

Environmental Noise Feasibility Study Update

69 & 117 John Street

Proposed Residential Development

City of Mississauga

October 2, 2024
Project: 122-0393

Prepared for

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VALCOUSTICS
Canada Ltd.

Version History

Version #	Date	Comments
1.0	April 19, 2024	Final – Issued to Client
2.0	October 2, 2024	Final – Issued to Client

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EXECUTIVE SUMMARY

Valcoustics Canada Ltd. (VCL) previously prepared an Environmental Noise Feasibility Study dated April 19, 2024 for the proposed residential development to support the Official Plan Amendment (OPA) / Zoning By law Amendment (ZBA) application submission to the City of Mississauga. This Update has been prepared to address revisions to the architectural drawings.

The project will consist of three (3) towers that are 31, 30 and 20 storeys in height. A twelve (12) storey podium with two (2) levels of underground parking will be used to connect the towers.

The main noise source with potential to impact the subject site is rail traffic on CPR Galt Subdivision and GO Transit Milton Line and road traffic on Hurontario Street and Kirwin Avenue.

To meet the applicable transportation noise source guideline limits:

- All residential units in the development require air conditioning to allow windows to remain closed for noise control purposes;
- Brick veneer exterior wall construction or masonry equivalent (STC 54) construction from the foundation to the rafters for the west, north and east facades of the entire development (including Buildings A, B and C), exposed to the railway noise; and
- Upgraded windows are also required:
 - North facade: Up to STC 48; and
 - West and east facades: Up to STC 45.
- Sound barriers are required for the 2nd-level patios on the north sides of the buildings and the 8-storey roof terrace on Building C.

Requirements should be reviewed prior to site plan approval and confirmed when detailed building plans are finalized. This could be done as a condition for obtaining a building permit.

1.0 INTRODUCTION

VCL previously prepared an Environmental Noise Feasibility Study dated April 19, 2024 for the proposed residential development to support the OPA and ZBA application submission to the City of Mississauga. This Update has been prepared to address revisions to the architectural drawings.

The predicted sound levels and noise mitigation measures needed for the proposed development to comply with noise guidelines of the Ministry of the Environment, Conservation and Parks (MECP) are outlined herein.

1.1 THE SITE AND SURROUNDING AREA

The proposed development is located at 69 & 117 John Street in the City of Mississauga. The site is bounded by:

- CPR Galt Subdivision and GO Transit Milton Line, with existing residential dwellings beyond, to the north;
- Existing residential dwellings to the east;
- John Street, with existing residential dwelling beyond, to the south; and
- Existing storage facility, with existing commercial plaza and Hurontario Street beyond, to the west.

A Key Plan is included as Figure 1.

1.2 THE PROPOSED DEVELOPMENT

The Project will consist of three (3) towers that are 31, 30 and 20 storeys in height, for Buildings A, B and C, respectively. A twelve (12) storey podium with two (2) levels of underground parking will be used to connect the towers. The underground parking structure extends beyond the footprint of the podium, towards the rail ROW. The development will also include a safety berm along the north property line. The berm will be approximately 2.5 m in height relative to the rail track elevation.

This report is based on the architectural drawings prepared by Tregebov Cogan Architect, latest revised September 11, 2024 ("For Coordination"). Figures 2 to 5 show the site plan, ground floor plan, 2nd floor plan and section plan from the drawings respectively. Additional relevant plans from the drawings are included in Appendix A.

2.0 NOISE SOURCES

2.1 TRANSPORTATION SOURCES

The noise source with potential to impact the proposed development is rail traffic on CPR Galt Subdivision and GO Transit Milton Line and road traffic on Hurontario Street and Kirwin Avenue. The traffic data is shown in Appendix B.

The planned future rail traffic data for the GO Transit Milton Line was obtained from Metrolinx on January 9, 2023.

The data indicates that GO rail service on this subdivision will be comprised of diesel trains. There are no anti-whistling by-laws in affect near the subject site.

Note, as of November 2020, CPR is no longer supplying rail traffic data. This project is using the CPR rail data dated April 12, 2018 from our previous projects, and escalated to the Year 2034 design condition using the 2.5% annual growth rate.

The rail traffic data is summarized in Table 1A.

TABLE 1A RAIL TRAFFIC DATA

Railway	Time Period	Volume	# Cars per Train	# Locos per Train	Speed (km/hr)
Milton GO Line ⁽¹⁾	Day (0700-2300)	20	12	1	105
	Night (2300-0700)	2			
CP Galt Subdivision ⁽²⁾	Day (0700-2300)	9 (13.4)	151	4	80
	Night (2300-0700)	8 (11.9)			

Notes:

- (1) The future planned rail traffic data was provided by Metrolinx/GO Transit on January 9, 2023.
- (2) Obtained from CPR for the year 2018. Data shown in brackets was projected to the year 2034 design condition at a 2.5% growth rate, compounded annually. The data provided shows the maximum number of train cars and locomotives.

Ultimate (2041) road traffic data for Hurontario Street and Kirwin Avenue were obtained from the City of Mississauga on October 11, 2022. The traffic data indicates a proposed LRT line along Hurontario Street, and existing lanes may be converted from 6 lanes to 4 lanes with 2 LRT lines in the middle. Currently, traffic data and a timeline for the proposed LRT line is not available and thus was not included in the analysis. The road traffic data is summarized in Table 1B.

TABLE 1B ROAD TRAFFIC DATA

Road	24-Hour Volume ⁽¹⁾	Day/Night Split (%)	Trucks (%)		Speed (km/hr)
			Medium	Heavy	
Hurontario Street	53 200	90/10	2.2	1.8	50
Kirwin Avenue	12 500	90/10	1.1	0.9	50

Note:

- (1) Ultimate traffic data (2041) obtained from the City of Mississauga.

2.2 STATIONARY SOURCES

Based on a visit to the area by VCL staff on November 23, 2022, there are no stationary sources in the vicinity with the potential to significantly impact the subject site and therefore noise impact from stationary noise sources is not considered further in this report.

3.0 ENVIRONMENTAL NOISE GUIDELINES

3.1 MECP NPC-300 – TRANSPORTATION SOURCES

The applicable noise guidelines for new residential development are those in MECP Publication NPC-300, “Environmental Noise Guideline, Stationary, and Transportation Sources – Approval and Planning”.

The environmental noise guidelines of the MECP, as provided in Publication NPC-300, are discussed briefly below and summarized in Appendix A.

3.1.1 Architectural Elements

In the daytime, the indoor criterion for road noise is $L_{eq\ Day}^{(1)}$ of 45 dBA for sensitive spaces such as living/dining rooms, dens and bedrooms. At night, the indoor criterion for road noise is $L_{eq\ Night}^{(2)}$ of 45 dBA for sensitive spaces such as living/dining rooms and dens and 40 dBA for bedrooms. The indoor criteria for rail noise are 5 dBA more stringent (i.e. lower) than those for the road; that is 40 dBA for living/dining rooms, dens and bedrooms during the daytime and nighttime periods except for bedrooms where the nighttime indoor criterion is 35 dBA.

The architectural design of the building envelope (walls, windows, etc.) must provide adequate sound isolation to achieve these indoor sound level limits, based on the applicable outdoor sound level on the facades.

In addition, the MECP requires brick veneer exterior wall construction or masonry equivalent construction from the foundation to the rafters for the first row of dwellings provided they are within 100 m of the rail line and the $L_{eq\ 24}$ is greater than 60 dBA.

3.1.2 Ventilation

In accordance with the MECP noise guideline for road traffic sources, if the daytime sound level, $L_{eq\ Day}$, at the exterior face of a noise sensitive window is greater than 65 dBA, means must be provided so that windows can be kept closed for noise control purposes and central air conditioning is required. For daytime sound levels between 56 dBA and 65 dBA inclusive, there need only be the provision for adding air conditioning at a later date. A warning clause advising the occupant of the potential interference with some activities is also required. At nighttime, air conditioning would be required when the sound level exceeds 60 dBA ($L_{eq\ Night}$) at a noise sensitive window (provision for adding air conditioning is required when greater than 50 dBA).

(1) 16-hour energy equivalent sound level (0700-2300 hours).

(2) 8-hour energy equivalent sound level (2300-0700 hours).

3.1.3 Outdoors

For outdoor amenity areas (“Outdoor Living Areas” – OLAs), the guideline is $L_{eq\ Day}$ of 55 dBA, with an excess not exceeding 5 dBA considered acceptable if it is technically not practicable to achieve the 55 dBA objective, providing warning clauses are registered on title.

Note, a balcony or elevated terrace is not considered an OLA, unless it is:

- the only OLA for the occupant;
- at least 4 m in depth; and
- unenclosed.

3.2 FEDERATION OF CANADIAN MUNICIPALITIES (FCM) AND RAILWAY ASSOCIATION OF CANADA (RAC)

The standard noise mitigation measures recommended jointly by the Federation of Canadian Municipalities and the Railway Association of Canada (FCM/RAC) in the guidelines of Reference 5 are:

- a minimum setback of 30 m from the edge of the railway right-of-way to the closest dwelling facade;
- a safety berm at least 2.5 m above grade at the property line;
- an approximately 3.0 m high acoustic fence atop the safety berm (to achieve a total height of 5.5 m above the top of the rail);
- upgraded exterior wall construction (such as brick veneer), where needed; and
- warning clauses specific to the railway for all dwellings within 300 m of the right-of-way.

Aside from the “standard” requirements regarding the setback of dwellings and safety berm/sound barrier configuration, the sound level design objectives of the FCM/RAC guidelines are similar to those of the MECP. See Appendix A. The FCM/RAC guidelines also permit modifications to their standard requirements where substantiated by a detailed noise impact assessment.

4.0 NOISE IMPACT ASSESSMENT

4.1 ANALYSIS METHOD

Using the rail and road traffic data in Tables 1A and 1B, the sound levels, in terms of $L_{eq\ Day}$ and $L_{eq\ Night}$, were determined using STAMSON V5.04 – ORNAMENT/STEAM, the computerized road/rail traffic noise prediction models of the MECP.

The receptor locations used in the noise assessment are shown in Figures 2 to 4.

The worst-case facade receptors were assessed at a heights corresponding to windows on the highest floors for the Buildings.

The daytime sound levels at the grade-level private patios were assessed at a height of 1.5 m above grade, at the centre of each patio, in accordance with the NPC-300 requirements.

The daytime sound levels at elevated terraces were assessed at a height of 1.5 m above each terrace elevation, at the centre of the amenity space.

Inherent acoustical screening due to the orientation of the buildings relative to the noise sources was included in the assessment. Screening from off-site buildings was not included for the facade sound level calculations. However, screening from the safety berm and the off-site buildings was included for the OLA calculations.

4.2 SOUND LEVEL PREDICTION

Table 2 summarises the predicted sound levels outdoors at the receptor locations.

The highest daytime/nighttime unmitigated sound levels of 72 dBA/73 dBA are predicted to occur at the north facade of Building A.

The highest daytime OLA sound level of 62 dBA is predicted to occur at the 2nd floor patios on north sides of the buildings. The daytime OLA sound level of 61 dBA is predicted at the 8-storey roof terrace on Building C.

Sample sound level calculation is included in Appendix D.

TABLE 2 PREDICTED SOUND LEVELS – TRANSPORTATION SOURCES

Location	Source	Distance (m) ⁽¹⁾	Leq Day (dBA)	Leq Night (dBA)
A ⁽²⁾ Building A Northwest Corner (North Facade)	Milton GO Line/CP Galt Subdivision	43	72	73
	Hurontario Street	233	56	49
	TOTAL	–	72	73
A ⁽²⁾ Building B Northwest Corner (West Facade)	Milton GO Line/CP Galt Subdivision	43	69	70
	Hurontario Street	233	59	52
	TOTAL	–	69	71
B ⁽²⁾ Building A Southwest Corner (West Facade)	Milton GO Line/CP Galt Subdivision	73	66	68
	Hurontario Street	231	59	52
	Kirwin Avenue	153	48	41
	TOTAL	–	67	68
B ⁽²⁾ Building A Southwest Corner (South Facade)	Hurontario Street	231	56	49
	Kirwin Avenue	153	51	44
	TOTAL	–	57	51

.../cont'd

TABLE 2 PREDICTED SOUND LEVELS – TRANSPORTATION SOURCES (continued)

Location	Source	Distance (m) ⁽¹⁾	L _{eq} Day (dBA)	L _{eq} Night (dBA)
C ⁽²⁾ Buildings B & C 12-storey Podium Amenity Terrace (OLA)	Milton GO Line/CP Galt Subdivision	61	52	–
D ⁽²⁾ Building C 8-storey Rooftop Terrace (OLA)	Milton GO Line/CP Galt Subdivision	85	61	–
E ⁽²⁾ Building C 10-storey Rooftop Terrace (OLA)	Milton GO Line/CP Galt Subdivision	85	59	–
F ⁽³⁾ Building A West side Ground Patio (OLA)	Milton GO Line/CP Galt Subdivision	69	59	–
G ⁽³⁾ Building C North side Ground Patio (OLA)	Milton GO Line/CP Galt Subdivision	72	56	–
H ⁽⁴⁾ Building A North side Level 2 Patio (OLA)	Milton GO Line/CP Galt Subdivision	41	62	–

Notes:

- (1) Distance is from the centreline of the roadway/railway.
- (2) Locations A to E are shown on Figure 2.
- (3) Locations F and G are shown on Figure 3.
- (4) Location H is shown on Figure 4.

4.3 NOISE CONTROL MEASURES

The noise control measures can generally be classified into two categories which are interrelated, but which can be treated separately for the most part:

- a) Architectural elements to achieve acceptable indoor noise guidelines for transportation sources; and
- b) Design features to protect the OLAs.

Noise abatement requirements are summarised in Table 3 and notes to Table 3.

4.3.1 Indoors

4.3.1.1 Exterior Wall and Window Construction

Floor plans showing the suite layouts have not yet been developed. The STC requirements were therefore calculated assuming exterior walls and windows to have surface areas equalling 20% and 80% of the associated floor area, respectively, on each facade of a corner room exposed directly to or at an angle to the road or rail traffic noise sources.

