



Compatibility & Mitigation Study Air Quality, Dust, Odour, Noise & Vibration

86 & 70 Lynn Williams Street

Shiplake Ltd.

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Executive Summary

SLR Consulting (Canada) Ltd. (SLR), was retained by Shiplake Ltd., to conduct a Compatibility / Mitigation Study focusing on air quality, odour, dust, noise, and vibration in support of the proposed development's Zoning Bylaw Amendment (ZBA) and subsequent Site Plan Approval (SPA) application. The proposed development is located at 86 & 70 Lynn Williams Street in Liberty Village, Toronto ("the Project Site").

This assessment is intended to address the air quality, odour, and dust portions of the Terms of Reference of the City of Toronto OPA231 requirements for Land Use Compatibility/Mitigation Studies ("the OPA 231 ToR").

This assessment has considered:

- Industrial air quality, odour, and dust emissions;
- Transportation-related air pollution;
- Industrial/ commercial noise and vibration; and
- Transportation-related noise and vibration.

The assessment has included a review of air quality and noise emissions from industrial facilities in the area. The Project Site is anticipated to be compatible with the surrounding employment land uses. Based on our assessment, the Project Site will not affect industrial facility compliance with applicable Provincial environmental policies, regulations, approvals, authorizations, and guidelines, including the City Noise Bylaw. The requirements of MECP Guideline D-6, and Publication NPC-300 are met. As the applicable policies and guidelines are met, the Project Site is:

- Unlikely to result in increased risk of complaint and nuisance claims;
- Unlikely to result in operational constraints for the major facilities; and
- Unlikely to result in constraints on major facilities to reasonably expand, intensify or introduce changes to their operations.



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1.0 Introduction

SLR Consulting (Canada) Ltd. (SLR), was retained by Shiplake Ltd., to conduct a Compatibility / Mitigation Study focusing on air quality, odour, dust, noise, and vibration in support of the proposed development's Zoning Bylaw Amendment (ZBA) and subsequent Site Plan Approval (SPA) application. The proposed development is located at 86 & 70 Lynn Williams Street in Liberty Village, Toronto ("the Project Site").

This assessment is intended to address the air quality, odour, and dust portions of the Terms of Reference of the City of Toronto OPA231 requirements for Land Use Compatibility/Mitigation Studies ("the OPA 231 ToR").

This assessment has considered:

- Industrial air quality, odour, and dust emissions;
- Transportation-related air pollution;
- Industrial/ commercial noise and vibration; and
- Transportation-related noise and vibration.

The assessment has included a review of air quality and noise emissions from industrial facilities in the area.

In this assessment, SLR has reviewed the surrounding land uses and major facilities in the area with respect to the following guidelines:

- The City of Toronto Terms of Reference for Compatibility/ Mitigation Studies;
- The Provincial Policy Statement;
- Ministry of the Environment, Conservation and Parks ("MECP") Guidelines D-1 and D-6;
- Ontario Regulation 419/05: *Air Pollution – Local Air Quality* and its associated air quality standards and assessment requirements;
- The MECP draft policies on odour impacts and assessment;
- Public Health Toronto report "City of Toronto. Avoiding the TRAP: Traffic-Related Air Pollution in Toronto and Options for Reducing Exposure. Technical Report", dated October 2017;
- MECP Publication NPC-300 noise guidelines for industrial and transportation; and
- The City Noise By-law (Chapter 591 of the Municipal Code).

This report is intended to meet the requirements of the "Compatibility/ Mitigation Study" Terms of Reference published by the City of Toronto ("the OPA 231 ToR"). This report identifies existing and potential land use compatibility issues and identifies and evaluates options to achieve appropriate design, buffering and/or separation distances between the proposed sensitive land uses, including residential uses, and nearby Employment Areas and/or major facilities.

The recommended physical mitigation measures and warning clauses resulting from the assessment are summarized in **Appendix A**.



2.0 Description of Development and Surroundings

2.1 Proposed Development

The proposed development is located at 86 & 70 Lynn Williams Street in Liberty Village, Toronto. The Project Site is currently occupied by a low-rise commercial building. A site and context plan are provided in **Figure 1**.

