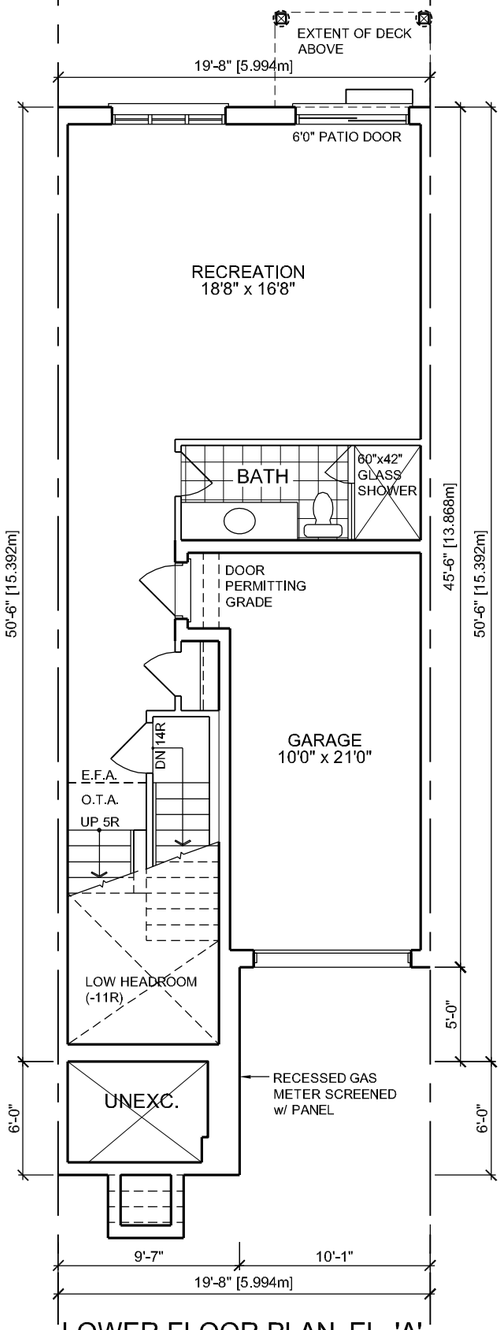
-



BASEMENT PLAN, EL.'A'

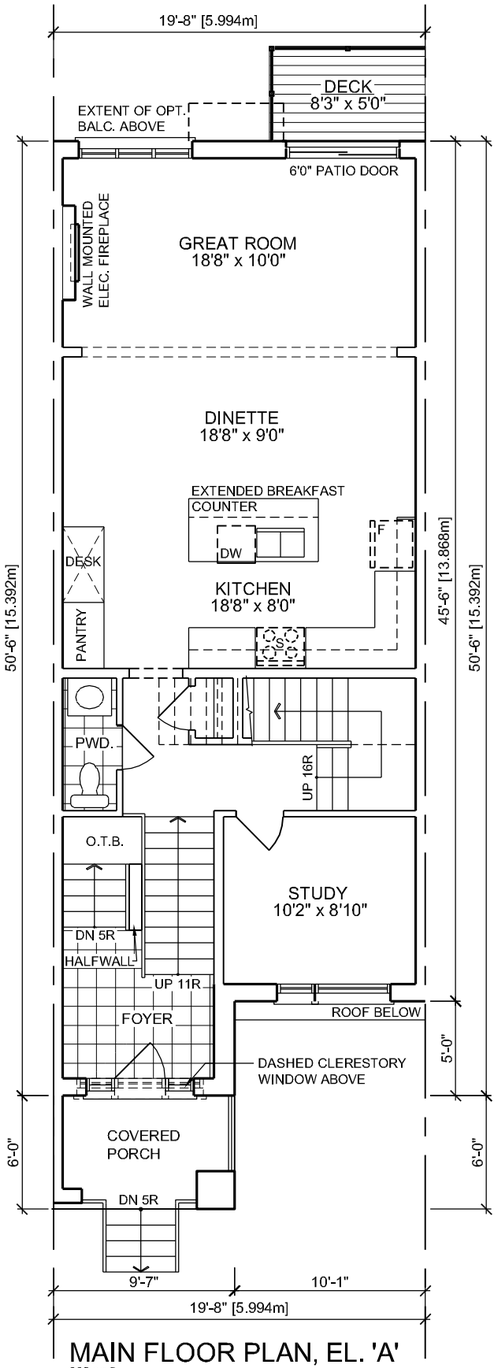
0 S.F.



LOWER FLOOR PLAN, EL. 'A'

564 sq ft

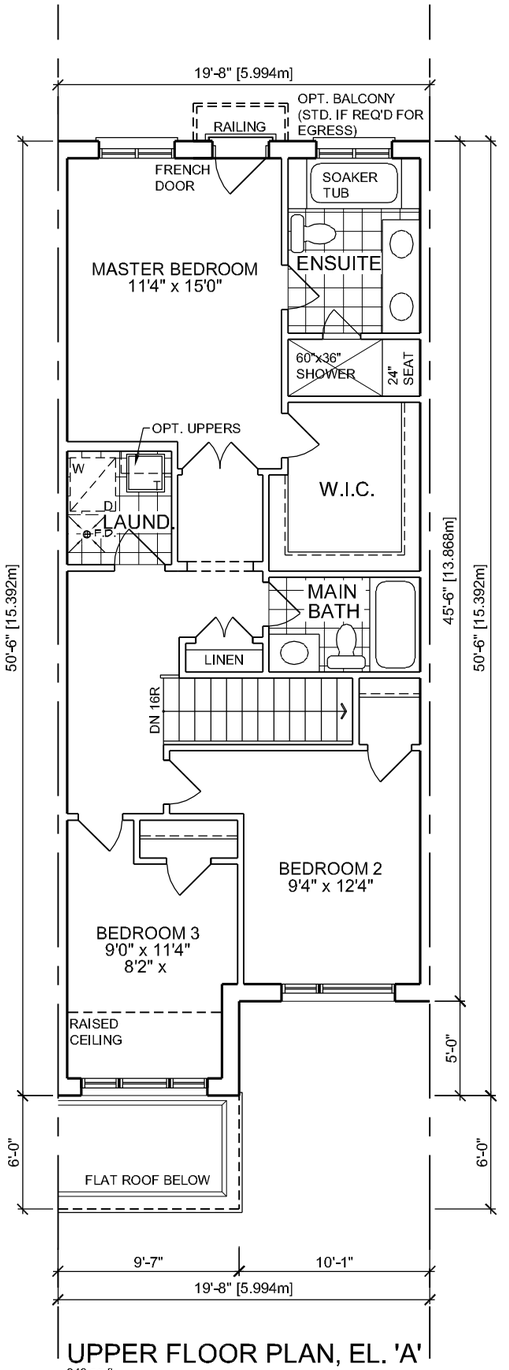
COVERAGE W/O PORCH	804 sq ft
COVERAGE W/ PORCH	875 sq ft



MAIN FLOOR PLAN, EL. 'A'

932 sq ft

GROSS FLOOR AREA	943 sq ft
DEDUCT OPEN AREAS	10 sq ft
NET AREA	932 sq ft



UPPER FLOOR PLAN, EL. 'A'

943 sq ft

GROSS FLOOR AREA	943 sq ft
DEDUCT OPEN AREAS	0 sq ft
NET AREA	943 sq ft

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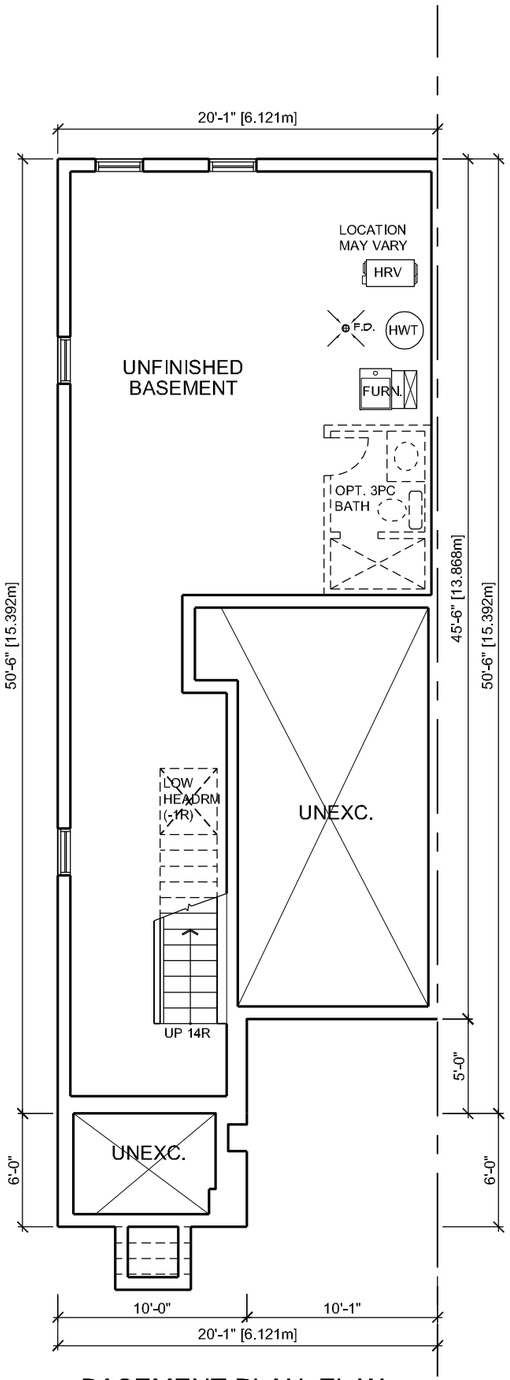
MAPLEVIEW PARK, BARRIE, ON
8966 Woodbine Ave, Suite 300, Markham, ON L3R 0J7 ■ T 905.470.7212 ■ AUGUST 2022 ■ JK ■

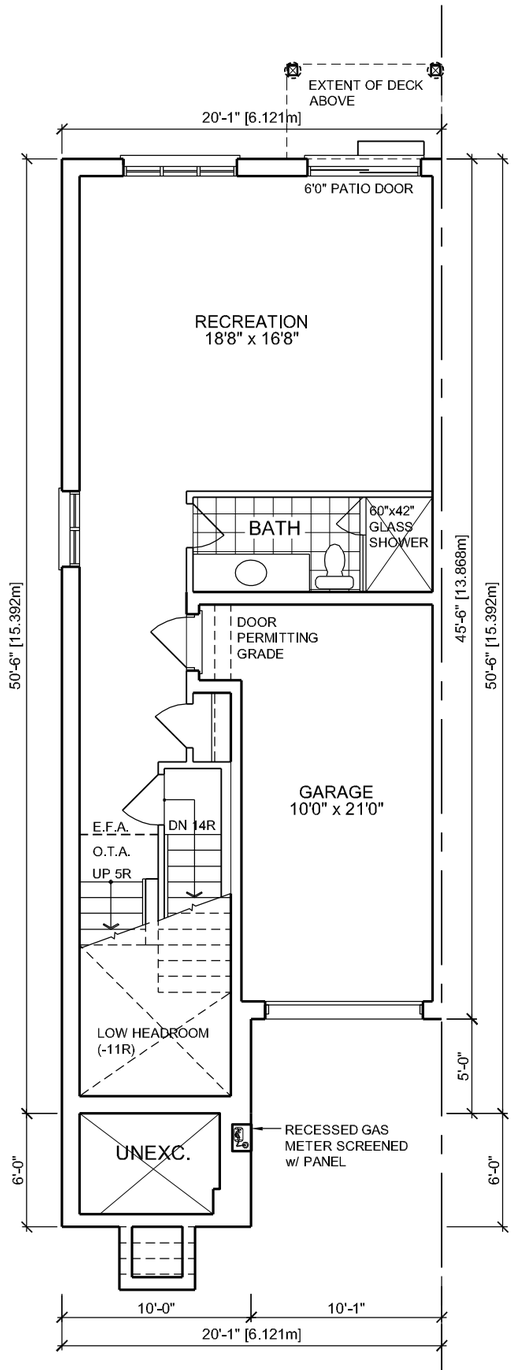
BLOCK 1 - CONVENTIONAL TOWN (TYPE A)
'A' 2439 S.F. // 'B' 2434 S.F. (END COND. 2496 S.F.)
TRADITIONAL TOWNHOUSE