Our analysis indicates that exterior wall construction meeting STC 54 (e.g., brick veneer) or higher is required. Moreover, the MECP/FCM requires brick veneer exterior wall construction or masonry equivalent construction for the first row of dwellings (i.e. all the development including proposed Buildings A, B and C) as they are within 100 m of the rail line and the $L_{eq\ 24}$ is greater than 60 dBA.

Upgraded windows are also required:

- North facade: Up to STC 48; and
- West and east facades: Up to STC 45.

For south facade, the analysis shows that exterior wall and window construction meeting the minimum non-acoustical requirements of the Ontario Building Code will be sufficient to meet the indoor noise criteria.

Note, the required window STC ratings can be up to 3 points higher at corner locations if windows are provided on both facades.

The window STC requirements may be reduced through proper space design. Consideration should be given to:

- Reducing the size of the windows or ensuring that the exterior window area is small relative to the floor area of the associated space.
- Designing the spaces so that the rooms at the corners of the building have windows on only one facade.
- Having non-noise sensitive spaces, such as walk-in closets or washrooms, at the corners of the building.
- Upgrade the exterior wall construction to have an STC rating greater than STC 54.

Note, the window frames themselves must also be designed to ensure that the overall sound isolation performance for the entire window assembly meets the sound isolation requirement. This must be confirmed by the window manufacturer through the submission of acoustical test data.

The assessment should be updated, and the sound isolation requirements confirmed once more detailed plans, suite layout drawings and elevation drawings become available.

4.3.1.2 Ventilation Requirements

All dwelling units in the development require central air conditioning to allow windows to be closed for noise control purposes.

4.3.2 Outdoors

The unmitigated daytime OLA sound levels at the 2nd level patios on the north side of the buildings and the 6-storey and 8-storey roof terraces on Building C are predicted to exceed the 60 dBA upper limit of the MECP noise guidelines. Therefore, sound barriers are required.

However, if these patios/terraces can be re-designed to have depths less than 4 m, and they would not be considered as OLA's and noise mitigation would not be required. Note that there are common amenity areas on the building rooftops meeting the MECP noise guidelines and thus, these patios are not the only OLAs provided for the units.

If patio/terrace depths greater than 4 m are maintained, the following sound barriers are required to mitigate the daytime sound level to 60 dBA, the maximum level permitted by the MECP noise guidelines, provided a warning clause is registered on title:

- For the 8-storey roof terrace on Building C, the section plans indicated 1.1 m high safety parapet walls will be provided. It is recommended that the parapet wall for the terrace be upgraded to a sound barrier, along the north and east sides. Figure 2 shows the sound barrier/parapet location.
- For the 2nd level patios on north side of the buildings, a 1.8 m high sound barrier is required along the perimeter of the proposed underground parking structure. The sound barrier location is shown on Figures 2, 4 and 5.

The sound barriers must be of solid construction with no gaps, cracks or holes (except for small openings required for water drainage) and must have a minimum surface weight of 20 kg/m². A variety of materials are available, including concrete, masonry, glass, wood, specialty composite materials, or a combination of the above.

Sound barrier requirements should be reviewed once grading plans and cross sections are finalized.

4.3.3 Warning clauses

Warning clauses are a tool to inform prospective owners/occupants of potential annoyance due to existing noise sources. Where the guideline sound level limits are exceeded, appropriate warning clauses should be registered on title or included in the development agreement that is registered on title. The warning clauses should also be included in agreements of Offers of Purchase and Sale and lease/rental agreements to make future occupants aware of the potential noise situation.

Table 3 and the notes to Table 3 summarize the warning clauses for the site.

TABLE 3 MINIMUM NOISE ABATEMENT MEASURES

Location	Air Conditioning ⁽¹⁾	Exterior Wall ⁽²⁾	Window STC Rating ⁽²⁾	Sound Barrier ⁽³⁾	Warning Clauses ⁽⁴⁾
Units along north facade of development including Buildings A, B and C	Mandatory	brick veneer or masonry equivalent (STC 54)	STC 48	See Section 4.3.2	A + B + C
Units along west and east facades of development including Buildings A, B and C	Mandatory	brick veneer or masonry equivalent (STC 54)	STC 45	See Section 4.3.2	A + B + C
Units along south facade of development including Buildings A, B and C	Mandatory	No specific acoustical requirement			A + B + C

Notes:

- (1) Where methods must be provided to allow windows to remain closed for noise control purposes, a commonly used technique for is the use of air conditioning. Provision for adding air conditioning typically takes the form of a ducted ventilation system suitably sized to permit the addition of central air conditioning by the occupant.
- (2) STC - Sound Transmission Class Rating (Reference ASTM-E413). Analyses were based upon the assumption that wall and window areas are as indicated in Section 4.3.1.1 of this report. Requirements should be checked once floor plans have been finalized and exterior wall construction details are defined.
- (3) Sound barriers must be of solid construction with no gaps, cracks, or holes, and must meet a minimum surface density of 20 kg/m². Suitable material can include wood, concrete metal sandwich panel, glazing or a combination of these.
- (4) The warning clauses to be registered on title and be included in Offers of Purchase and Sale for designated lots:
 - A. "Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road and rail 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."
 - B. "This dwelling 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 noise criteria of the municipality and the Ministry of the Environment."
 - C. "Purchasers/occupants are advised Canadian Pacific Limited (CP)/Metrolinx or its affiliated railway companies has or have a railway right-of-way within 300 m from this dwelling unit. There may be alterations to or expansions of the railway facilities of such right-of-way in the future, including the possibility that CP/Metrolinx or its affiliated railway companies as aforesaid, or their assigns or successors may expand their business operations. Such expansion may affect the living and business environment of the residents, tenants and their visitors, employees, customers and patients in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating features in the design of the development. CP/Metrolinx, its affiliated railway companies and their successors or assigns will not be responsible or any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid right of-way."
- (5) All exterior doors shall be fully weather-stripped.

5.0 THE EFFECT OF THE PROJECT ON THE NEIGHBOURHOOD

The main source of noise associated with this development, with the potential for significant impact on surrounding buildings, is the mechanical equipment.

Mechanical equipment interfacing to the outdoors must comply with the MECP noise guideline limits in NPC-300. By proper engineering design, all requirements can be met, and no significant noise impact would be created for surrounding uses. Appropriate choice of location, equipment type, and noise control features should be considered during detailed design for such items as rooftop equipment and air intakes and exhausts, including underground parking garage ventilation systems. The noise emissions from parking garage air shafts located immediately adjacent to residential uses can be designed to comply with the noise guideline limits by acoustically lining the shaft and/or providing silencers.

For any emergency generators, appropriate steps should be taken to ensure that the equipment placement, treatment, and the routine testing schedule will not generate significant noise impact on neighbouring properties. The generator will require silencers on the intake and exhaust cooling air paths, as well as a muffler on the combustion exhaust.

The additional road traffic generated by this project will be small relative to existing traffic volumes within the general area and is not expected to create significant additional noise impact.

6.0 CONCLUSIONS

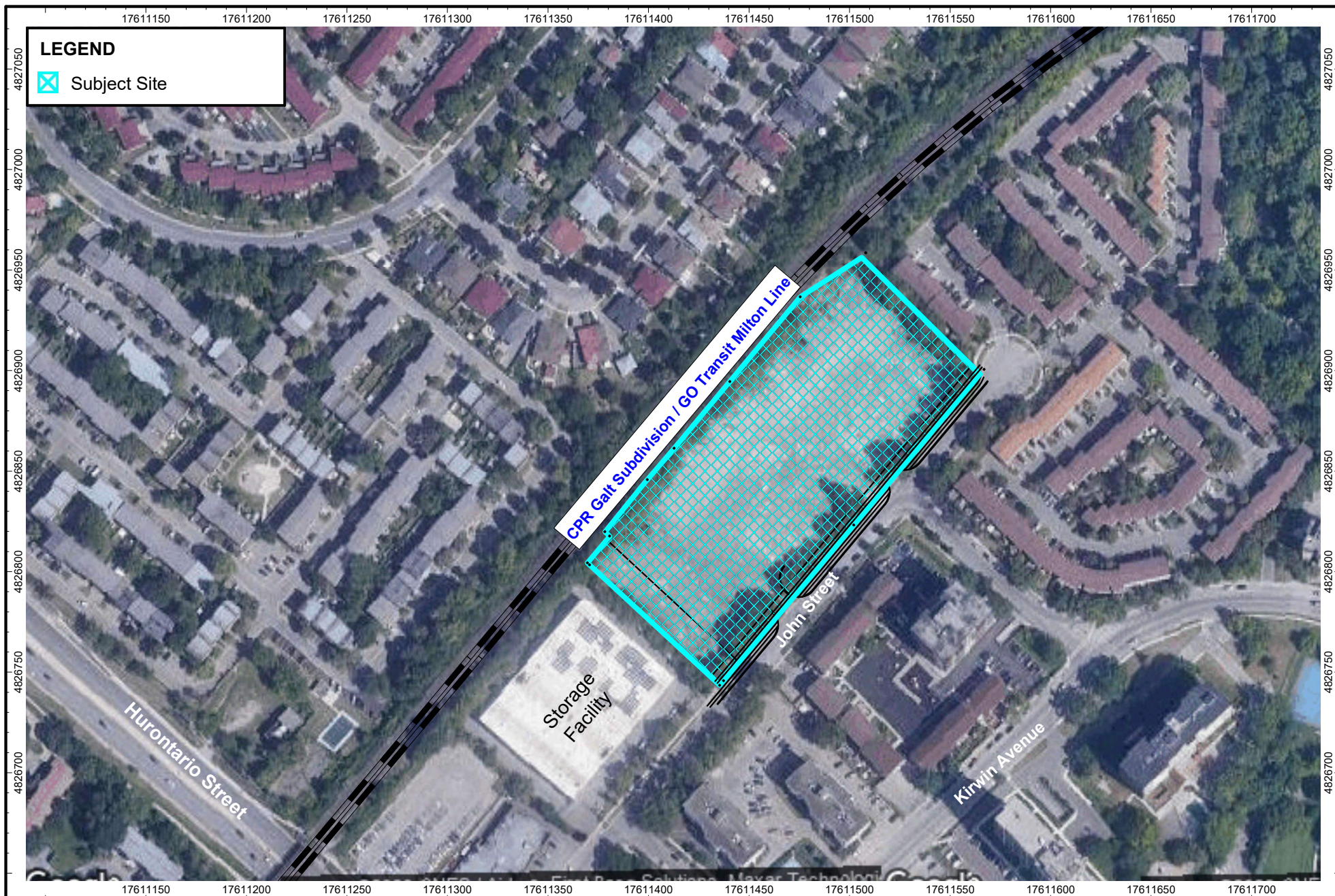
With the incorporation of the recommended noise mitigation measures, the indoor and outdoor transportation noise guidelines can be met. Future occupants will be made aware of potential noise situation through warning clauses, as per MECP guidelines.


The approvals and administrative procedures are available to ensure that the noise requirements are implemented.

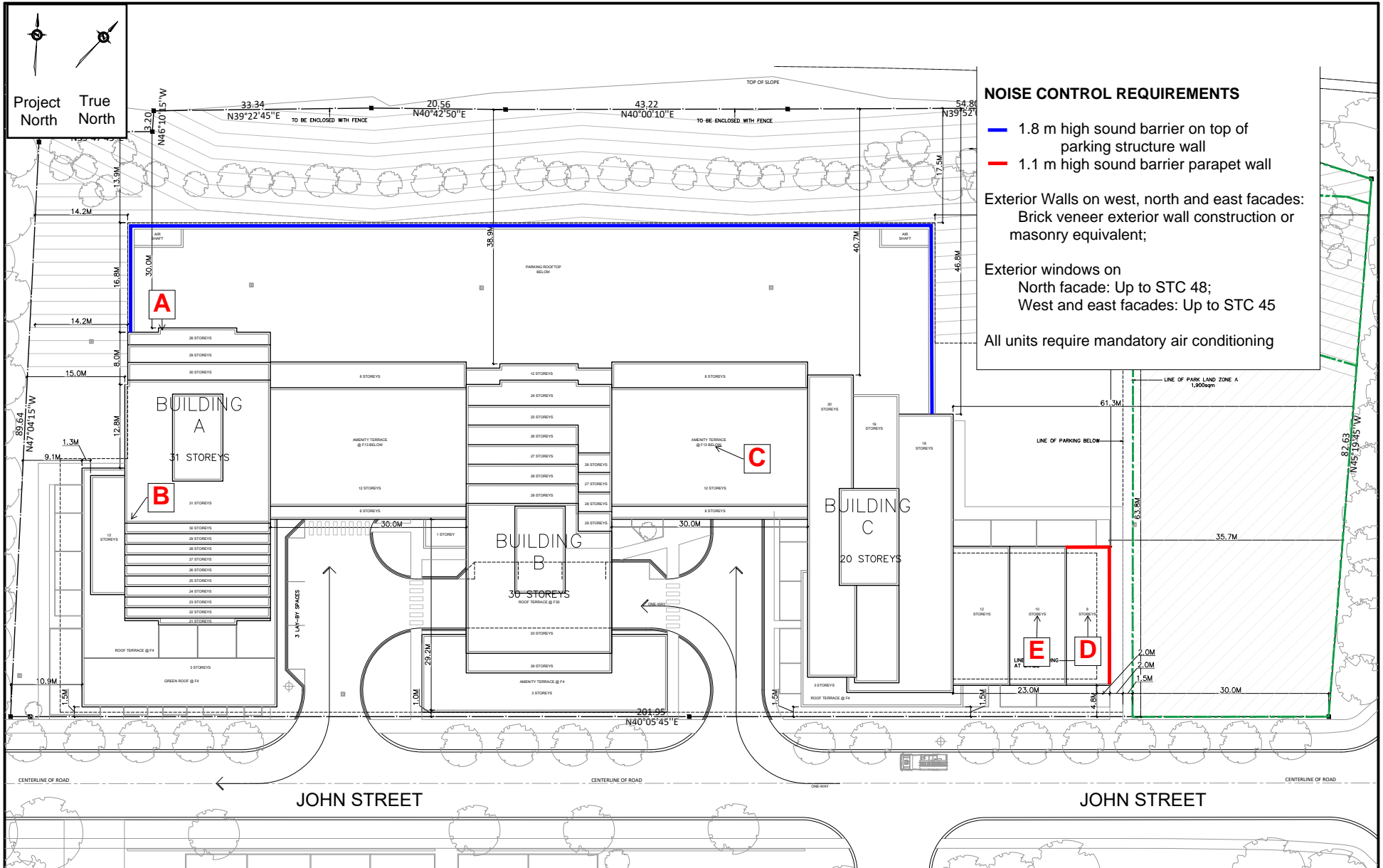
7.0 REFERENCES

1. PC STAMSON 5.04, "Computer Program for Road Traffic Noise Assessment", Ontario Ministry of the Environment.
2. Building Practice Note No. 56: "Controlling Sound Transmission into Buildings", by J. D. Quirt, Division of Building Research, National Council of Canada, September 1985.
3. "Sound Level Limits for Stationary Sources in Class 1 and 2 Areas (URBAN)", Ontario Ministry of the Environment, Publication NPC-205, October 1995.
4. "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning", Ontario Ministry of the Environment, Publication NPC-300, August 2013