The proposed Project Site will be 143.5 m tall with 588 residential units. The proposed development site plan is provided in **Figure 2**.

2.2 Surroundings

Immediately surrounding the site are high-rise developments to the north through south, with mid to low-rise commercial developments in all other directions. Liberty Village Park is located approximately 130 m to the east and Bill Johnson Dog Park is approximately 110 m northeast of the Project Site.

2.3 Land Use Designations in the Area

The sections to follow outline the current land use designations under the City of Toronto Official Plan (OP) (February 2019 consolidation). Note that the Project Site and many of the lands immediately surrounding the Project Site are not subject to the new City of Toronto By-law 569-2013.

2.3.1 City of Toronto Official Plan

The City of Toronto Official Plan Map for the area can be seen in **Figure 3**. The Project Site is designated as Mixed Use Areas. The lands east of the Project Site are designated as Mixed Use Areas and Parks. The lands west of the Project Site are designated as General Employment Areas, Core Employment Areas, and Parks. To the north, the lands are designated as General Employment Areas, Neighbourhoods, and Institutional Areas. The lands south of the Project Site are designated as Mixed Use Areas and Core Employment Areas.

2.3.2 City of Toronto Zoning By-Law 569-2013

The City of Toronto Zoning Map for the area can be seen in **Figure 4a**. The City of Toronto passed the new City-wide Zoning By-law No. 569-2013, that is intended to harmonize the many former existing By-laws, including those in the former City of Toronto By-Law No. 438-86. The Project Site and the lands immediately surrounding the property are not subject to and are exempt from Zoning By-law 569-2013.

The Project Site and surrounding land use on the Former City of Toronto Zoning Map can be seen in **Figure 4b**.

The Project Site and lands to the south, west, and east are zoned Industrial 3 (I3 D3) under the Former City of Toronto Zoning By-Law No. 438-86.



3.0 Assessment Framework

The intent of this report is to identify any existing and potential land use compatibility issues and to identify and evaluate options to achieve appropriate design, buffering and/or separation distances between the surrounding sensitive land uses, including residential uses, and nearby Employment Areas and/or major facilities. Recommended measures intended to eliminate or mitigate negative impacts and adverse effects are provided.

The requirements of the Ontario planning regime are organized such that generic policy is informed by specific policy, guidance, and legislation, as follows:

- The Ontario Planning Act, Section 2.1 – sets the ground rules for land use planning in Ontario, whereby planning decisions have regard to matters of provincial interest including orderly development, public health, and safety; then
- The Provincial Policy Statement (“PPS”) sets out goals – making sure adjacent land uses are compatible from a health and safety perspective and are appropriately buffered; then
- The Provincial Growth Plan, Section 2.2.5 – builds on the PPS to establish a unique land use planning framework for the Greater Golden Horseshoe, where the development of sensitive land uses will avoid, or where avoidance is not possible, minimize and mitigate adverse impacts on industrial, manufacturing, or other uses that are particularly vulnerable to encroachment; then
- The MECP D-series of guidelines set out methods to determine if assessments are required (Areas of Influence, Recommended Minimum Separation Distances, and the need for additional studies); then
- MECP and Municipal regulations, policies, standards, and guidelines then set out the requirements of additional air quality studies and the applicable policies, standards, guidelines, and objectives to ensure that adverse effects do not occur.

3.1 Ontario Planning Act

The Ontario Planning Act is provincial legislation that sets out the ground rules for land use planning in Ontario. It describes how land uses may be controlled, and who may control them. “The purpose of the Act is to:

- provide for planning processes that are fair by making them open, accessible, timely and efficient;
- promote sustainable economic development in a healthy natural environment within a provincial policy framework;
- provide for a land use planning system led by provincial policy;
- integrate matters of provincial interest into provincial and municipal planning decisions by requiring that all decisions be consistent with the Provincial Policy Statement and conform/not conflict with provincial plans;
- encourage co-operation and coordination among various interests;



- recognize the decision-making authority and accountability of municipal councils in planning”¹

Section 2.1 of the Ontario Planning Act describes how approval authorities and Tribunals must have regard to matters of provincial interest including orderly development, public health, and safety.