ISSUED FOR –
-
-
-
-
-



BASEMENT PLAN, EL.'A'

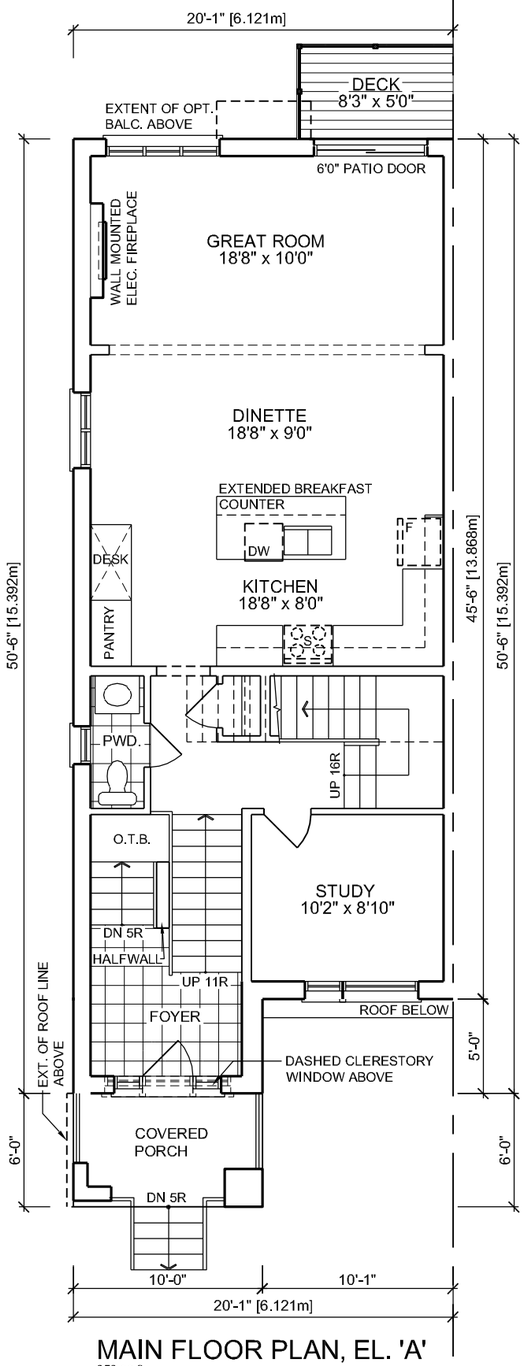
0 S.F.



LOWER FLOOR PLAN, EL. 'A'

579 sq ft

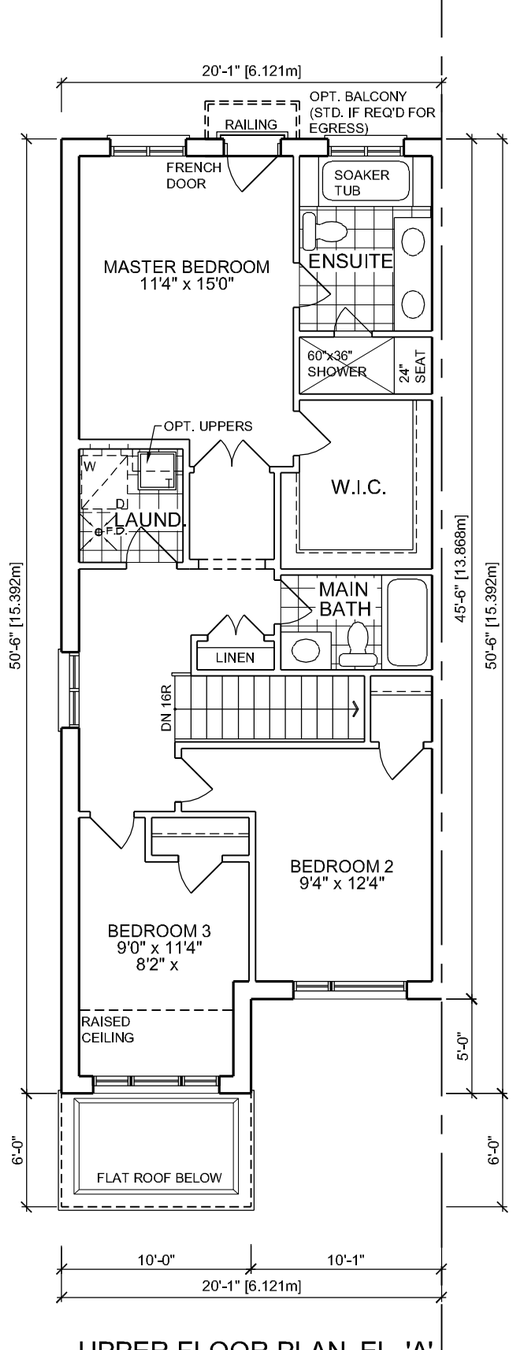
COVERAGE W/O PORCH	820 sq ft
COVERAGE W/ PORCH	894 sq ft



MAIN FLOOR PLAN, EL. 'A'

953 sq ft

GROSS FLOOR AREA	964 sq ft
DEDUCT OPEN AREAS	10 sq ft
NET AREA	953 sq ft



UPPER FLOOR PLAN, EL. 'A'

964 sq ft

GROSS FLOOR AREA	964 sq ft
DEDUCT OPEN AREAS	0 sq ft
NET AREA	964 sq ft

FOR DISCUSSION ONLY

EMPLOYEE | Friday, August 12, 2022 8:32 AM | K:\PROJECTS\2020\220087.FERN\5.0 DESIGN\5.5 CURRENT DESIGN\TOWNHOUSES\TYPE A\UNIT DRAWINGS\220087_TYPE A.DWG

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MAPLEVIEW PARK, BARRIE, ON
8966 Woodbine Ave, Suite 300, Markham, ON L3R 0J7 ■ T 905.470.7212 ■ AUGUST 2022 ■ JK ■

BLOCK 1 - CONVENTIONAL TOWN (TYPE A)
'A' 2439 S.F. // 'B' 2434 S.F. (END COND. 2496 S.F.)
TRADITIONAL TOWNHOUSE

ISSUED FOR --
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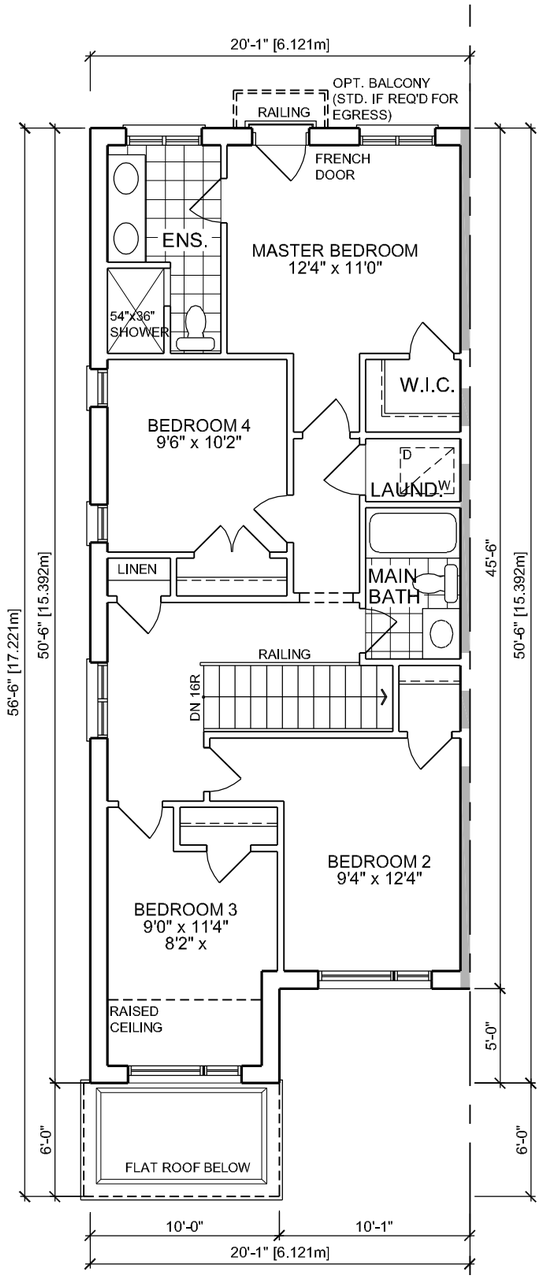
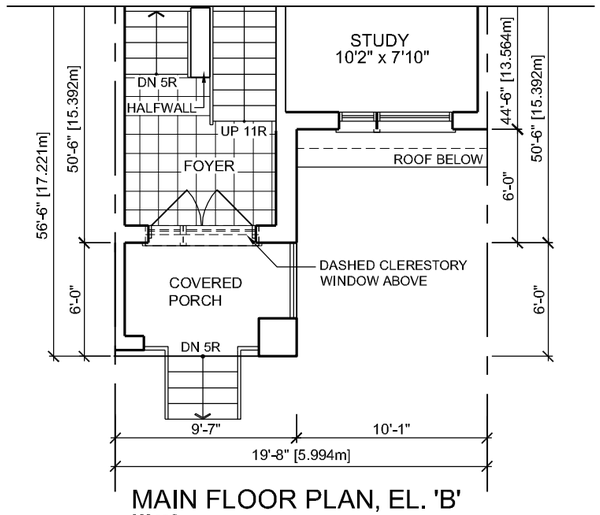


OPT. UPPER FLOOR w/ 4-BED, EL. 'A' (END CONDITION ONLY)

964 sq ft

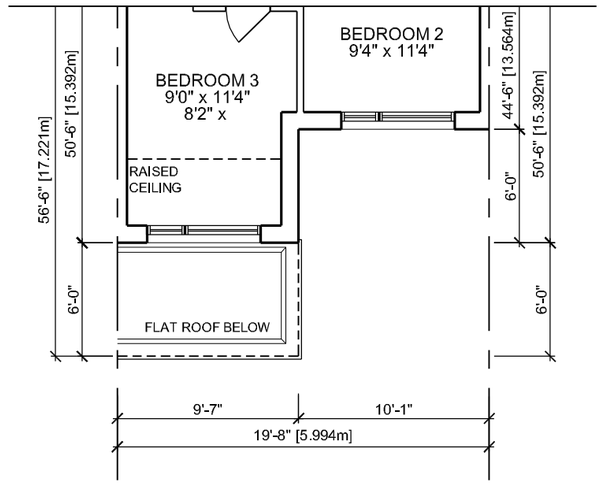
GROSS FLOOR AREA	964 sq ft
DEDUCT OPEN AREAS	0 sq ft
NET AREA	964 sq ft



MAIN FLOOR PLAN, EL. 'B'

922 sq ft

GROSS FLOOR AREA	933 sq ft
DEDUCT OPEN AREAS	11 sq ft
NET AREA	922 sq ft



UPPER FLOOR PLAN, EL. 'B'

933 sq ft

GROSS FLOOR AREA	933 sq ft
DEDUCT OPEN AREAS	0 sq ft
NET AREA	933 sq ft

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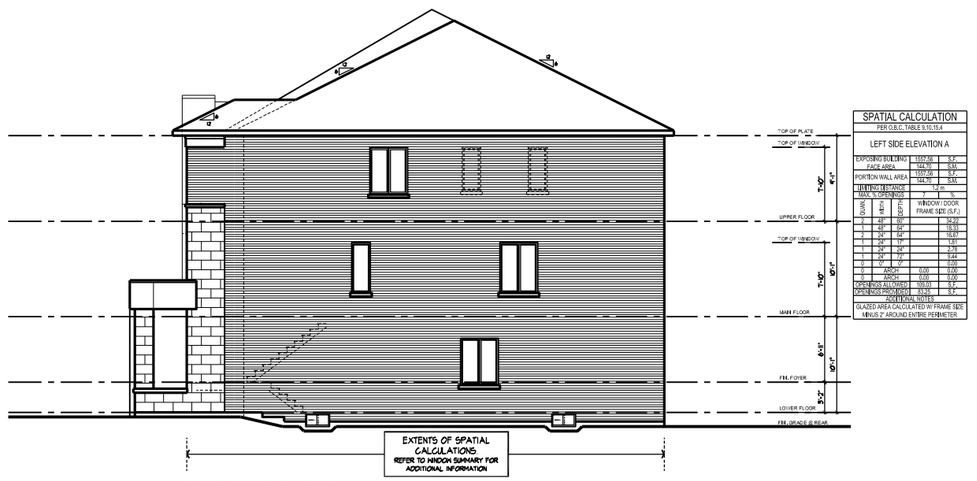
MAPLEVIEW PARK, BARRIE, ON

BLOCK 1 - CONVENTIONAL TOWN (TYPE A)
'A' 2439 S.F. // 'B' 2434 S.F. (END COND. 2496 S.F.)