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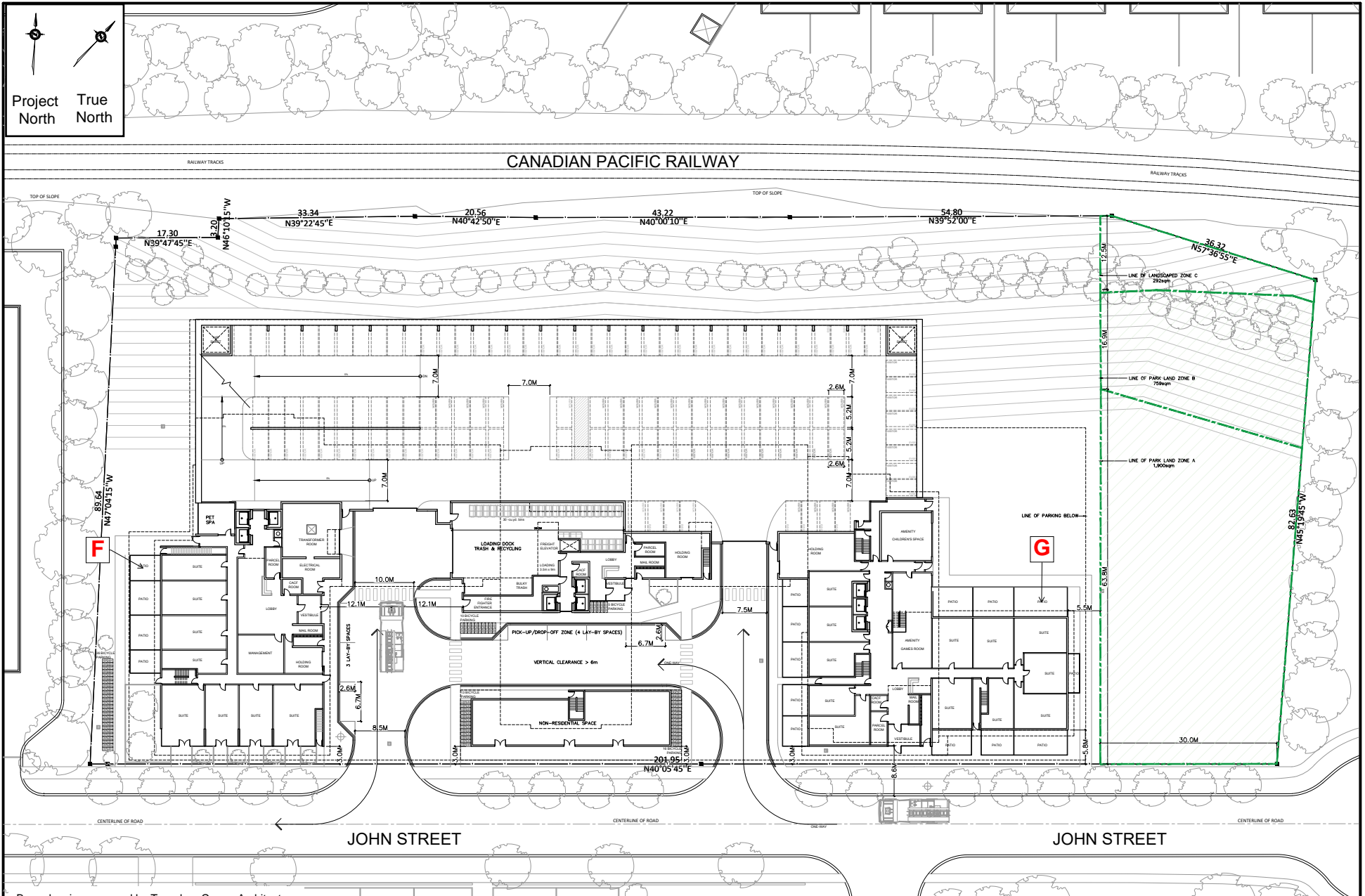


 VALCOUSTICS <i>Canada Ltd.</i> consulting acoustical engineers	Title Key Plan		Date Sept. 30, 2024	Figure 1
	Project Name 69 & 117 John St, Mississauga		Project No. 1220393.000	

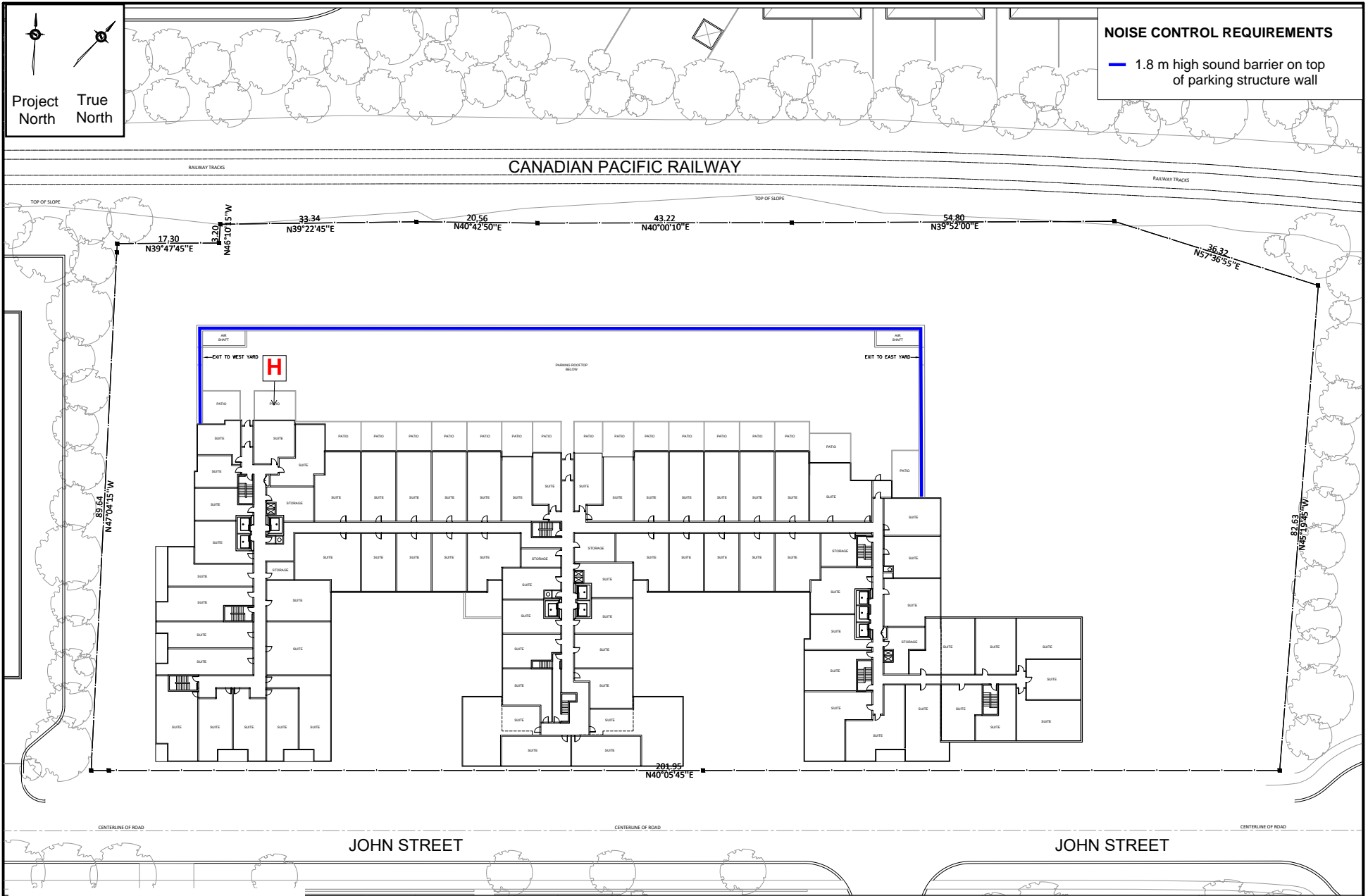



Base drawing prepared by Tregobov Cogan Architect

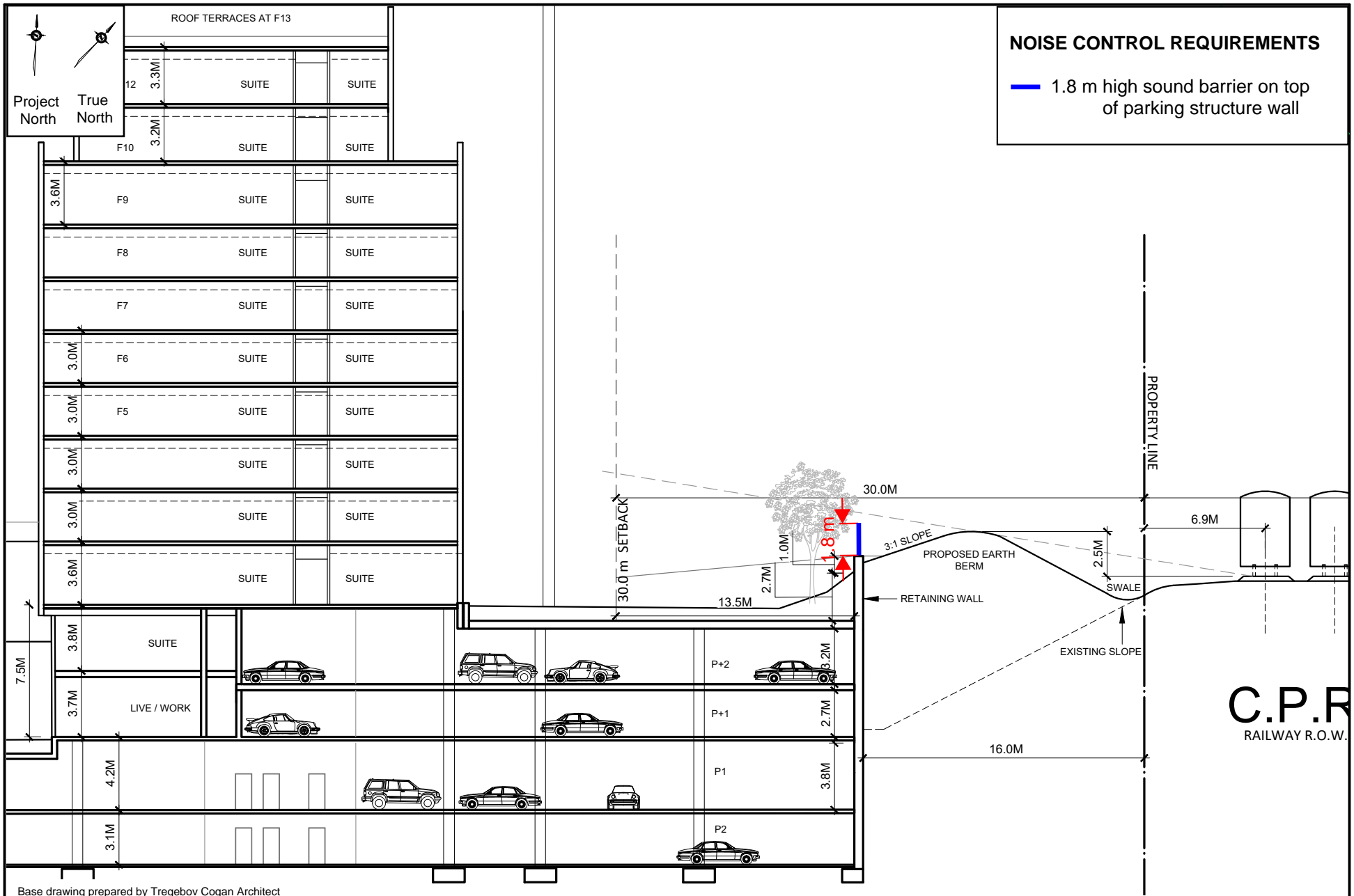
 <p>VALCOUSTICS Canada Ltd. consulting acoustical engineers</p>	<p>Title Site Plan</p> <p>Project Name 69 & 117 John Street, Mississauga</p>	<p>Date Sept. 24, 2024</p> <p>Project No. 1220393.000</p>	<p>Figure 2</p>
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 <p>VALCOUSTICS Canada Ltd. consulting acoustical engineers</p>	<p>Title Ground Floor Plan / Site Plan</p> <p>Project Name 69 & 117 John Street, Mississauga</p>	<p>Date Sept. 24, 2024</p> <p>Project No. 1220393.000</p>	<p>Figure 3</p>
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 <p>VALCOUSTICS Canada Ltd. consulting acoustical engineers</p>	<p>Title Level 2 Floor Plan</p> <p>Project Name 69 & 117 John Street, Mississauga</p>	<p>Date Sept. 30, 2024</p> <p>Project No. 1220393.000</p>	<p>Figure 4</p>
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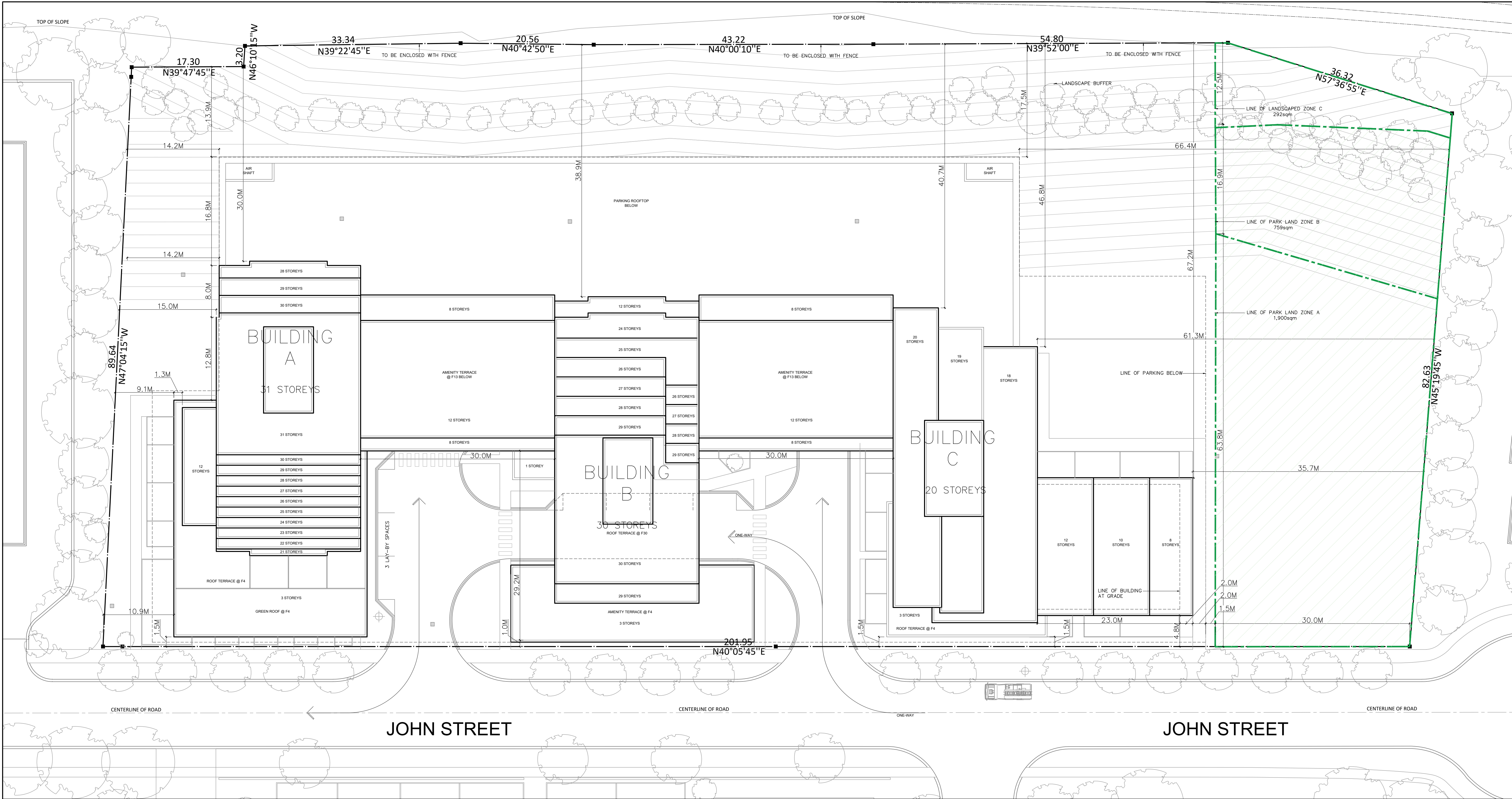