3.2 Provincial Policy Statement

The PPS “provides policy direction on matters of provincial interest related to land use planning and development. As a key part of the Ontario policy-led planning system, the Provincial Policy Statement sets the policy foundation for regulating the development and use of land. It also supports the provincial goal to enhance the quality of life for all Ontarians.”

The PPS is a generic document, providing a consolidated statement of the government policies on land use planning and is issued under section 3 of the Planning Act. Municipalities are the primary implementers of the PPS through policies in their local official plans, zoning by-laws and other planning related decisions. The current 2020 PPS came into effect on May 1, 2020. Policy direction concerning land use compatibility is provided in Section 1.2.6 of the PPS.

From the current 2020 version:

“1.2.6 Land Use Compatibility

1.2.6.1 Major facilities and sensitive land uses shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of major facilities in accordance with provincial guidelines, standards and procedures.

1.2.6.2 Where avoidance is not possible in accordance with policy 1.2.6.1, planning authorities shall protect the long-term viability of existing or planned industrial, manufacturing or other uses that are vulnerable to encroachment by ensuring that the planning and development of proposed adjacent sensitive land uses are only permitted if the following are demonstrated in accordance with provincial guidelines, standards and procedures:

- a) there is an identified need for the proposed use;
- b) alternative locations for the proposed use have been evaluated and there are no reasonable alternative locations;
- c) adverse effects to the proposed sensitive land use are minimized and mitigated; and
- d) potential impacts to industrial, manufacturing, or other uses are minimized and mitigated.”

The goals of the PPS are implemented through Municipal and Provincial policies, as discussed below. Provided the Municipal and Provincial policies, guidelines, standards, and procedures are met, the requirements of the PPS will be met.

¹ <https://www.ontario.ca/document/citizens-guide-land-use-planning/planning-act>



3.3 City of Toronto Official Plan Amendment No. 231

The City of Toronto has released a Terms of Reference for Compatibility/ Mitigation Studies, based on the framework developed under Official Plan Amendment No. 231 (OPA 231). The Terms of Reference can be found on the City website at:

<https://www.toronto.ca/city-government/planning-development/application-forms-fees/building-toronto-together-a-development-guide/application-support-material-terms-of-reference/>

The purpose of the compatibility/mitigation study is to identify any existing and potential land use compatibility issues and identify and evaluate options to achieve appropriate design, including buffering and/or separation distances between land uses.

The compatibility/mitigation study is to provide a written description of:

- Potential land use compatibility impacts by type (traffic, noise, vibration, dust, odour, etc.), including severity, frequency and duration of impacts that may cause an adverse effect on the proposed development;
- Existing approvals from the MECP;
- Within the immediate area of the proposed development, the history of complaints received by the City or MECP;
- Potential intensification or operational changes such as expansion plans for existing major facilities in the area;
- Potential land use compatibility issues that may have a negative impact on nearby employment areas and major facilities.

Where a land use compatibility issue is identified, the compatibility/mitigation study should identify options to achieve appropriate design, such as buffering/separation distance, at-source mitigation or at-receptor mitigation.

3.4 D-Series of Guidelines

The D-series of guidelines were developed by the MECP in 1995 as a means to assess Recommended Minimum Separation Distances and other control measures for land use planning proposals in an effort to prevent or minimize ‘adverse effects’ from the encroachment of incompatible land uses where a facility either exists or is proposed. D-series guidelines address sources including sewage treatment (Guideline D-2), gas and oil pipelines (Guideline D-3), landfills (Guideline D-4), water services (Guideline D-5) and industries (Guideline D-6).

For this assessment, the applicable guideline is Guideline D-6 - *Compatibility between Industrial Facilities and Sensitive Land Uses*.

Adverse effect is a term defined in the Environmental Protection Act and “means one or more of

- impairment of the quality of the natural environment for any use that can be made of it,
- injury or damage to property or to plant or animal life,
- harm or material discomfort to any person,
- an adverse effect on the health of any person,
- impairment of the safety of any person,
- rendering any property or plant or animal life unfit for human use,



- loss of enjoyment of normal use of property, and
- interference with the normal conduct of business”.