8966 Woodbine Ave, Suite 300, Markham, ON L3R 0J7 ■ T 905.470.7212 ■ AUGUST 2022 ■ JK ■ TRADITIONAL TOWNHOUSE

FRONT ELEVATION
TYPE A
3-STOREY STREET TOWNS

LEFT SIDE ELEVATION
TYPE A
3-STOREY STREET TOWNS



SPATIAL CALCULATION
PER O.B.C. TABLE 9.10.15.4

LEFT SIDE ELEVATION A

EXPOSING BUILDING FACE AREA	1007.56 184.76	S.F. S.M.
PORTION WALL AREA	1007.56 184.76	S.F. S.M.
LIMITING DISTANCE	1.2m	
MAX. % OPENINGS	7	%

QUAN.	WIDTH	HEIGHT	SQ. FT.	WINDOW / DOOR FRAME SIZE (S.F.)
1	48"	60"	20.00	
1	48"	84"	28.00	
1	24"	24"	4.00	
1	24"	60"	10.00	
1	12"	12"	1.00	
1	24"	48"	8.00	
1	42"	72"	21.00	
1	42"	72"	21.00	
1	36"	6"	1.50	
1	ARCH		5.00	
1	ARCH		5.00	
1	ARCH		5.00	
OPENINGS REMAINING			9.5	
OPENINGS PROVIDED			9.5	

ADDITIONAL NOTES:
GLAZED AREA CALCULATED W/ FRAME SIZE MINUS 2" AROUND ENTIRE PERIMETER

RIGHT SIDE ELEVATION
TYPE A
3-STOREY STREET TOWNS

FOR DISCUSSION ONLY

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FERNBROOK HOMES & TIFFANY PARK HOMES - 220087

MAPLEVIEW PARK, BARRIE, ON.

BLOCK 1 - CONVENTIONAL TOWN (TYPE A)

SCALE: 1/16"=1'0"

8966 Woodbine Ave, Suite 300, Markham, ON L3R 0J7 ■ T 905.470.7212 ■ F 905.737.7326 ■ AUGUST 2022 ■ JK ■

220087_Type A.dwg

ISSUED FOR –
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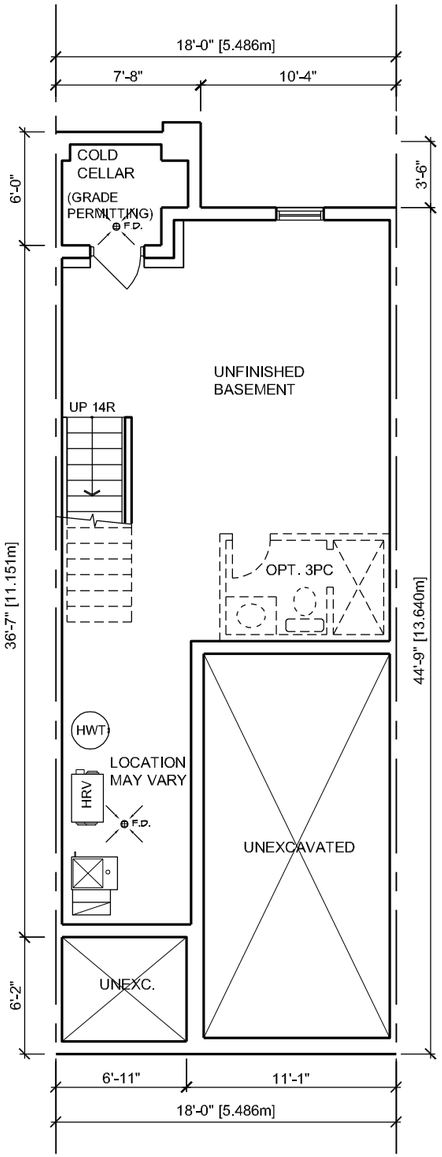
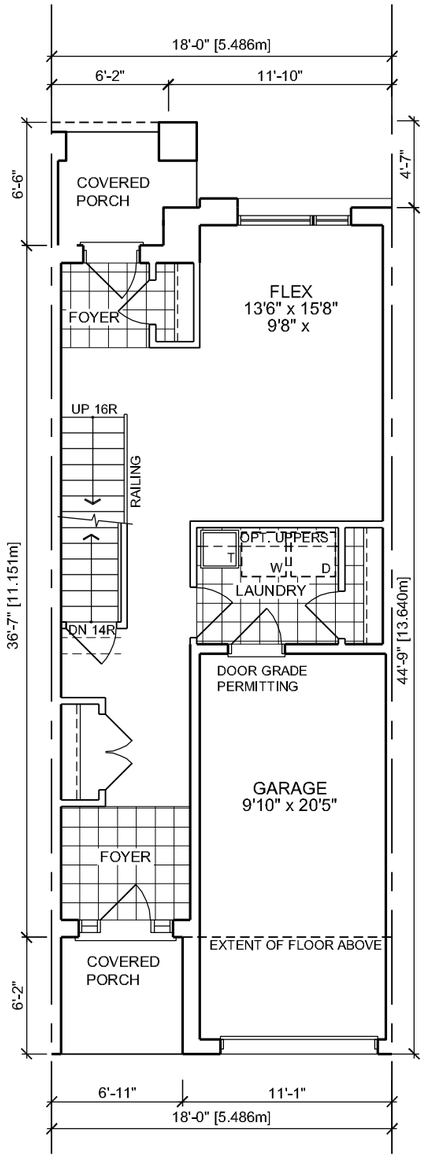


BASEMENT PLAN 'A'

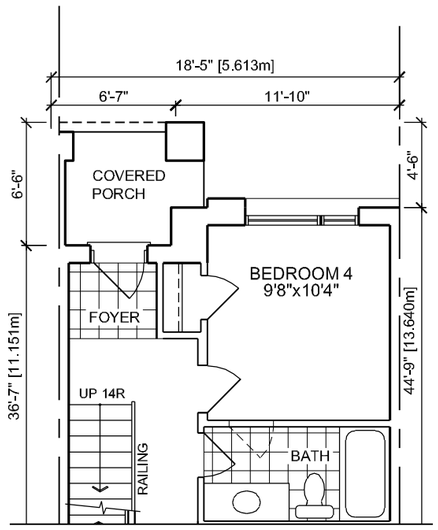
0 S.F.



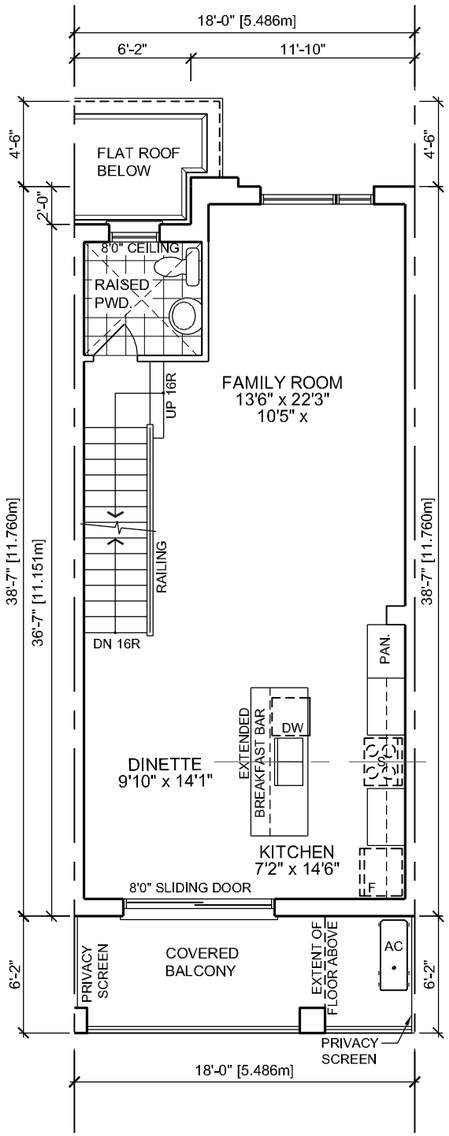
GROUND FLOOR PLAN 'A'

535 sq ft

COVERAGE W/O PORCH	756 sq ft
COVERAGE W/ PORCH	842 sq ft



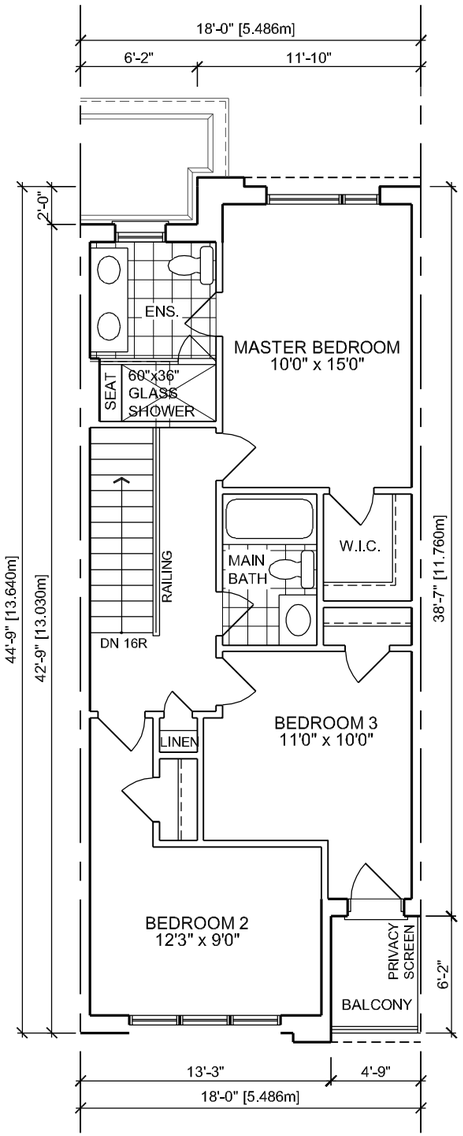
OPT. GROUND FLOOR PLAN 'A'



MAIN FLOOR PLAN, EL. 'A'

681 sq ft

GROSS FLOOR AREA	681 sq ft
DEDUCT OPEN AREAS	0 sq ft
NET AREA	681 sq ft



UPPER FLOOR PLAN, EL. 'A'

764 sq ft

GROSS FLOOR AREA	764 sq ft
DEDUCT OPEN AREAS	0 sq ft
NET AREA	764 sq ft

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BLOCK 2 & 3 -DUAL FRONTAGE TOWN (TYPE B)
1980 S.F. (END COND. 2027 S.F.)
■ AUGUST 2022 ■ JK ■
DUAL FRONTAGE TOWN