 <p>VALCOUSTICS Canada Ltd. consulting acoustical engineers</p>	<p>Title Section Plan</p> <p>Project Name 69 & 117 John Street, Mississauga</p>	<p>Date Sept. 30, 2024</p> <p>Project No. 1220393.000</p>	<p>Figure 5</p>
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Base drawing prepared by Tregebov Cogan Architect

APPENDIX A

ARCHITECTURAL PLANS



CONTEXT PLAN

Scale: 1:5000

LEGAL DESCRIPTION

PART OF LOT 15 CONCESSION 1, NORTH OF DUNDAS STREET
(GEOGRAPHIC TOWNSHIP OF TORONTO)

CITY OF MISSISSAUGA
REGIONAL MUNICIPALITY OF PEE

SITE DATA

LOT AREA 18,685 sq.m (1.87 hectare)
BUILDING AREA (GROUND FLOOR) 7,036 sq.m (38% of LOT AREA)
GROSS FLOOR AREA 100,379 sq.m
FLOOR SPACE INDEX (F.S.I.) 5.37

FLOOR AREAS AND SUITES

TYPE	AREAS (m ²)				
COMMERCIAL	600				
PODIUM (F1-F12)	60,811	529	90	60	679
TOWER A	16,858	191	56	0	247
TOWER B	16,333	191	35	0	226
TOWER C	6,938	180	10	0	190
TOTAL	100,379	1,091	191	60	1,342

NOTES:
3.5% OF TOTAL UNITS DEDICATED TO RENTAL TENANCY AND 7% OF TOTAL UNITS DEDICATED TO AFFORDABLE HOUSING
FLOOR AREAS REFLECT 1,000 sq.m FLOOR PLATES FOR TOWERS
FLOOR AREAS DO NOT EXCLUDE CIRCULATION SPACE

MIN. SUITE AREA 50 sq.m
AVERAGE AREA/SUITE (net) 63 sq.m
UNITS PER HECTARE (U.P.H.) 717

LAND USE AT GRADE

PAVED AREA	2,130 sq.m	11%
LANDSCAPED AREA	6,860 sq.m	37%
PARK LAND	2,659 sq.m	14%
AREA OF BLDG. AT GRADE	7,036 sq.m	38%
TOTAL	18,685 sq.m	100%

SETBACKS

PROVIDED

SOUTH SIDE (JOHN STREET)	VARIES 1.0 m – 30.2 m
WEST SIDE	VARIES 9.1 m – 15.0 m
NORTH SIDE (C.P.R. RAILWAY)	VARIES 30.0 m – 67.2 m
EAST SIDE	VARIES 35.7 m – 66.4 m

BUILDING HEIGHTS

TOWER A HEIGHT TO TOP OF FLAT ROOF (TAKEN FROM ESTABLISHED GRADE LINE)	100 m
TOWER B HEIGHT TO TOP OF FLAT ROOF (TAKEN FROM ESTABLISHED GRADE LINE)	97 m
TOWER C HEIGHT TO TOP OF FLAT ROOF (TAKEN FROM ESTABLISHED GRADE LINE)	65 m

PARKING

REQUIRED

TYPE OF UNIT	NO. OF UNITS	PARKING RATIO	PARKING REQUIRED
1 BEDROOM	1,091	0.50	546
2 BEDROOM	191	0.50	95
3 BEDROOM	60	0.50	30
TOTAL RESIDENTIAL PARKING			671
VISITOR PARKING	1,342	0.11	148
TOTAL PARKING REQUIRED			819

PROVIDED

PARKING LEVEL	NEW RATIO PARKING SPACES
SURFACE	7
P+1 LEVEL	116
P+2 LEVEL	114
P1 LEVEL	282
P2 LEVEL	303
TOTAL	822

PARKING SPACE TYPICAL DIMENSIONS: 2.6 m X 5.7 m
BARRIER-FREE: 4.5 m X 5.7 m
DRIVEWAY: 7.00 m MIN. WIDTH

NOTES:
INCLUDES 18 BARRIER-FREE PARKING SPACES, 651 RESIDENTIAL SPACES AND 153 VISITOR SPACES
SURFACE LEVEL PARKING ARE SHORT-TERM VISITOR PARKING SPACES
PARKING RATIOS ARE BASED ON NEW REQUIREMENTS OF MISSISSAUGA CITY COUNCIL
INCLUDES 174 (20% OF REQ.) RESIDENTIAL EV SPACES AND 20 (10% OF REQ.) VISITOR EV SPACES

BICYCLE PARKING PROVIDED

SURFACE LEVEL	70 SPACES
BASEMENT LEVELS	807 SPACES
TOTAL ON SITE	877 SPACES

NOTES:
SURFACE LEVEL SPOTS ARE SHORT-TERM VISITOR SPACES

AMENITY SPACE

OUTDOOR REAR YARD (ON GRADE)	4,477 sq.m
PROVIDED SHARED OUTDOOR AMENITY (AT FLOORS 4 AND 13)	1,295 sq.m
INDOOR AMENITY (TOTAL OF FLOORS 4 AND 13)	1,531 sq.m
TOTAL	7,303 sq.m

NOTES:
OUTDOOR REAR YARD AMENITY SPACE EXCLUDES PRIVATE PATIOS AND RAILWAY BERM AREAS

LANDSCAPE AREAS

LANDSCAPE AREA (ON GRADE)	6,860 sq.m
OUTDOOR AMENITY (TOTAL OF FLOORS 4 AND 13)	1,531 sq.m
TOTAL	8,391 sq.m

NOTES:
OUTDOOR REAR YARD AMENITY SPACE EXCLUDES PRIVATE PATIOS AND RAILWAY BERM AREAS
DOES NOT INCLUDE ANY PART OF PARKLAND ZONES 'A' AND 'B'

3 SITE PLAN

Scale: 1:300

1 STATISTICS

CONSULTANTS:

2024-09-11 01 FOR COORDINATION

DATE No. ISSUE

ARCHITECT:

TREGEBOV COGAN ARCHITECT

40 Saint Clair Avenue East, Suite 303
Toronto, ON M4T 1M9
PHONE: 647.352.3350

OWNER:

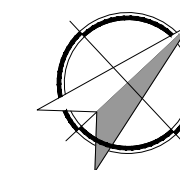
PROJECT NAME:

69 & 117 JOHN ST.
MISSISSAUGA

DRAWING TITLE:

SITE STATISTICS, CONTEXT
PLAN AND ROOF PLAN

PRINT DATE: 11-SEPT 2024

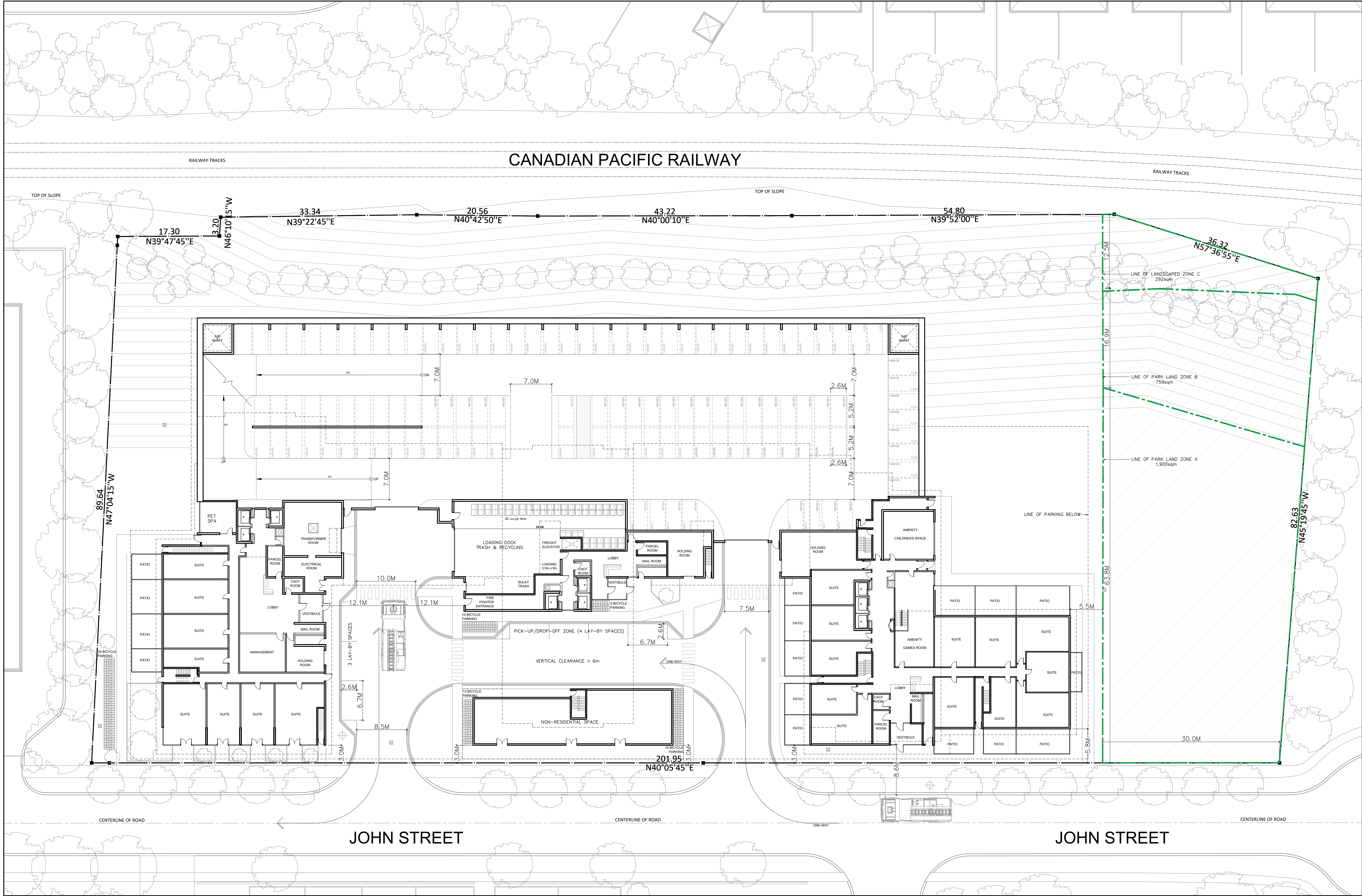


NORTH
PROJ. No.: 1101

SCALE: AS NOTED

DRAWN BY: KT

DWG No.
A1.0



CONSULTANTS:

2024-09-11 01 FOR COORDINATION

DATE No. ISSUE

ARCHITECT:

TREGEBOV COGAN ARCHITECT

40 Saint Clair Avenue East, Suite 303
Toronto, ON M4T 1M9
PHONE: 647.352.3350

OWNER:

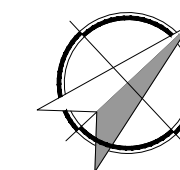
PROJECT NAME:

69 & 117 JOHN ST.
MISSISSAUGA

DRAWING TITLE:

F1/SITE PLAN

PRINT DATE: 11-SEPT 2024



NORTH

PROJ. No.:

1101

SCALE:

AS NOTED

DRAWN BY:

KT

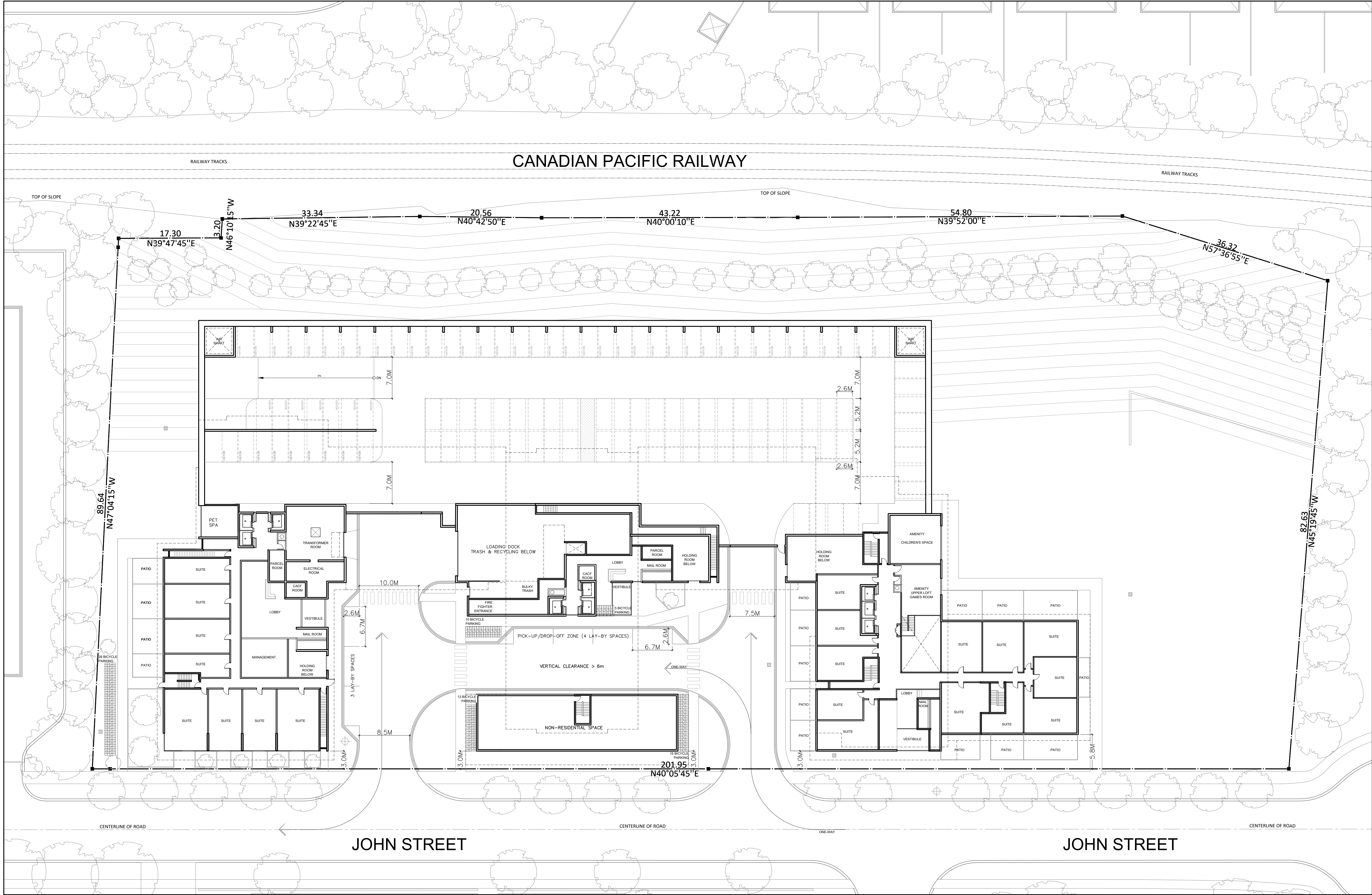
DEV APPLICATION NO.:

DWG NO.

A2.2

1 F1/SITE PLAN

1:300



1 F1a FLOOR PLAN
1:300

CONSULTANTS:

2024-09-11 01 FOR COORDINATION

DATE No. ISSUE

ARCHITECT:

TREGEBOV COGAN ARCHITECT

40 Saint Clair Avenue East, Suite 303
Toronto, ON M4T 1M9
PHONE: 647.352.3350

OWNER:

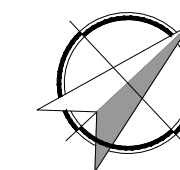
PROJECT NAME:

69 & 117 JOHN ST.
MISSISSAUGA

DRAWING TITLE:

F1a FLOOR PLAN

PRINT DATE: 11-SEPT 2024



NORTH

PROJ. No.:

1101

SCALE:

AS NOTED

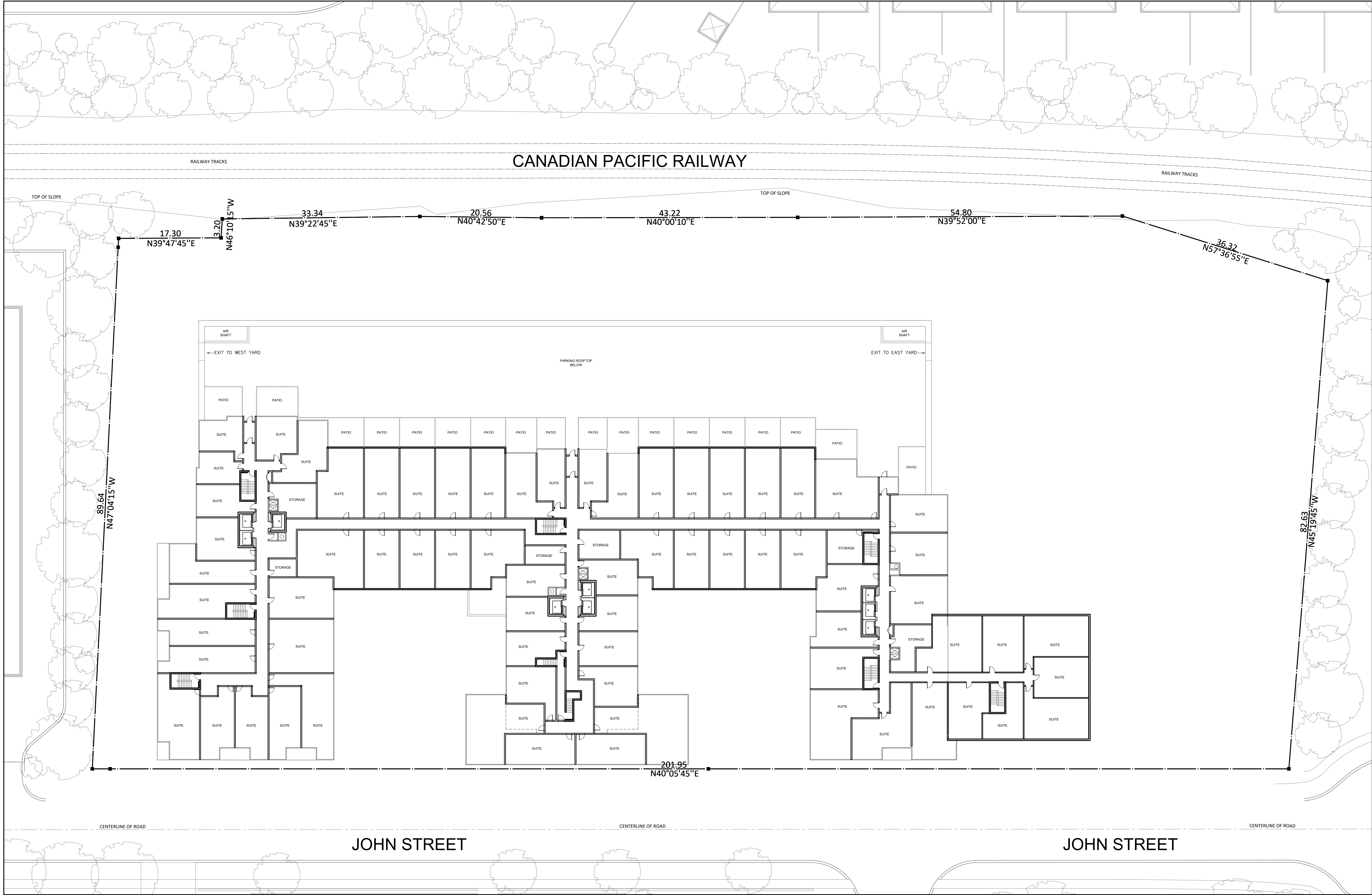
DRAWN BY:

KT

DEV APPLICATION NO.:

DWG NO.

A2.3



1 F2 FLOOR PLAN

1:300

CONSULTANTS:

2024-09-11 01 FOR COORDINATION

DATE No. ISSUE

ARCHITECT:

TREGEBOV COGAN ARCHITECT

40 Saint Clair Avenue East, Suite 303
Toronto, ON M4T 1M9
PHONE: 647.352.3350

OWNER:

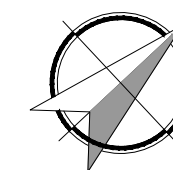
PROJECT NAME:

69 & 117 JOHN ST.
MISSISSAUGA

DRAWING TITLE:

F2 FLOOR PLAN

PRINT DATE: 11-SEPT 2024



NORTH

PROJ. No.:

1101

SCALE:

AS NOTED

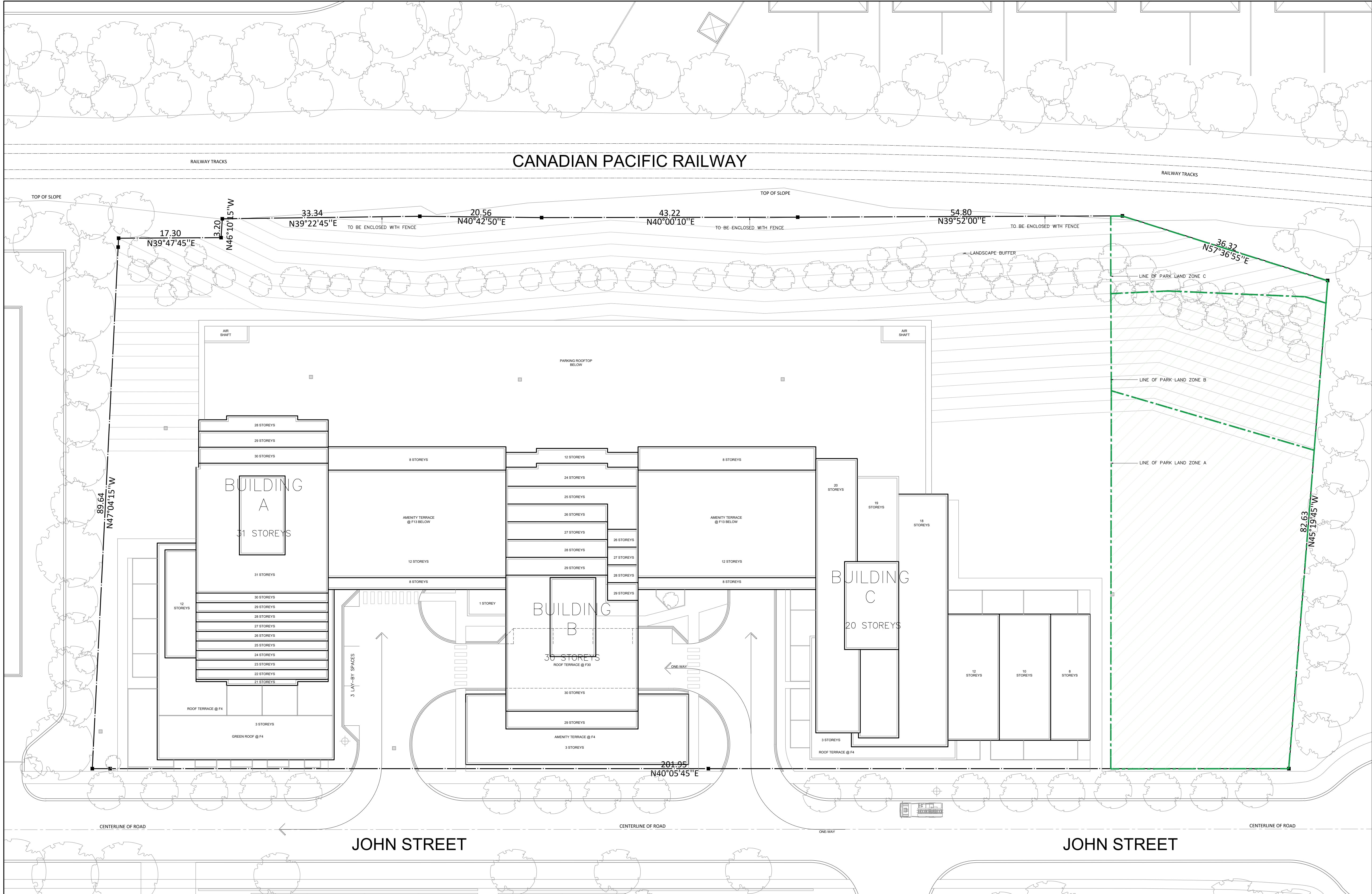
DRAWN BY:

KT

DEV APPLICATION NO:

DWG NO.

A2.4



1 ROOF PLAN
1:300

CONSULTANTS:

2024-09-11 01 FOR COORDINATION

DATE No. ISSUE

ARCHITECT:
TREGEBOV COGAN ARCHITECT

40 Saint Clair Avenue East, Suite 303
Toronto, ON M4T 1M9
PHONE: 647.352.3350

OWNER:

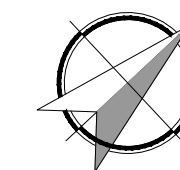
PROJECT NAME:

69 & 117 JOHN ST.
MISSISSAUGA

DRAWING TITLE:

ROOF PLAN

PRINT DATE: 11-SEPT 2024



NORTH

PROJ. No.: 1101

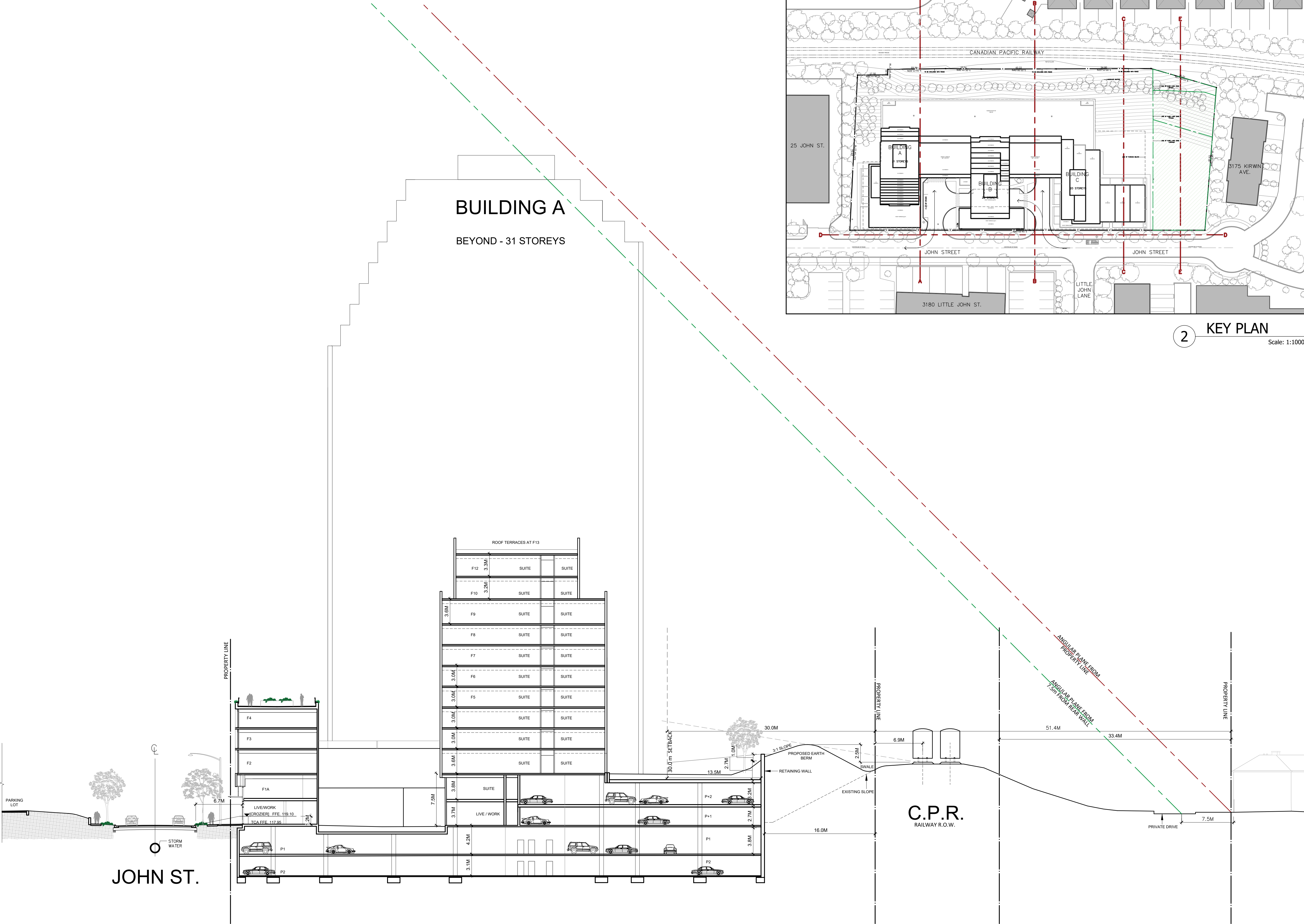
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DRAWN BY: KT

DEV APPLICATION NO:

DWG NO.

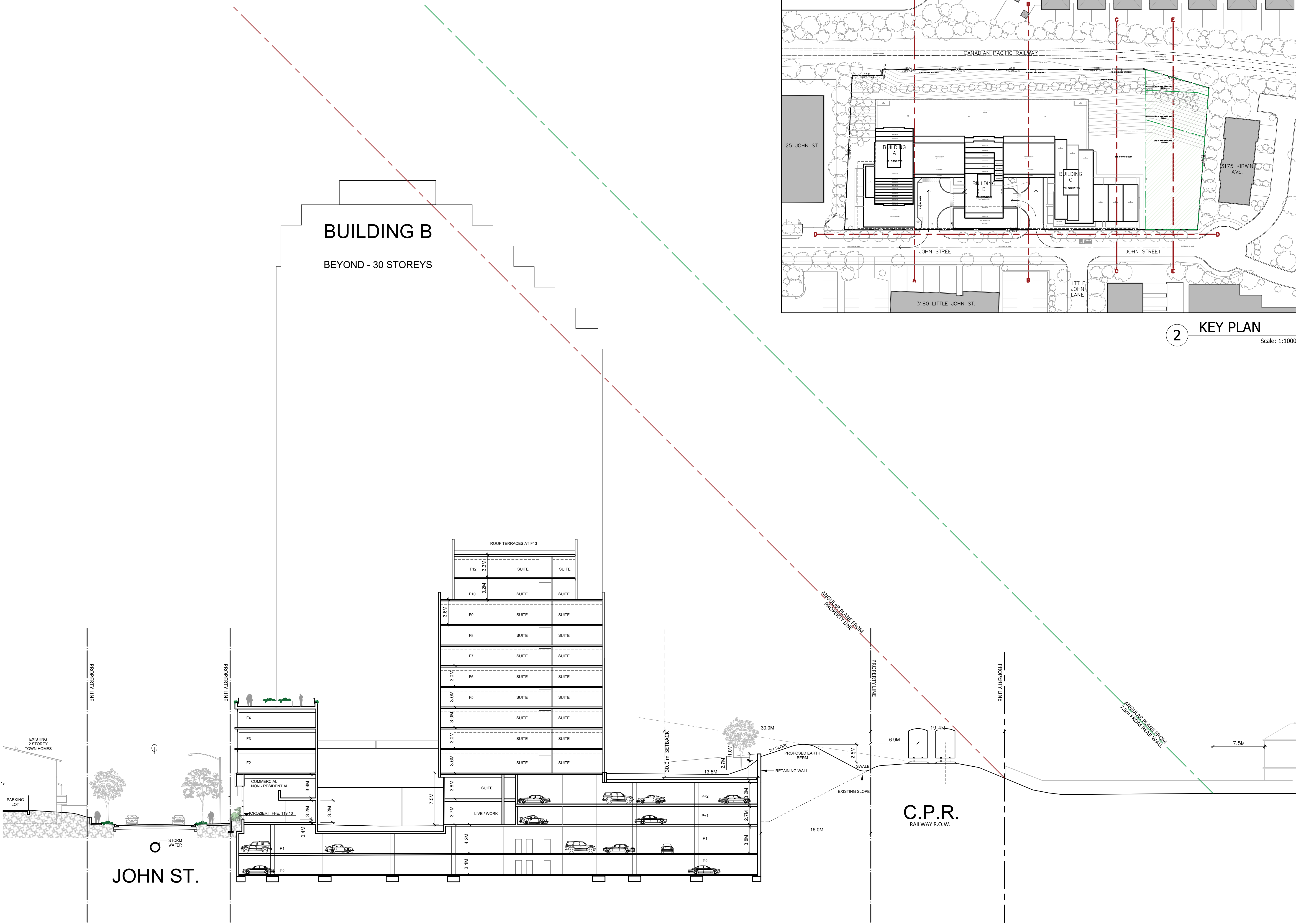
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2 KEY PLAN
Scale: 1:1000

1 SECTION A-A
Scale: 1:250

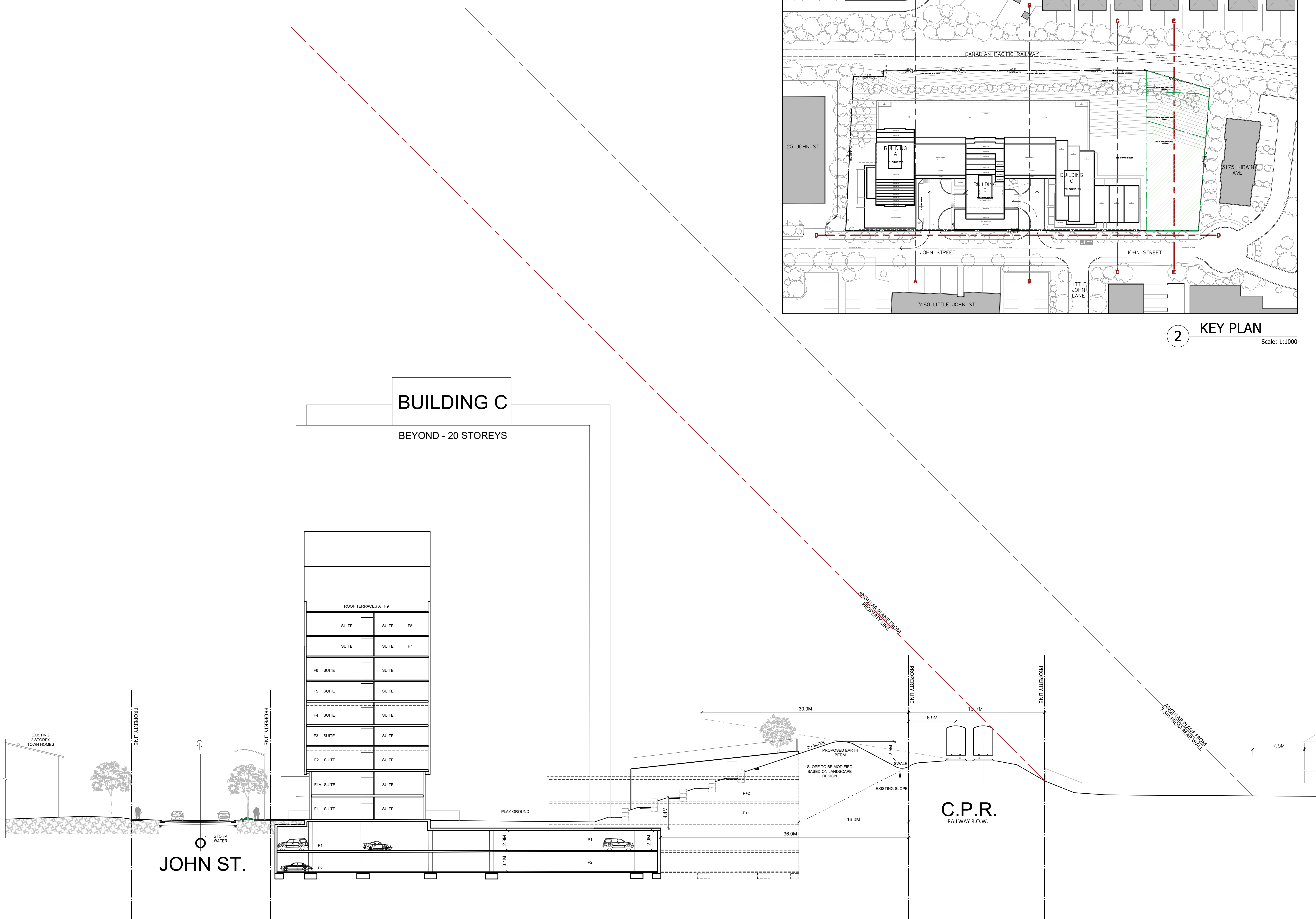
CONSULTANTS:		
2024-09-11	01	FOR COORDINATION
DATE	No.	ISSUE
ARCHITECT:		
TREGBOV COGAN ARCHITECT		
40 Saint Clair Avenue East, Suite 303 Toronto, ON M4T 1M9 PHONE: 647.352.3350		
OWNER:		
PROJECT NAME:		
69 & 117 JOHN ST. MISSISSAUGA		
DRAWING TITLE:		
SECTION A-A PODIUM SECTION		
PRINT DATE: 11-SEPT 2024		
PROJ. No.:	1101	DEV APPLICATION NO.:
SCALE:	AS NOTED	DWG NO.
DRAWN BY:	KT	A3.0