ISSUED FOR –
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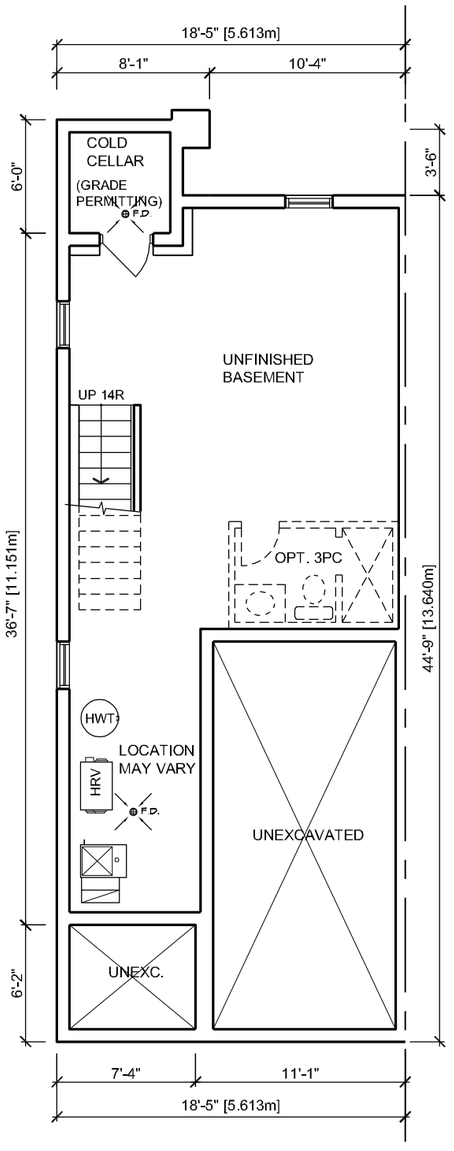
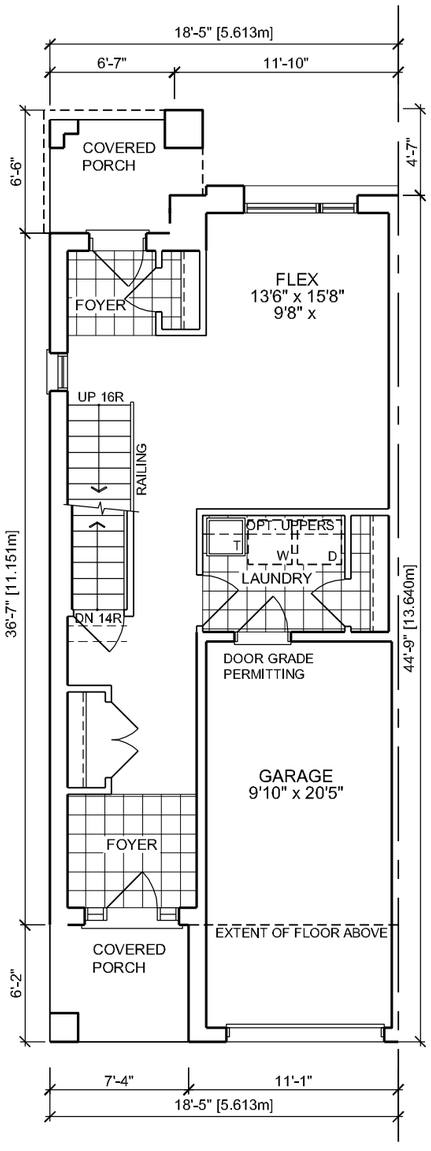


BASEMENT PLAN 'A'

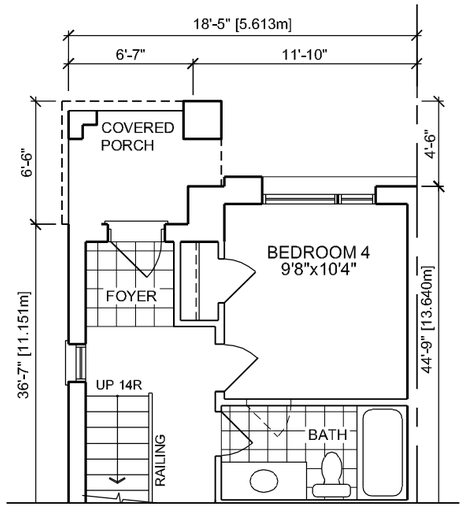
0 S.F.



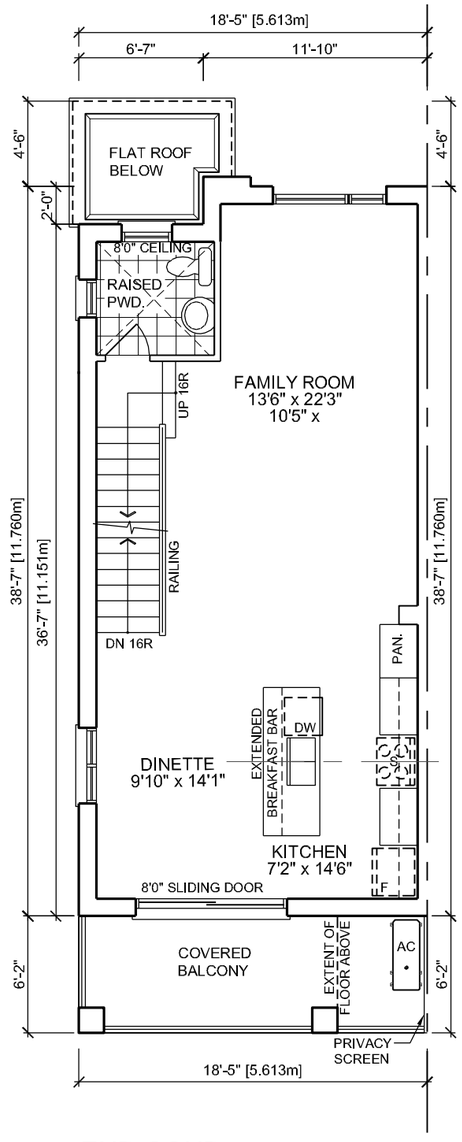
END COND. GROUND FLOOR PLAN 'A'

550 sq ft

COVERAGE W/O PORCH	771 sq ft
COVERAGE W/ PORCH	863 sq ft



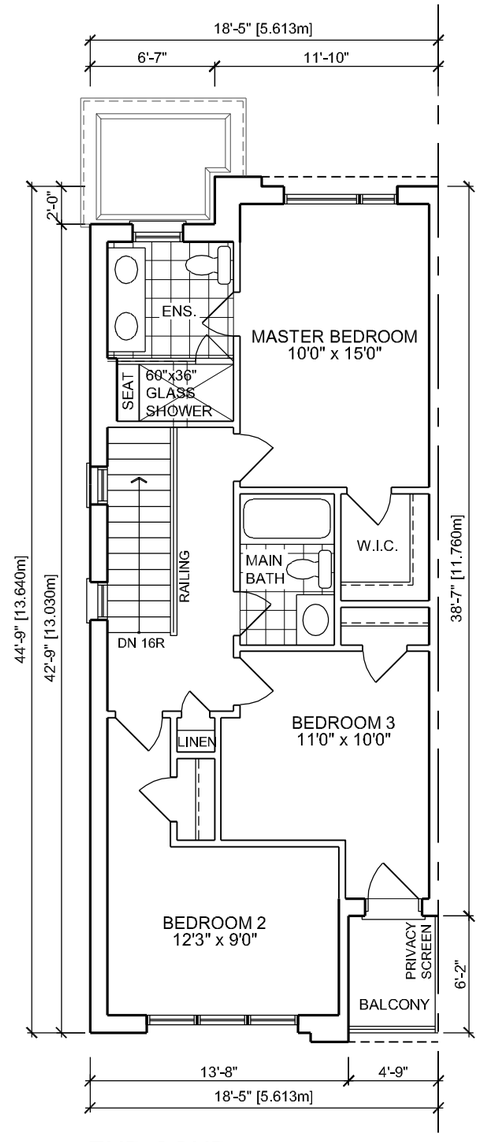
END CONDITION
OPT. GROUND FLOOR PLAN 'A'



END COND. MAIN FLOOR PLAN, EL. 'A'

696 sq ft

GROSS FLOOR AREA	696 sq ft
DEDUCT OPEN AREAS	0 sq ft
NET AREA	696 sq ft



END COND. UPPER FLOOR PLAN, EL. 'A'

781 sq ft

GROSS FLOOR AREA	781 sq ft
DEDUCT OPEN AREAS	0 sq ft
NET AREA	781 sq ft

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BLOCK 2 & 3 -DUAL FRONTAGE TOWN (TYPE B)
1980 S.F. (END COND. 2027 S.F.)
■ AUGUST 2022 ■ JK ■
DUAL FRONTAGE TOWN

CORNER UPGRADE ELEVATION
TYPE B
3-STOREY DUAL-FRONTAGE TOWNS

FRONT ELEVATION
TYPE B
3-STOREY DUAL-FRONTAGE TOWNS

SPATIAL CALCULATION				
PER O.B.C. TABLE 9.10.15.4				
LEFT SIDE ELEVATION A				
EXPOSING BUILDING FACE AREA			1376.06	S.F.
			127.84	S.M.
PORTION WALL AREA			1376.06	S.F.
			127.84	S.M.
LIMITING DISTANCE			1.2 m	
MAX. % OPENINGS			7	%
QUAN.	WIDTH	DEPTH	WINDOW / DOOR FRAME SIZE (S.F.)	
2	24"	72"		18.89
3	24"	60"		23.33
2	24"	24"		5.56
1	48"	52"		14.67
2	24"	56"		14.44
2	30"	16"		4.33
1	48"	24"		6.11
0	ARCH		0.00	0.00
0	ARCH		0.00	0.00
OPENINGS ALLOWED			96.32	S.F.
OPENINGS PROVIDED			87.33	S.F.
ADDITIONAL NOTES				
GLAZED AREA CALCULATED W/ FRAME SIZE MINUS 2" AROUND ENTIRE PERIMETER				

RIGHT SIDE ELEVATION
TYPE B
3-STOREY DUAL-FRONTAGE TOWNS

EXTENTS OF SPATIAL CALCULATIONS
REFER TO WINDOW SUMMARY FOR ADDITIONAL INFORMATION

REAR ELEVATION
TYPE B
3-STOREY DUAL-FRONTAGE TOWNS

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BLOCK 2 & 3 -DUAL FRONTAGE TOWN (TYPE B)

MAPLEVIEW PARK, BARRIE, ON.

SCALE: 1/16"=1'0"

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220087_Type B.dwg

ISSUED FOR –
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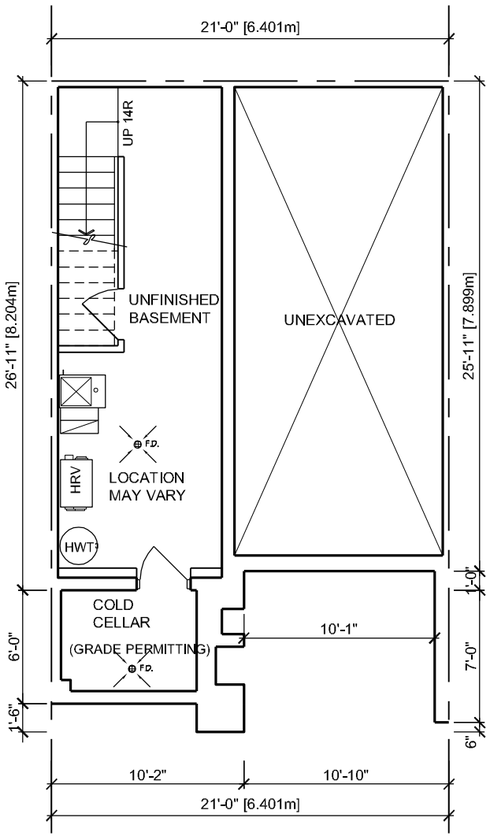
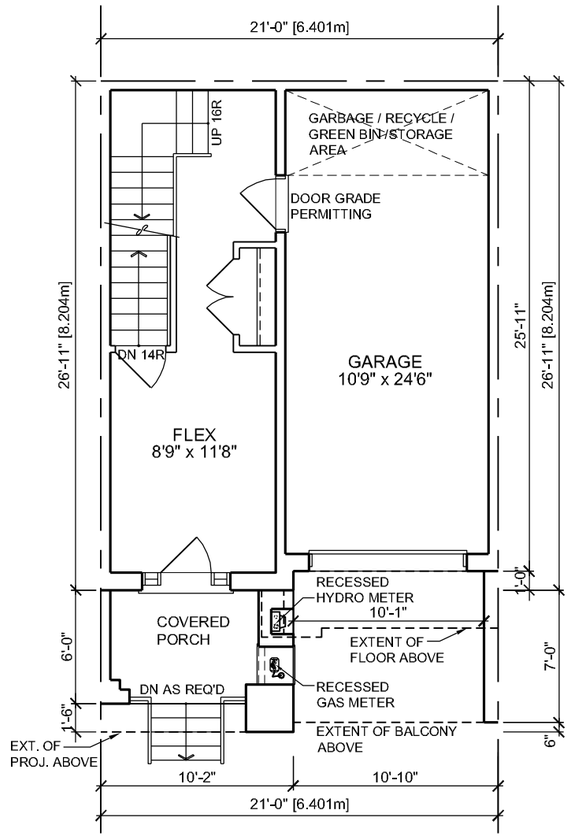


BASEMENT PLAN 'A'

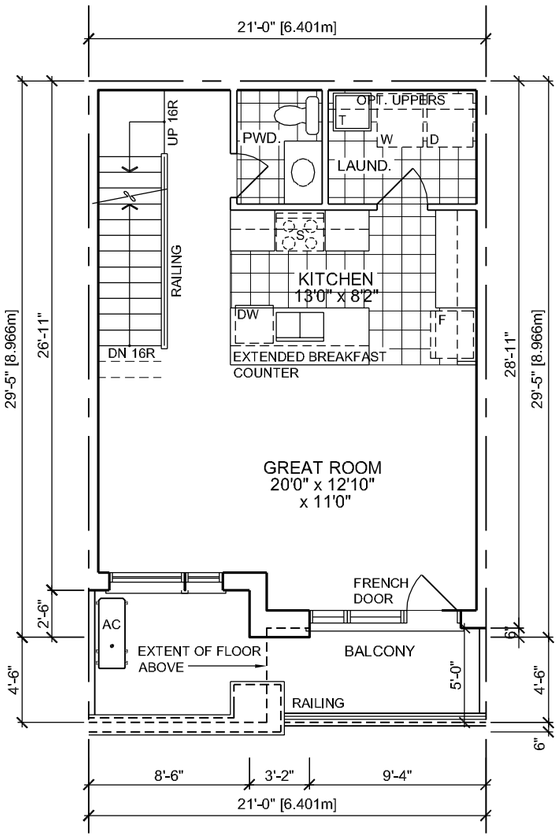
0 S.F.



GROUND FLOOR PLAN, EL. 'A'

263 sq ft

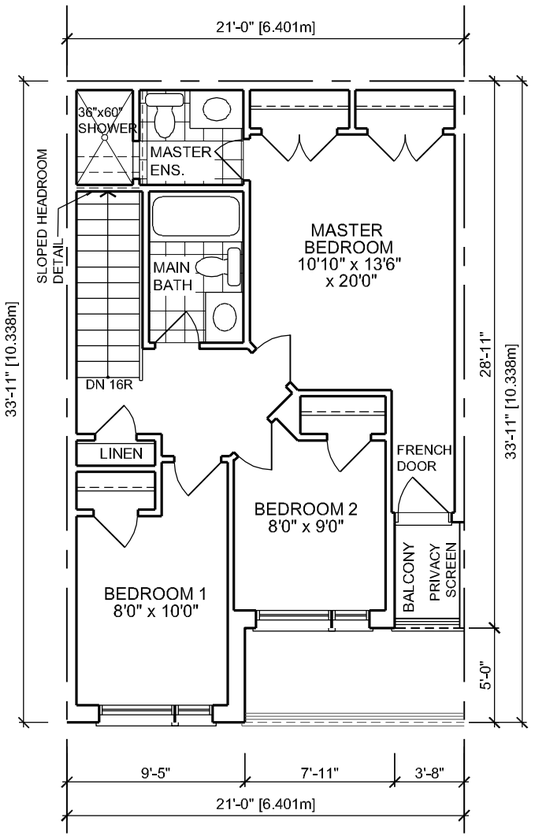
COVERAGE W/O PORCH	554 sq ft
COVERAGE W/ PORCH	619 sq ft



MAIN FLOOR PLAN, EL. 'A'

592 sq ft

GROSS FLOOR AREA	592 sq ft
DEDUCT OPEN AREAS	0 sq ft
NET AREA	592 sq ft



UPPER FLOOR PLAN, EL. 'A'

634 sq ft

GROSS FLOOR AREA	634 sq ft
DEDUCT OPEN AREAS	0 sq ft
NET AREA	634 sq ft

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FERNBROOK HOMES & TIFFANY PARK HOMES - 220087
MAPLEVIEW PARK, BARRIE, ON

BLK 4 & 5 - BACK TO BACK TOWNS (TYPE - C)
1489 S.F. (END COND. 1529 S.F.)

8966 Woodbine Ave, Suite 300, Markham, ON L3R 0J7 ■ T 905.470.7212 ■ AUGUST 2022 ■ JK ■ BACK TO BACK TOWNS

ISSUED FOR –
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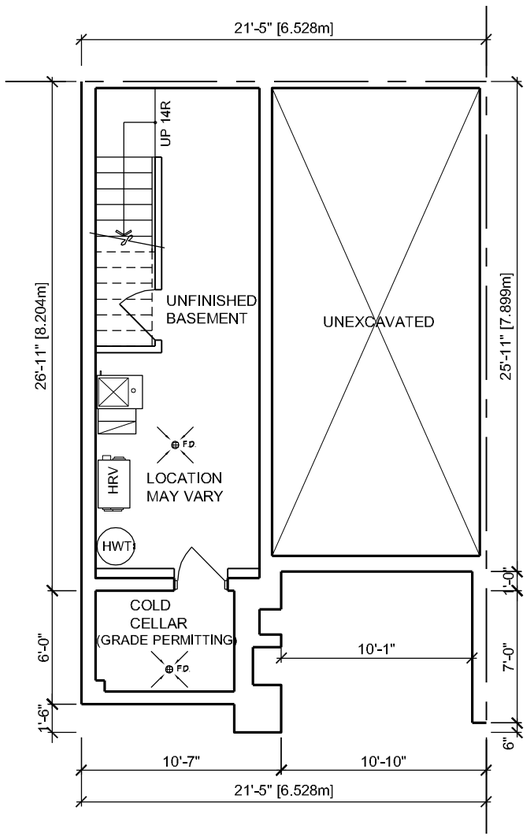
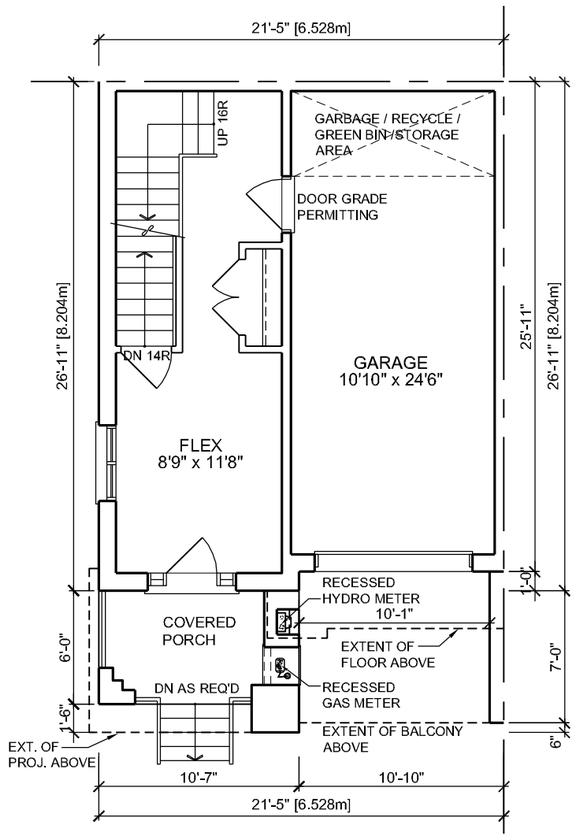
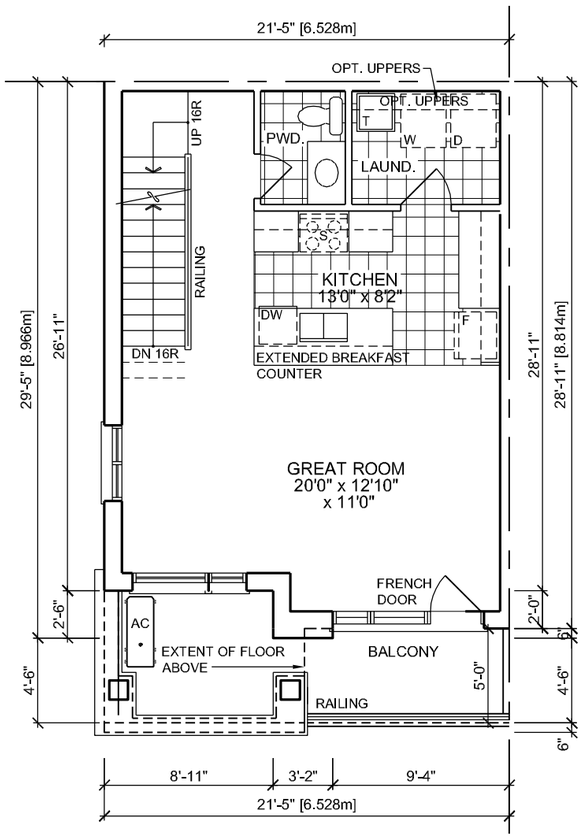


END COND.
BASEMENT PLAN 'A'
0 S.F.