2 KEY PLAN
Scale: 1:1000

1 SECTION B-B
Scale: 1:250

CONSULTANTS:		
2024-09-11	01	FOR COORDINATION
DATE	No.	ISSUE
ARCHITECT:		
TREGBOV COGAN ARCHITECT		
40 Saint Clair Avenue East, Suite 303 Toronto, ON M4T 1M9 PHONE: 647.352.3350		
OWNER:		
PROJECT NAME:		
69 & 117 JOHN ST. MISSISSAUGA		
DRAWING TITLE:		
SECTION B-B PODIUM SECTION		
PRINT DATE: 11-SEPT 2024		
PROJ. No.: 1101		DEV APPLICATION NO:
SCALE: AS NOTED		DWG NO.
DRAWN BY: KT		A3.1



2 KEY PLAN

Scale: 1:1000

1 SECTION C-C

Scale: 1:250

CONSULTANTS:

2024-09-11 01 FOR COORDINATION

DATE No. ISSUE

ARCHITECT:

TREGBOV COGAN ARCHITECT

40 Saint Clair Avenue East, Suite 303
Toronto, ON M4T 1M9
PHONE: 647.352.3350

OWNER:

PROJECT NAME:

69 & 117 JOHN ST.
MISSISSAUGA

DRAWING TITLE:

SECTION C-C
PODIUM SECTION

PRINT DATE: 11-SEPT 2024

PROJ. No.: 1101

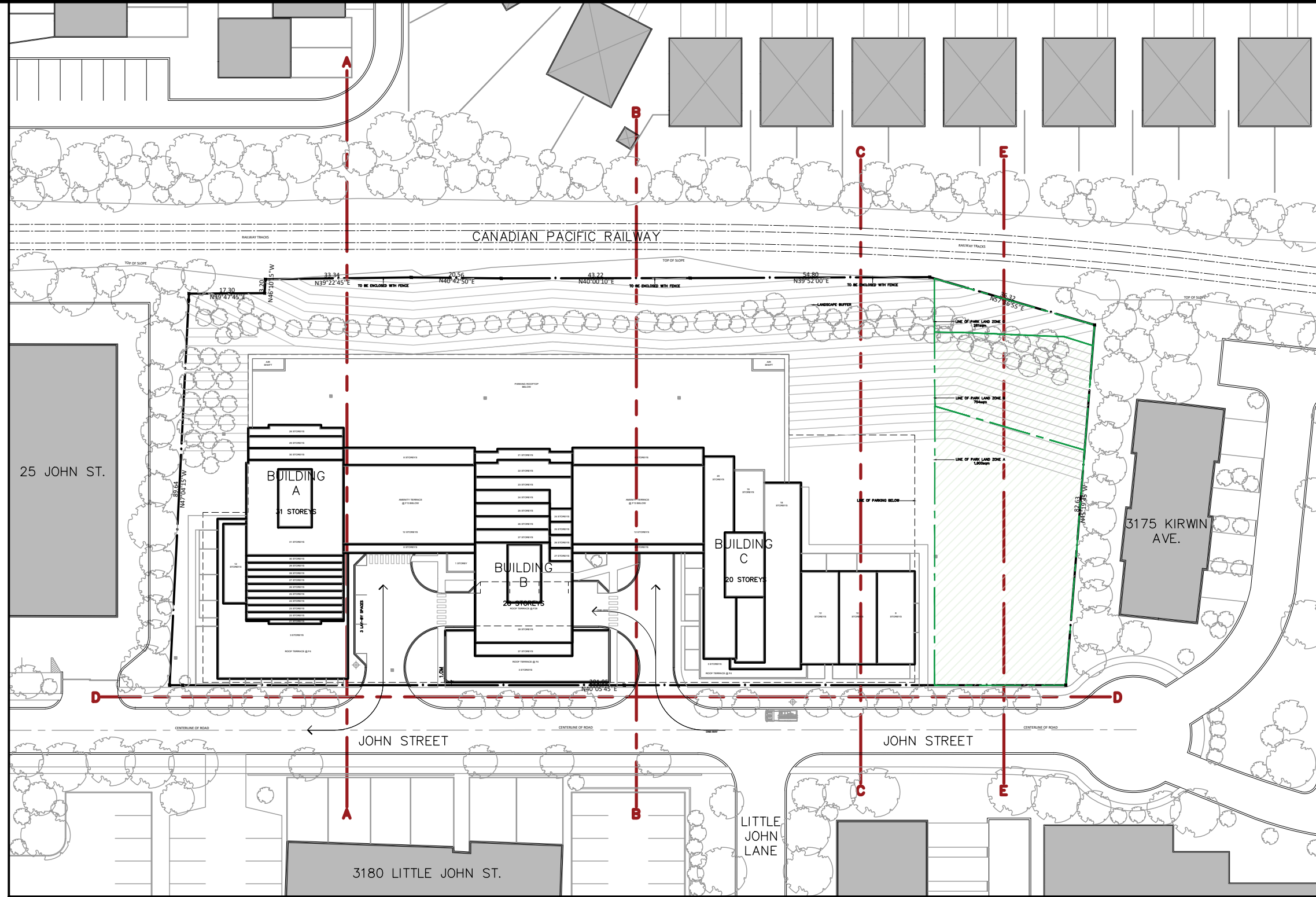
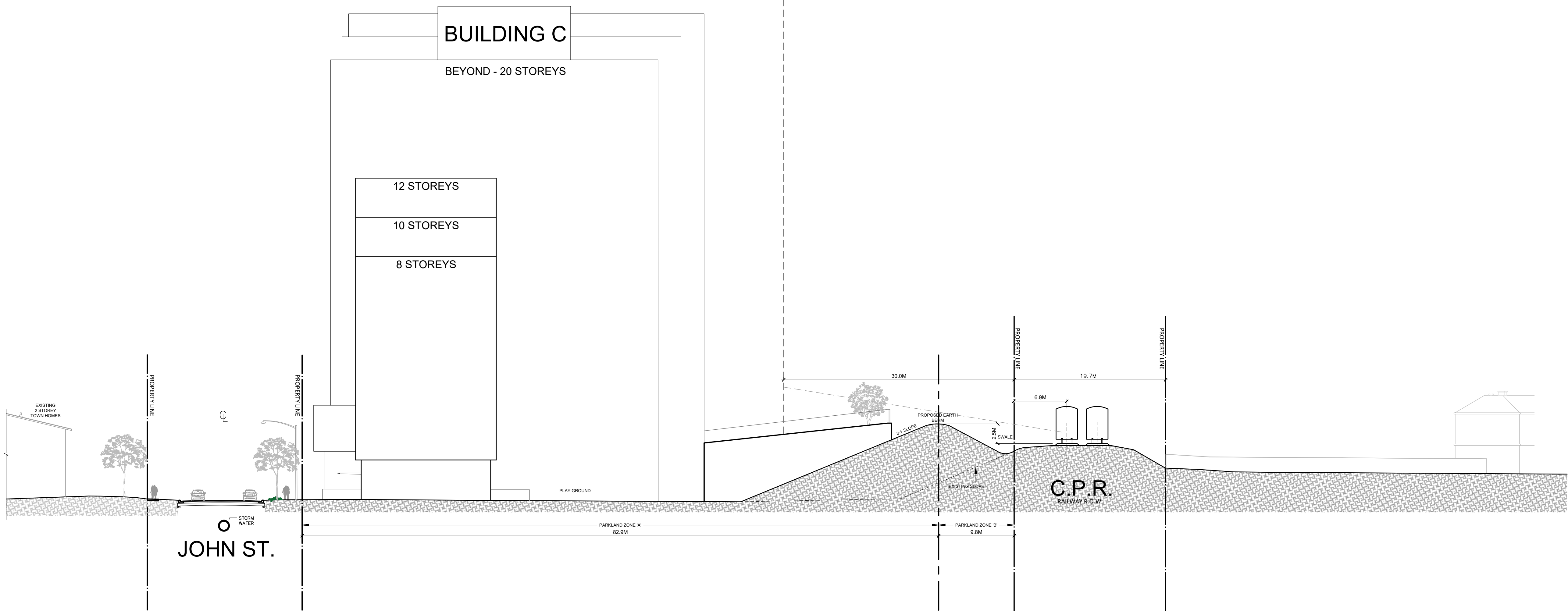
SCALE: AS NOTED

DRAWN BY: KT

DEV APPLICATION NO:

DWG NO.

A3.2



2 KEY PLAN
Scale: 1:1000

1 SECTION E-E
Scale: 1:300

CONSULTANTS:

2024-09-11 01 FOR COORDINATION

DATE No. ISSUE

ARCHITECT:

TREGBOV COGAN ARCHITECT

40 Saint Clair Avenue East, Suite 303
Toronto, ON M4T 1M9
PHONE: 647.352.3350

OWNER:

PROJECT NAME:

69 & 117 JOHN ST.
MISSISSAUGA

DRAWING TITLE:

SECTION E-E
PARKLAND SECTION

PRINT DATE: 11-SEPT 2024

PROJ. No.: 1101

SCALE: AS NOTED

DRAWN BY: KT

DEV APPLICATION NO:

DWG NO.

A3.4

APPENDIX B

TRAFFIC DATA

Richard Li

From: Rail Data Requests <RailDataRequests@metrolinx.com>
Sent: January 9, 2023 12:21 PM
To: Richard Li
Subject: RE: Traffic Data Request - Proposed LRT along Hurontario Street: 69 & 117 John St, Mississauga

Hi Richard,
Please consider this email and train trip data and ignore previous email.
Thanks.

Further to your request dated January 9, 2023, the subject lands (117 John St in Mississauga) are located within 300 metres of the CP Galt Subdivision (which carries Milton GO rail service).

It's anticipated that GO rail service on this Subdivision will be comprised of diesel trains. The GO rail fleet combination on this Subdivision will consist of up to 2 locomotives and 12 passenger cars. The typical GO rail weekday train volume forecast near the subject lands, including both revenue and equipment trips is in the order of 22 trains. The planned detailed trip breakdown is listed below:

	1 Diesel Locomotive	2 Diesel Locomotives		1 Diesel Locomotive	2 Diesel Locomotives
Day (0700-2300)	20	0	Night (2300-0700)	2	0

The current track design speed near the subject lands is 65 mph (105 km/h).

There are no *anti-whistling by-laws* in affect near the subject lands.

Operational information is subject to change and may be influenced by, among other factors, service planning priorities, operational considerations, funding availability and passenger demand.

It should be noted that this information only pertains to Metrolinx rail service. It would be prudent to contact other rail operators in the area directly for rail traffic information pertaining to non-Metrolinx rail service.

I trust this information is useful. Should you have any questions or concerns, please do not hesitate to contact me.



800 - 1290 Central Parkway
West
Mississauga, Ontario
Canada L5C 4R3

T 905 803 3429
E josie_tomei@cpr.ca

April 12, 2018

Via email: seema@valcoustics.com

Seema Nagaraj
Valcoustics
30 Wertheim Court
Unit 25
Richmond Hill, ON L4B 1B9

Dear Sir/Madam:

*Re: Rail Traffic Volumes, CP Mileage 14.15, Galt Subdivision,
473 Hensall Circle*

This is in reference to your request for rail traffic data in the vicinity of 473 Hensall Circle in the City of Mississauga. The study area is located at mile 14.15 of our Galt Subdivision, which is classified as a Principal Main line.

The information requested is as follows:

1. Number of freight trains between 0700 & 2300: 9
Number of freight trains between 2300 & 0700: 8
2. Average number of cars per train: 67
Maximum cars per train freight: 151
3. Number of locomotives per train: 2 (4 max)
4. Maximum permissible train speed: 50 mph freight
5. The whistle signal is prohibited approaching public grade crossings through the study area, however, the whistle may be sounded if deemed necessary by the train crew for safety reasons at any time.
6. There are 2 mainline tracks with continuously welded rail at this location along with a cross connection between these rails which may cause more than normal noise.

The information provided is based on recent rail traffic. Variations of the above may exist on a day-to-day basis. Specific measurements may also vary significantly depending on customer needs.

Yours truly,

Josie Tomei SR/WA
Specialist Real Estate Sales & Acquisitions – Ontario

Date: 11-Oct-22

NOISE REPORT FOR PROPOSED DEVELOPMENT

REQUESTED BY:

Name: Richard Li

Company: Valcoustics Canada Ltd.

Location: Hurontario Street from Dundas Street to CPR

PREPARED BY:

Name: Loudel Uy

Tel#: (905) 615- 3200



ID# 564

ON SITE TRAFFIC DATA

Specific	Street Names				
	Hurontario Street	Kirwin Avenue			
AADT:	53,200	12,500			
# of Lanes:	4 lanes	2 lanes			
% Trucks:	4%	2%			
Medium/Heavy Trucks Ratio:	55/45	55/45			
Day/Night Split:	90/10	90/10			
Posted Speed Limit:	50km/h	50km/h			
Gradient Of Road:	<2%	<2%			
Ultimate R.O.W:	35m	26m			

Comments:

Ultimate Traffic Data Only (2041)

-There is a proposed LRT line along Hurontario Street. Existing lanes may be converted from 6 lanes to 4 lanes with 2 LRT lines in the middle.

Please contact Farhad Shala @ (905) 615-3200 ext. 3377 or farhad.shala@mississauga.ca for more info regarding LRT.

- There's no available Ultimate AADT for John Street.

APPENDIX C

ENVIRONMENTAL NOISE GUIDELINES

APPENDIX C
ENVIRONMENTAL NOISE GUIDELINES
MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS (MECP)

Reference: MECP Publication NPC-300, October 2013: “*Environmental Noise Guideline, Stationary and Transportation Source – Approval and Planning*”.