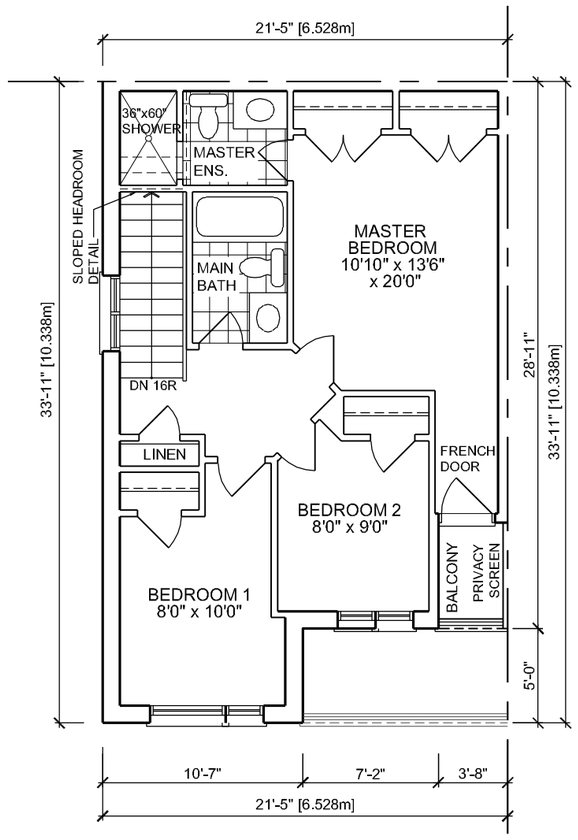
END COND.
GROUND FLOOR PLAN, EL. 'A'
274 sq ft

COVERAGE W/O PORCH	566 sq ft
COVERAGE W/ PORCH	633 sq ft



END COND.
MAIN FLOOR PLAN, EL. 'A'
603 sq ft

GROSS FLOOR AREA	603 sq ft
DEDUCT OPEN AREAS	0 sq ft
NET AREA	603 sq ft



END COND.
UPPER FLOOR PLAN, EL. 'A'
652 sq ft

GROSS FLOOR AREA	652 sq ft
DEDUCT OPEN AREAS	0 sq ft
NET AREA	652 sq ft

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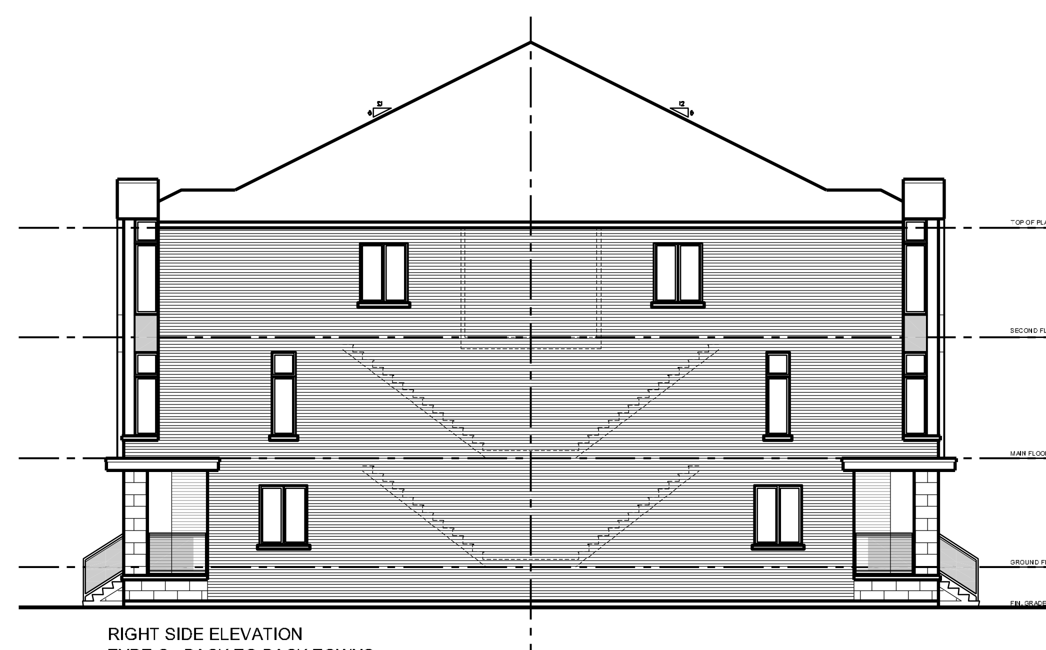
BLK 4 & 5 - BACK TO BACK TOWNS (TYPE - C)
1489 S.F. (END COND. 1529 S.F.)
■ AUGUST 2022 ■ JK ■
BACK TO BACK TOWNS

FRONT ELEVATION
TYPE C
BACK TO BACK TOWNS

LEFT SIDE ELEVATION
TYPE C - BACK TO BACK TOWNS

EXTENTS OF SPATIAL CALCULATIONS
REFER TO WINDOW SUMMARY FOR ADDITIONAL INFORMATION



RIGHT SIDE ELEVATION
TYPE C - BACK TO BACK TOWNS

EXTENTS OF SPATIAL CALCULATIONS
REFER TO WINDOW SUMMARY FOR ADDITIONAL INFORMATION

SPATIAL CALCULATION				
PER O.B.C. TABLE 9.10.15.4				
LEFT SIDE ELEVATION A				
EXPOSING BUILDING FACE AREA			2099.14	S.F.
			195.02	S.M.
PORTION WALL AREA			2099.14	S.F.
			195.02	S.M.
LIMITING DISTANCE			1.2 m	
MAX. % OPENINGS			7	%
QUAN.	WIDTH	DEPTH	WINDOW / DOOR FRAME SIZE (S.F.)	
4	48"	60"		68.44
6	24"	24"		16.67
4	24"	60"		31.11
2	24"	72"		18.89
0	0"	0"		0.00
0	0"	0"		0.00
0	0"	0"		0.00
0	ARCH		0.00	0.00
0	ARCH		0.00	0.00
OPENINGS ALLOWED			146.94	S.F.
OPENINGS PROVIDED			135.11	S.F.
ADDITIONAL NOTES				
GLAZED AREA CALCULATED W/ FRAME SIZE MINUS 2" AROUND ENTIRE PERIMETER				

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BLK 4 & 5 - BACK TO BACK TOWNS (TYPE - C)

MAPLEVIEW PARK, BARRIE, ON.

SCALE: 1/16"=1'0"

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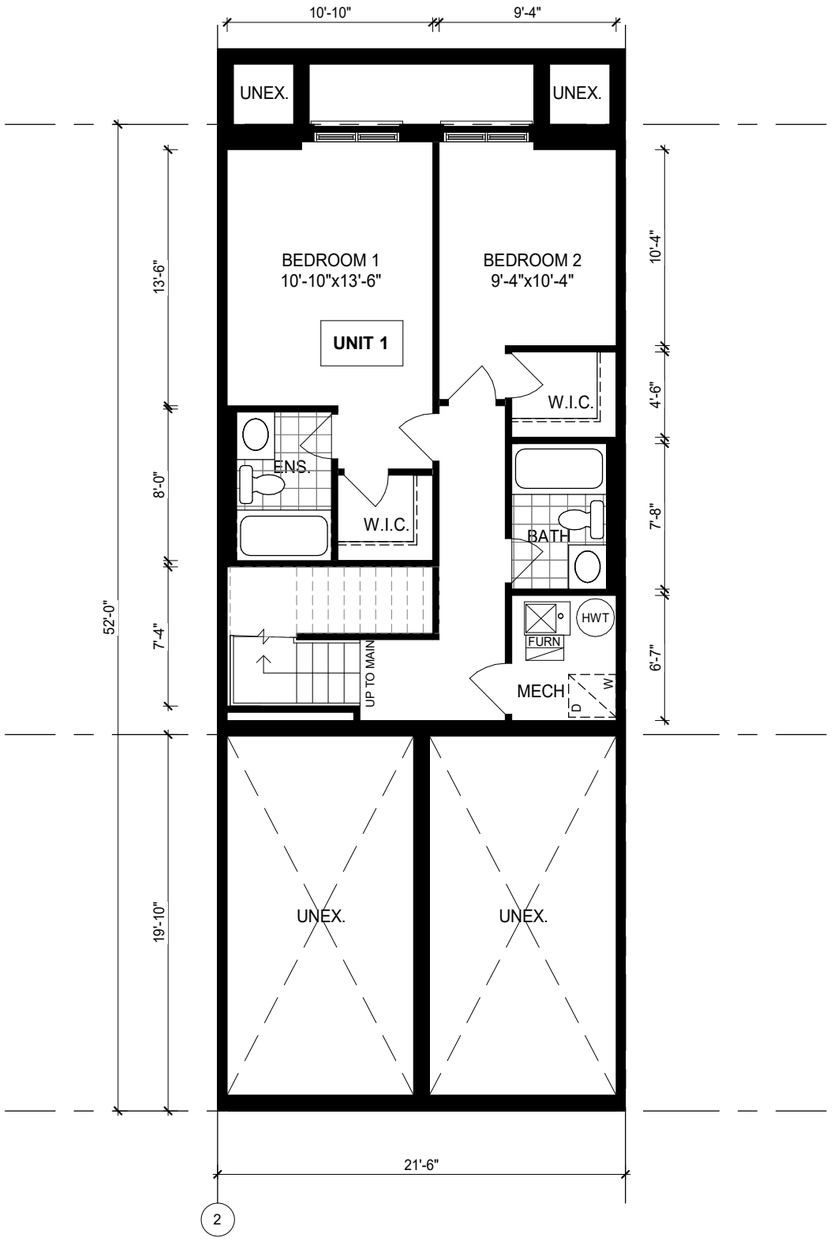
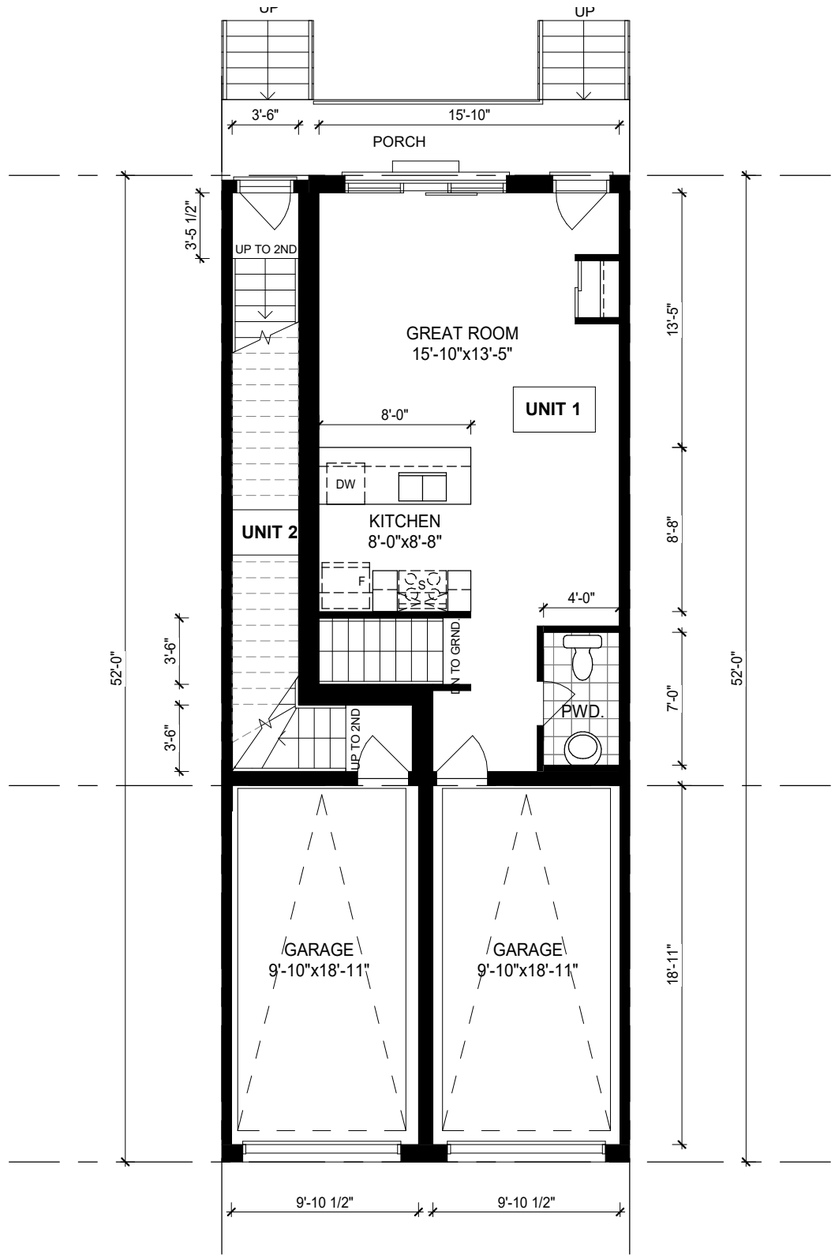
220087_Type C.dwg



GROUND FLOOR PLAN, EL. 'A'



MAIN FLOOR PLAN, EL.'A'

BUILDING COVERAGE	1118 SF
UNIT ##1	
FIN. GROUND FLR.	693 SF
FIN. MAIN FLR.	515 SF
	1209 SF

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BLOCK 537, PHASE 2B - MAPLEVIEW PARK, BARRIE, ON.

TYPE J - FLOOR PLANS

UNIT 1

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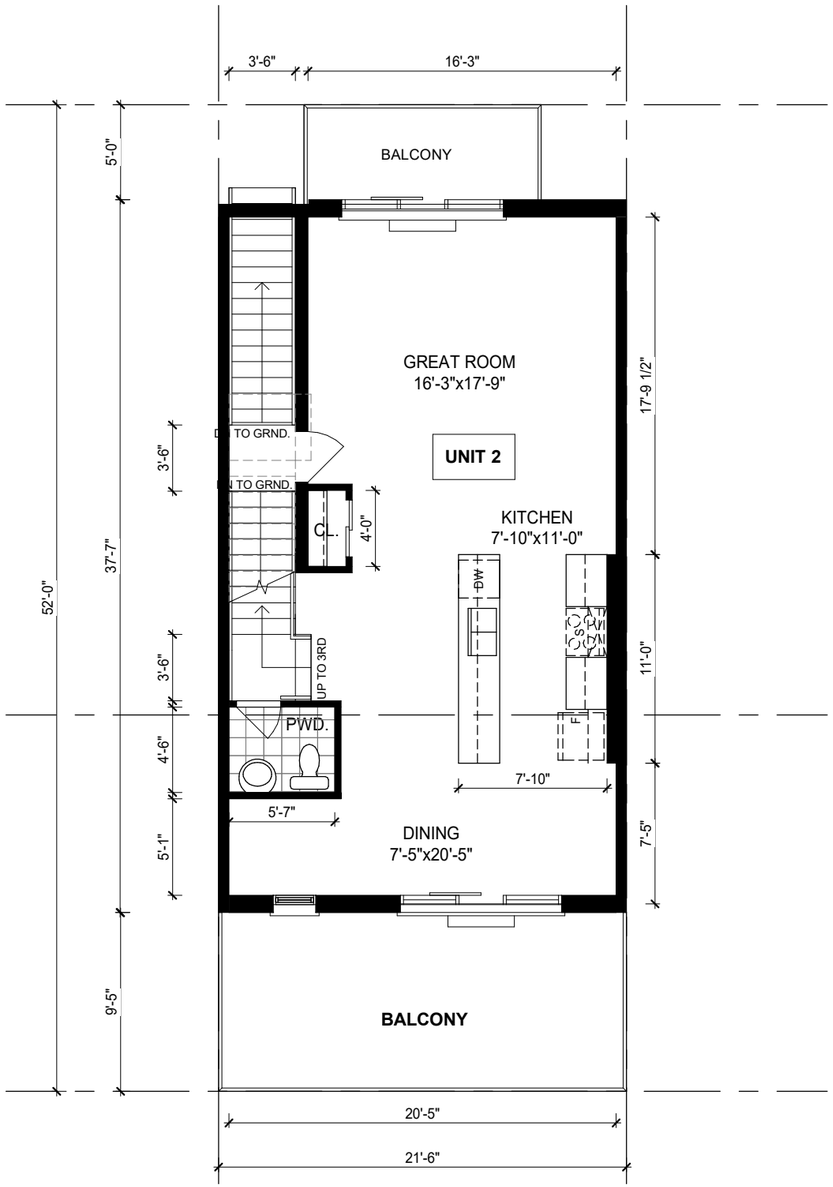
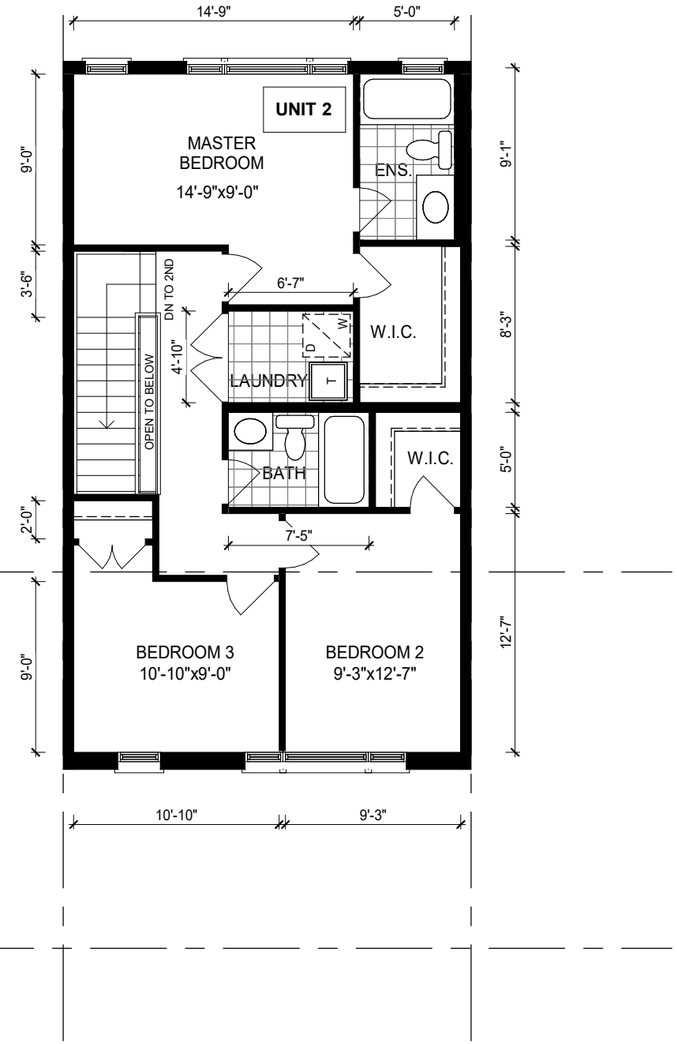
1/8" = 1'-0"



SECOND FLOOR PLAN, EL.'A'



THIRD FLOOR PLAN, EL.'A'

UNIT ##2

FIN. MAIN FLR.	175 SF
FIN. SECOND FLR.	749 SF
FIN. THIRD FLR.	788 SF
	1713 SF

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BLOCK 537, PHASE 2B - MAPLEVIEW PARK, BARRIE, ON.

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TYPE J - FLOOR PLANS

UNIT 2

1/8" = 1'-0"

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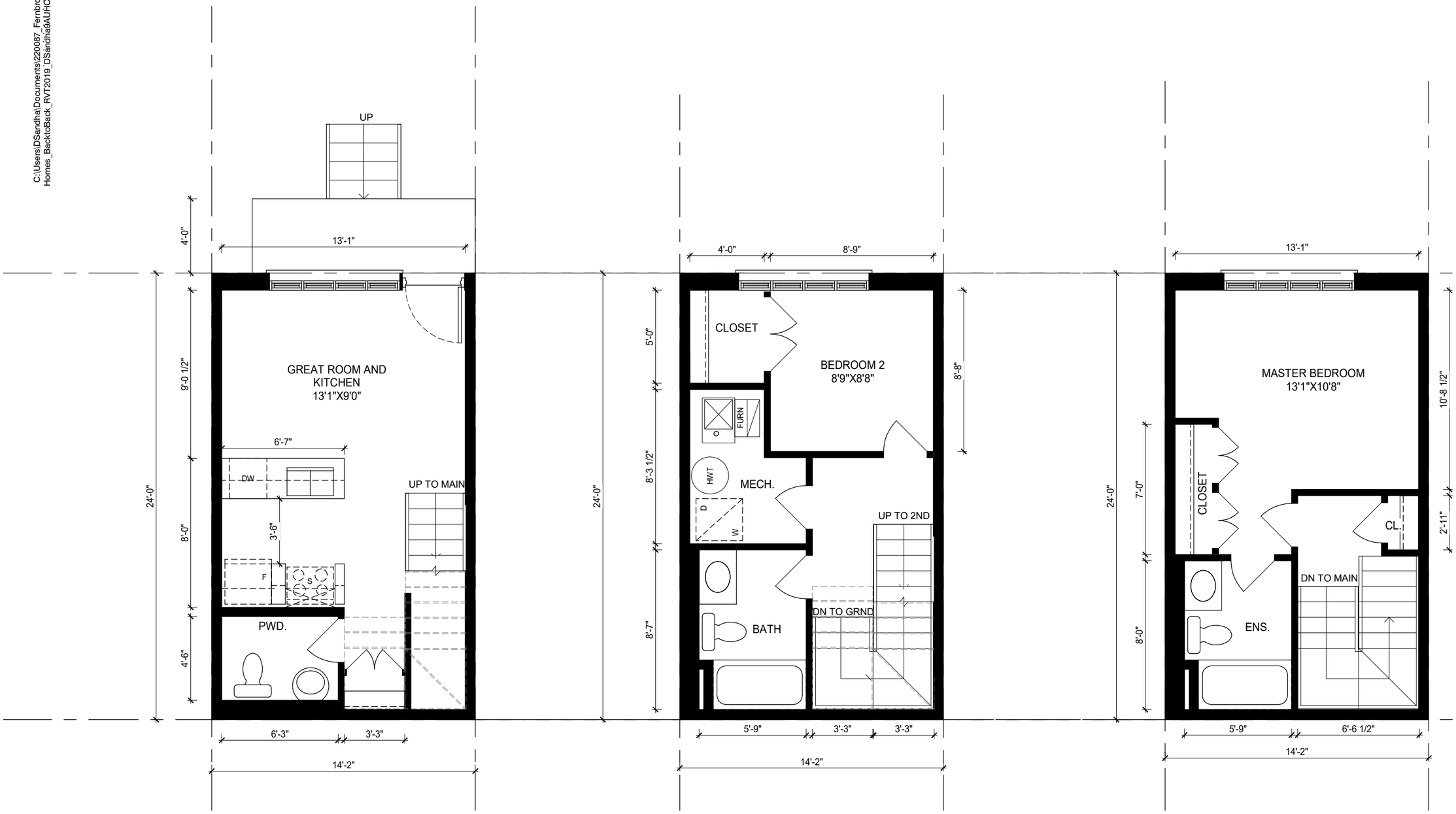

BUILDING COVERAGE	340 SF

GROUND FLOOR

FIN. GROUND FLR.	340 SF
	340 SF

MAIN FLOOR

FIN. MAIN FLR.	340 SF
	340 SF

SECOND FLOOR

FIN. SECOND FLR.	286 SF
	286 SF
	936 SF

GROUND FLOOR PLAN, OP.'1'

MAIN FLOOR PLAN, OP.'1'

SECOND FLOOR PLAN, OP.'1'

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BLOCK 537, PHASE 2B - MAPLEVIEW PARK, BARRIE, ON.