SPACE	SOURCE	TIME PERIOD	CRITERION
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	Road	07:00 to 23:00	45 dBA
	Rail	07:00 to 23:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 5
Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres)	Road	23:00 to 07:00	45 dBA
	Rail	23:00 to 07:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 5
Sleeping quarters	Road	07:00 to 23:00	45 dBA
	Rail	07:00 to 23:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 0
Sleeping quarters	Road	23:00 to 07:00	40 dBA
	Rail	23:00 to 07:00	35 dBA
	Aircraft	24-hour period	NEF/NEP 0
Outdoor Living Areas	Road and Rail	07:00 to 23:00	55 dBA
Outdoor Point of Reception	Aircraft	24-hour period	NEF/NEP 30 [#]
	Stationary Source Class 1 Area	07:00 to 19:00 ⁽¹⁾	50 ⁺ dBA
		19:00 to 23:00 ⁽¹⁾	50 ⁺ dBA
	Class 2 Area	07:00 to 19:00 ⁽²⁾	50 ⁺ dBA
		19:00 to 23:00 ⁽²⁾	45 ⁺ dBA
	Class 3 Area	07:00 to 19:00 ⁽³⁾	45 ⁺ dBA
		19:00 to 23:00 ⁽³⁾	40 ⁺ dBA
	Class 4 Area	07:00 to 19:00 ⁽⁴⁾	55 ⁺ dBA
		19:00 to 23:00 ⁽⁴⁾	55 ⁺ dBA

..../cont'd

SPACE	SOURCE	TIME PERIOD	CRITERION
Plane of a Window of Noise Sensitive Spaces	Stationary Source Class 1 Area	07:00 to 19:00 ⁽¹⁾	50* dBA
		19:00 to 23:00 ⁽¹⁾	50* dBA
		23:00 to 07:00 ⁽¹⁾	45* dBA
	Class 2 Area	07:00 to 19:00 ⁽²⁾	50* dBA
		19:00 to 23:00 ⁽²⁾	50* dBA
		23:00 to 07:00 ⁽²⁾	45* dBA
	Class 3 Area	07:00 to 19:00 ⁽³⁾	45* dBA
		19:00 to 23:00 ⁽³⁾	45* dBA
		23:00 to 07:00 ⁽³⁾	40* dBA
	Class 4 Area	07:00 to 19:00 ⁽⁴⁾	60* dBA
		19:00 to 23:00 ⁽⁴⁾	60* dBA
		23:00 to 07:00 ⁽⁴⁾	55* dBA

- # may not apply to in-fill or re-development.
 * or the minimum hourly background sound exposure $L_{eq(1)}$, due to road traffic, if higher.
 (1) Class 1 Area: Urban.
 (2) Class 2 Area: Urban during day; rural-like evening and night.
 (3) Class 3 Area: Rural.
 (4) Class 4 Area: Subject to land use planning authority's approval.

Reference: MECP Publication ISBN 0-7729-2804-5, 1987: *"Environmental Noise Assessment in Land-Use Planning"*.

EXCESS ABOVE RECOMMENDED SOUND LEVEL LIMITS (dBA)	CHANGE IN SUBJECTIVE LOUDNESS ABOVE	MAGNITUDE OF THE NOISE PROBLEM	NOISE CONTROL MEASURES (OR ACTION TO BE TAKEN)
No excess (<55 dBA)	—	No expected noise problem	None
1 to 5 inclusive (56 to 60 dBA)	Noticeably louder	Slight noise impact	If no physical measures are taken, then prospective purchasers or tenants should be made aware by suitable warning clauses.
6 to 10 inclusive (61 - 65 dBA)	Almost twice as loud	Definite noise impact	Recommended.
11 to 15 inclusive (66 - 70 dBA)	Almost three times as loud	Serious noise impact	Strongly Recommended.
16 and over (>70 dBA)	Almost four times as loud	Very serious noise impact	Strongly Recommended (may be mandatory).

APPENDIX D

SAMPLE SOUND LEVEL CALCULATION

STAMSON 5.04 NORMAL REPORT Date: 29-02-2024 12:13:55
MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS / NOISE ASSESSMENT

Filename: a_nf.te Time Period: Day/Night 16/8 hours
Description: **Predicted Sound Levels - Building A, North Facade**

Rail data, segment # 1: CPR&GO (day/night)

Train Type	! Trains	! Speed ! (km/h)	!# loc !/Train	!# Cars !/Train	! Eng type	!Cont !weld
* 1. CPR	! 13.4/11.9	! 80.0	! 4.0	!151.0	!Diesel	! Yes
* 2. GO	! 20.0/2.0	! 105.0	! 1.0	! 12.0	!Diesel	! Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train No	Train Name	! Unadj. ! Trains	! Annual % ! Increase	! Years of ! Growth
1.	CPR	! 9.0/8.0	! 2.50	! 16.00
2.	GO	! 20.0/2.0	! 0.00	! 10.00

Data for Segment # 1: CPR&GO (day/night)

Angle1	Angle2	: -90.00 deg	90.00 deg
Wood depth	:	0	(No woods.)
No of house rows	:	0 / 0	
Surface	:	1	(Absorptive ground surface)
Receiver source distance	:	43.00 / 43.00	m
Receiver height	:	85.50 / 85.50	m
Topography	:	1	(Flat/gentle slope; no barrier)
No Whistle	:		
Reference angle	:	0.00	

Train # 1: CPR, Segment # 1: CPR&GO (day)

LOCOMOTIVE (0.00 + 70.03 + 0.00) = 70.03 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	74.61	-4.57	0.00	0.00	0.00	0.00	70.03

WHEEL (0.00 + 63.34 + 0.00) = 63.34 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	67.91	-4.57	0.00	0.00	0.00	0.00	63.34

Segment Leq : 70.87 dBA

Train # 2: GO, Segment # 1: CPR&GO (day)

LOCOMOTIVE (0.00 + 63.48 + 0.00) = 63.48 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	68.06	-4.57	0.00	0.00	0.00	0.00	63.48

WHEEL (0.00 + 56.17 + 0.00) = 56.17 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.74	-4.57	0.00	0.00	0.00	0.00	56.17

Segment Leq : 64.22 dBA

Total Leq All Segments: 71.72 dBA

Train # 1: CPR, Segment # 1: CPR&GO (night)

LOCOMOTIVE (0.00 + 72.53 + 0.00) = 72.53 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	77.10	-4.57	0.00	0.00	0.00	0.00	72.53

WHEEL (0.00 + 65.83 + 0.00) = 65.83 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	70.41	-4.57	0.00	0.00	0.00	0.00	65.83

Segment Leq : 73.37 dBA

Train # 2: GO, Segment # 1: CPR&GO (night)

LOCOMOTIVE (0.00 + 56.49 + 0.00) = 56.49 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	61.07	-4.57	0.00	0.00	0.00	0.00	56.49

WHEEL (0.00 + 49.18 + 0.00) = 49.18 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	53.75	-4.57	0.00	0.00	0.00	0.00	49.18

Segment Leq : 57.23 dBA

Total Leq All Segments: 73.47 dBA

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

Car traffic volume : 45965/5107 veh/TimePeriod *
Medium truck volume : 1053/117 veh/TimePeriod *
Heavy truck volume : 862/96 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): 53200
Percentage of Annual Growth : 0.00
Number of Years of Growth : 10.00
Medium Truck % of Total Volume : 2.20
Heavy Truck % of Total Volume : 1.80
Day (16 hrs) % of Total Volume : 90.00

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

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 233.00 / 233.00 m
Receiver height : 85.50 / 85.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Segment # 1: Hurontario (day)

Source height = 1.16 m

ROAD (0.00 + 55.76 + 0.00) = 55.76 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	70.68	0.00	-11.91	-3.01	0.00	0.00	0.00	55.76

Segment Leq : 55.76 dBA

Total Leq All Segments: 55.76 dBA

Segment # 1: Hurontario (night)

Source height = 1.16 m

ROAD (0.00 + 49.23 + 0.00) = 49.23 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	64.15	0.00	-11.91	-3.01	0.00	0.00	0.00	49.23

Segment Leq : 49.23 dBA

Total Leq All Segments: 49.23 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 71.83
(NIGHT): 73.49

STAMSON 5.04 NORMAL REPORT Date: 04-03-2024 15:37:33
MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS / NOISE ASSESSMENT

Filename: i_af1_op.te Time Period: Day/Night 16/8 hours
Description: **Predicted Sound Levels - 2nd Floor Patio, No Sound Barrier**

Rail data, segment # 1: CPR&GO (day/night)

Train Type	! Trains	! Speed (km/h)	! # loc / Train	! # Cars / Train	! Eng type	! Cont weld
* 1. CPR	13.4/11.9	80.0	4.0	151.0	Diesel	Yes
* 2. GO	20.0/2.0	105.0	1.0	12.0	Diesel	Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train type:	! Unadj.	! Annual %	! Years of
No Name	! Trains	! Increase	! Growth
1. CPR	9.0/8.0	2.50	16.00
2. GO	20.0/2.0	0.00	10.00

Data for Segment # 1: CPR&GO (day/night)

Angle1	Angle2	: -90.00 deg	90.00 deg
Wood depth		: 0	(No woods.)
No of house rows		: 0 / 0	
Surface		: 1	(Absorptive ground surface)
Receiver source distance		: 41.00 / 69.00 m	
Receiver height		: 1.50 / 87.00 m	
Topography		: 2	(Flat/gentle slope; with barrier)
No Whistle			
Barrier angle1	Angle2	: -90.00 deg	90.00 deg
Barrier height		: 0.00 m	
Barrier receiver distance		: 12.70 / 2.20 m	
Source elevation		: 8.40 m	
Receiver elevation		: 7.40 m	
Barrier elevation		: 10.30 m	
Reference angle		: 0.00	

Results segment # 1: CPR&GO (day)

Barrier height for grazing incidence

Source Height (m)	! Receiver Height (m)	! Barrier Height (m)	! Elevation of Barrier Top (m)
4.00	1.50	-0.32	9.98
0.50	1.50	-1.40	8.90

LOCOMOTIVE (0.00 + 62.04 + 0.00) = 62.04 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.58	75.48	-6.92	-1.33	0.00	0.00	-5.19	62.04

WHEEL (0.00 + 52.34 + 0.00) = 52.34 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	68.68	-7.25	-1.46	0.00	0.00	-7.63	52.34

Segment Leq : 62.48 dBA

Total Leq All Segments: 62.48 dBA

Results segment # 1: CPR&GO (night)

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)			
4.00	!	87.00	!	81.49	!	91.79
0.50	!	87.00	!	81.37	!	91.67

LOCOMOTIVE (0.00 + 70.58 + 0.00) = 70.58 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	77.21	-6.63	0.00	0.00	0.00	-0.00	70.58*
-90	90	0.00	77.21	-6.63	0.00	0.00	0.00	0.00	70.58

* Bright Zone !

WHEEL (0.00 + 63.87 + 0.00) = 63.87 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	70.50	-6.63	0.00	0.00	0.00	-0.00	63.87*
-90	90	0.00	70.50	-6.63	0.00	0.00	0.00	0.00	63.87

* Bright Zone !

Segment Leq : 71.42 dBA

Total Leq All Segments: 71.42 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 62.48
(NIGHT): 71.42

STAMSON 5.04 NORMAL REPORT Date: 04-03-2024 15:36:30
MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS / NOISE ASSESSMENT

Filename: i_af1_op.te Time Period: Day/Night 16/8 hours
Description: Predicted Sound Levels - 2nd Floor Patio, with Sound Barrier

Rail data, segment # 1: CPR&GO (day/night)

Train Type	! Trains	! Speed ! (km/h)	! # loc ! /Train	! # Cars ! /Train	! Eng type	! Cont !weld
* 1. CPR	! 13.4/11.9	! 80.0	! 4.0	! 151.0	! Diesel	! Yes
* 2. GO	! 20.0/2.0	! 105.0	! 1.0	! 12.0	! Diesel	! Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train type:	! Unadj.	! Annual %	! Years of
No Name	! Trains	! Increase	! Growth
1. CPR	! 9.0/8.0	! 2.50	! 16.00
2. GO	! 20.0/2.0	! 0.00	! 10.00

Data for Segment # 1: CPR&GO (day/night)

Angle1	Angle2	: -90.00 deg	90.00 deg
Wood depth		: 0	(No woods.)
No of house rows		: 0 / 0	
Surface		: 1	(Absorptive ground surface)
Receiver source distance		: 41.00 / 69.00	m
Receiver height		: 1.50 / 87.00	m
Topography		: 2	(Flat/gentle slope; with barrier)
No Whistle			
Barrier angle1		: -90.00 deg	Angle2 : 90.00 deg
Barrier height		: 1.80	m
Barrier receiver distance		: 12.70 / 2.20	m
Source elevation		: 8.40	m
Receiver elevation		: 7.40	m
Barrier elevation		: 10.30	m
Reference angle		: 0.00	

Results segment # 1: CPR&GO (day)

Barrier height for grazing incidence

Source Height (m)	! Receiver Height (m)	! Barrier Height (m)	! Elevation of Barrier Top (m)
4.00	! 1.50	! -0.32	! 9.98
0.50	! 1.50	! -1.40	! 8.90

LOCOMOTIVE (0.00 + 58.46 + 0.00) = 58.46 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	75.48	-6.45	-1.13	0.00	0.00	-9.44	58.46

WHEEL (0.00 + 48.62 + 0.00) = 48.62 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.58	68.68	-6.91	-1.32	0.00	0.00	-11.82	48.62

Segment Leq : 58.89 dBA

Total Leq All Segments: 58.89 dBA

Results segment # 1: CPR&GO (night)

Barrier height for grazing incidence

Source Height (m)	! Receiver ! Height (m)	! Barrier ! Height (m)	! Elevation of ! Barrier Top (m)			
4.00	!	87.00	!	81.49	!	91.79
0.50	!	87.00	!	81.37	!	91.67

LOCOMOTIVE (0.00 + 70.58 + 0.00) = 70.58 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	77.21	-6.63	0.00	0.00	0.00	-0.00	70.58*
-90	90	0.00	77.21	-6.63	0.00	0.00	0.00	0.00	70.58

* Bright Zone !

WHEEL (0.00 + 63.87 + 0.00) = 63.87 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	70.50	-6.63	0.00	0.00	0.00	-0.00	63.87*
-90	90	0.00	70.50	-6.63	0.00	0.00	0.00	0.00	63.87

* Bright Zone !

Segment Leq : 71.42 dBA

Total Leq All Segments: 71.42 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 58.89
(NIGHT): 71.42