BACK-TO-BACK TOWNS FLOOR PLANS

UNIT 'L' OP. 1

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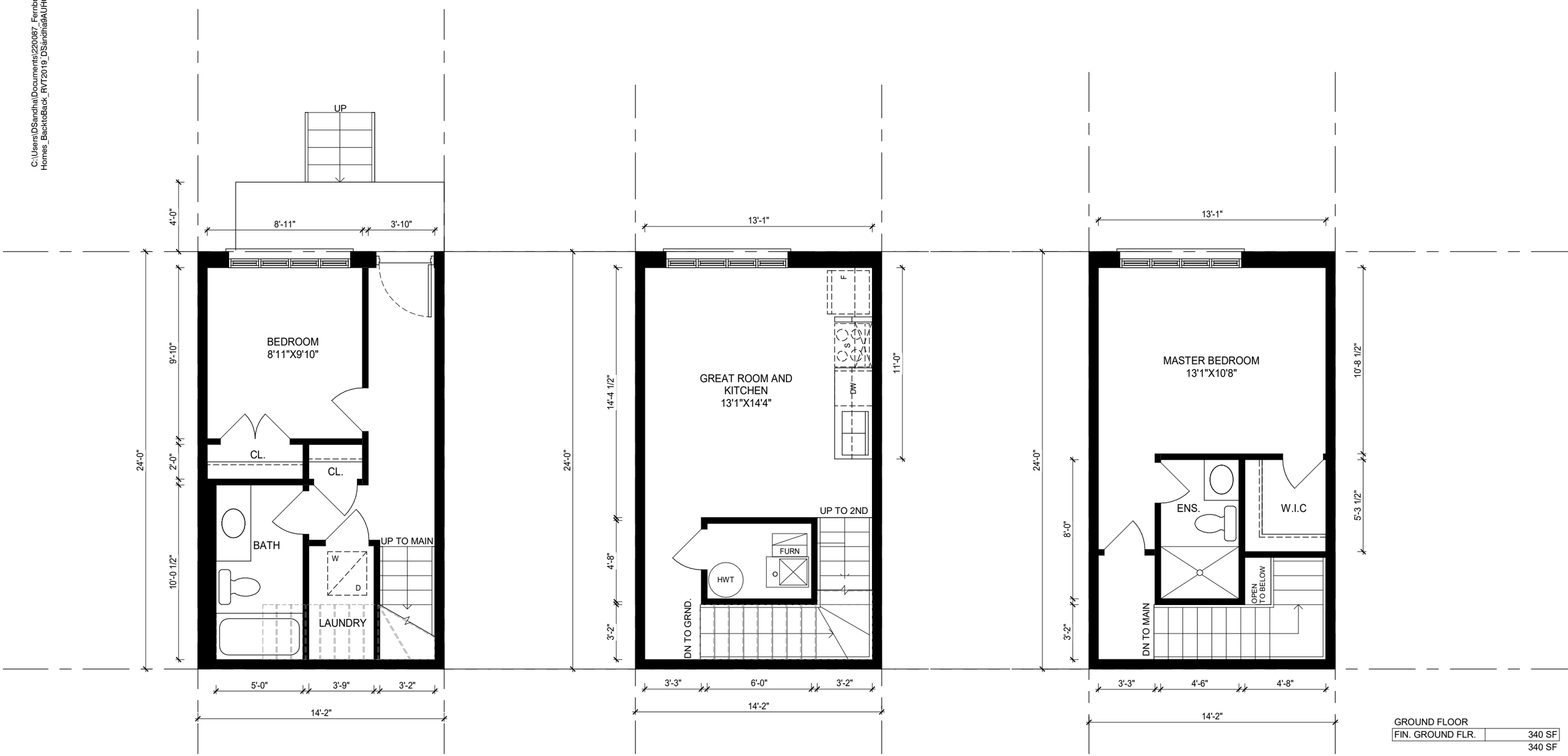
3/16" = 1'-0"

C:\Users\DSandha\Documents\220087_Fernbrook Homes_BacktoBack_RVT2019_DSandha9AUHC.rvt



GROUND FLOOR PLAN, OP. '2'

MAIN FLOOR PLAN, OP. '2'

SECOND FLOOR PLAN, OP.'2'

GROUND FLOOR	
FIN. GROUND FLR.	340 SF
	340 SF

MAIN FLOOR	
FIN. MAIN FLR.	340 SF
	340 SF

SECOND FLOOR	
FIN. SECOND FLR.	286 SF
	286 SF
	966 SF

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BLOCK 537, PHASE 2B - MAPLEVIEW PARK, BARRIE, ON.

BACK-TO-BACK TOWNS FLOOR PLANS

UNIT 'L' OP. 2

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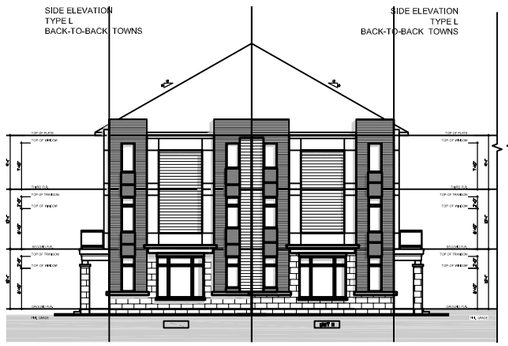
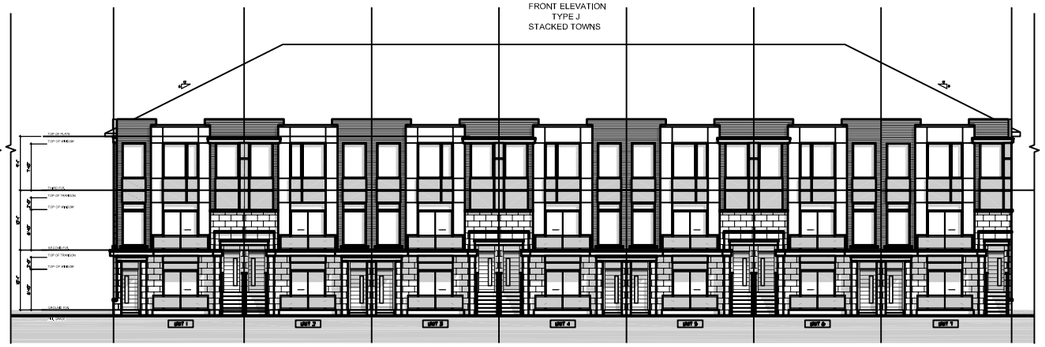
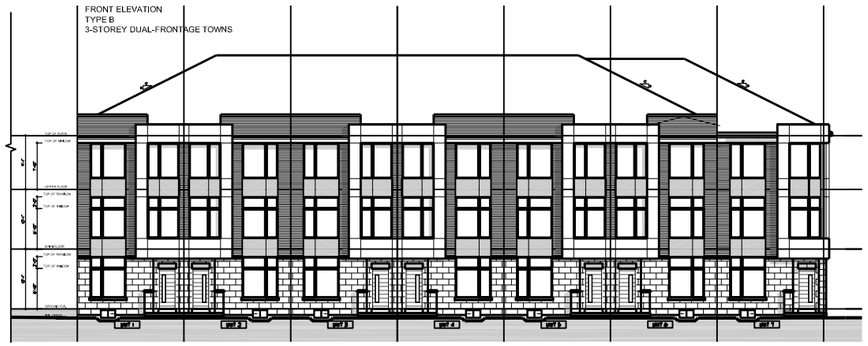
3/16" = 1'-0"



TYPE L

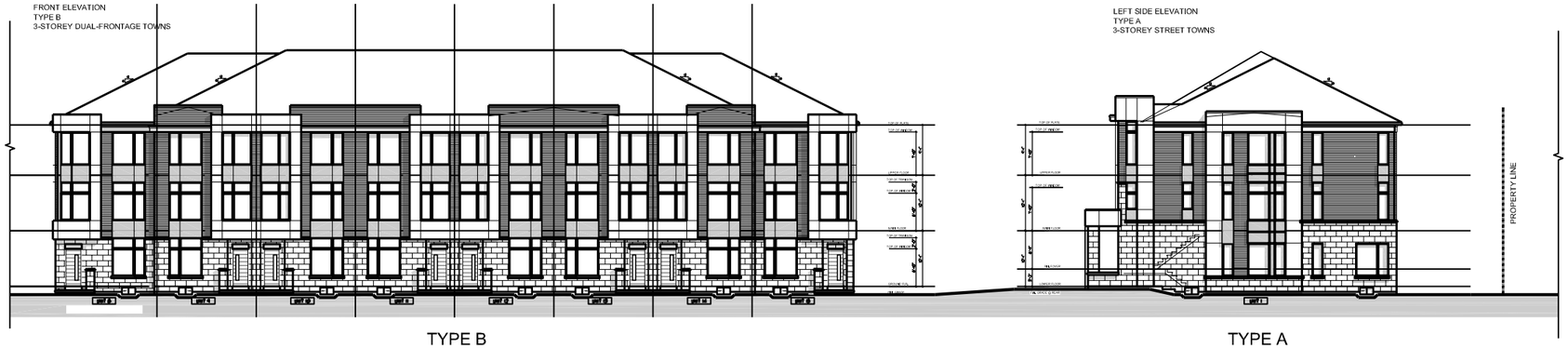


TYPE J



TYPE B

TERRY FOX DRIVE CONCEPTUAL STREETSCAPE PART 1



TYPE B

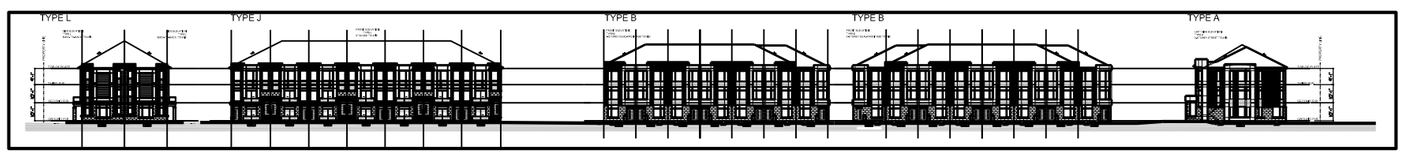
TYPE A

TERRY FOX DRIVE CONCEPTUAL STREETSCAPE PART 2

TYPE J

TYPE L

MAPLEVIEW DRIVE CONCEPTUAL STREETSCAPE



TERRY FOX DRIVE STREETSCAPE (KEYPLAN)

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■ 2019.08.27 ■ - ■

CONCEPTUAL STREETSCAPE

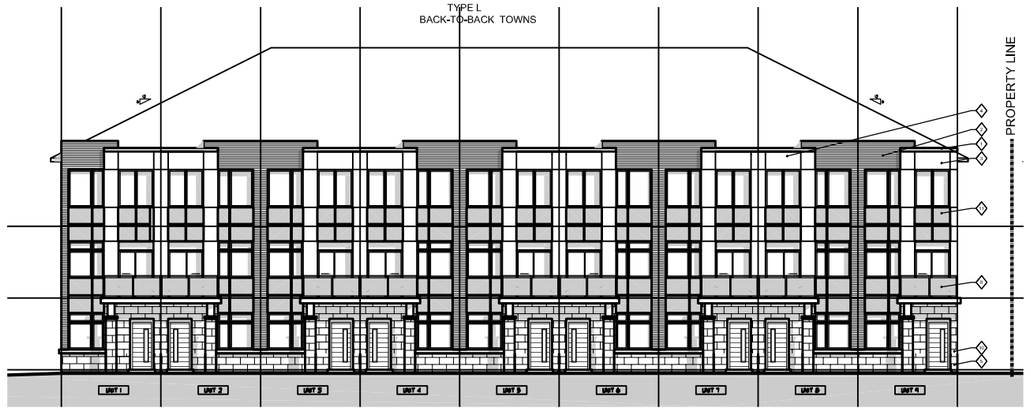
1/8" = 1'-0"

-

FRONT ELEVATION
TYPE J
STACKED TOWNS

TYPE J

FRONT ELEVATION
TYPE L
BACK-TO-BACK TOWNS



TYPE L

SIDE ELEVATION
TYPE L
BACK-TO-BACK TOWNS

SIDE ELEVATION
TYPE L
BACK-TO-BACK TOWNS

TYPE L

FRONT ELEVATION
TYPE B
3-STOREY DUAL-FRONTAGE TOWNS

TYPE B

LEFT SIDE ELEVATION
TYPE A
3-STOREY STREET TOWNS

TYPE A

MATERIAL LEGEND:

- ASPHALT SHINGLES
- BRICK VENEER
- STUCCO FINISH
- STUCCO FRIEZE BOARD
- STONE VENEER
- PRECAST CONCRETE HEADER
- PRECAST CONCRETE SILL
- GLASS RAILING
- ALUM. CLAD WD. FRIEZE BOARD
- PRECAST CONC. BAND W/ 1/2" PROJ. (TYP)
- WOOD SIDING

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FERNBROOK HOMES & TIFFANY PARK HOMES- 220087

BLOCK 537, PHASE 2B - MAPLEVIEW PARK, BARRIE, ON.

8966 Woodbine Ave, Suite 300, Markham, ON L3R 0J7 ■ T 905.470.7212

■ 2019.08.27 ■ - ■

CONCEPTUAL BLOCK ELEVATIONS

1/8" = 1'-0"

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