3.4.1 Guideline D-6 Requirements

The guideline specifically addresses issues of air quality, odour, dust, noise, and litter. To minimize the potential to cause an adverse effect, Areas of Influence and Recommended Minimum Separation Distances are included within the guidelines. The Areas of Influence and Recommended Minimum Separation Distances from the guidelines are provided in the table below.

Table 1: Guideline D-6 - Potential Areas of Influence and Recommended Minimum Separation Distances for Industrial Land Uses

Industry Classification	Area of Influence	Recommended Minimum Separation Distance
Class I – Light Industrial	70 m	20 m
Class II – Medium Industrial	300 m	70 m
Class III – Heavy Industrial	1000 m	300 m

Industrial categorization criteria are supplied in Guideline D-6, and are shown in the following table:

Table 2: Guideline D-6 - Industrial Categorization Criteria

Category	Outputs	Scale	Process	Operations / Intensity	Possible Examples
Class I Light Industry	<ul style="list-style-type: none"> • Noise: Sound not audible off-property • Dust: Infrequent and not intense • Odour: Infrequent and not intense • Vibration: No ground-borne vibration on plant property 	<ul style="list-style-type: none"> • No outside storage • Small-scale plant or scale is irrelevant in relation to all other criteria for this Class 	<ul style="list-style-type: none"> • Self-contained plant or building which produces/ stores a packaged product • Low probability of fugitive emissions 	<ul style="list-style-type: none"> • Daytime operations only • Infrequent movement of products and/ or heavy trucks 	<ul style="list-style-type: none"> • Electronics manufacturing and repair • Furniture repair and refinishing • Beverage bottling • Auto parts supply • Packaging and crafting services • Distribution of dairy products • Laundry and linen supply



Category	Outputs	Scale	Process	Operations / Intensity	Possible Examples
Class II Medium Industry	<ul style="list-style-type: none"> • Noise: Sound occasionally heard off-property • Dust: Frequent and occasionally intense • Odour: Frequent and occasionally intense • Vibration: Possible ground-borne vibration, but cannot be perceived off-property 	<ul style="list-style-type: none"> • Outside storage permitted • Medium level of production allowed 	<ul style="list-style-type: none"> • Open process • Periodic outputs of minor annoyance • Low probability of fugitive emissions 	<ul style="list-style-type: none"> • Shift operations permitted • Frequent movements of products and/ or heavy trucks with the majority of movements during daytime hours 	<ul style="list-style-type: none"> • Magazine printing • Paint spray booths • Metal command • Electrical production • Manufacturing of dairy products • Dry cleaning services • Feed packing plants
Class III Heavy Industry	<ul style="list-style-type: none"> • Noise: Sound frequently audible off property • Dust: Persistent and/ or intense • Odour: Persistent and/ or intense • Vibration: Ground-borne vibration can frequently be perceived off-property 	<ul style="list-style-type: none"> • Outside storage of raw and finished products • Large production levels 	<ul style="list-style-type: none"> • Open process • Frequent outputs of major annoyances • High probability of fugitive emissions 	<ul style="list-style-type: none"> • Continuous movement of products and employees • Daily shift operations permitted 	<ul style="list-style-type: none"> • Paint and varnish manufacturing • Organic chemical manufacturing • Breweries • Solvent recovery plants • Soaps and detergent manufacturing • Metal refining and manufacturing

3.4.2 Requirements for Assessments

Guideline D-6 requires that studies be conducted to assess impacts where sensitive land uses are proposed within the Potential Area of Influence of an industrial facility. This report is intended to fulfill this requirement.

The D-series guidelines reference previous versions of the air quality regulation (Regulation 346). However, the D-Series of guidelines are still active, still represent current MECP policy and are specifically referenced in numerous other current MECP policies. In applying the D-series guidelines, the current policies, regulations, standards, and guidelines have been used (e.g., Regulation 419).



3.4.3 Recommended Minimum Separation Distances

Guideline D-6 also *recommends* that no sensitive land use be placed within the Recommended Minimum Separation Distance. However, it should be noted that this is a recommendation only. Section 4.10 of the Guideline allows for development within the Recommended Minimum Separation Distance, in cases of redevelopment, infilling, and transitions to mixed use, provided that the appropriate studies are conducted and that the relevant air quality and noise guidelines are met.

4.0 Nearby Industries

The Guideline D-6 Separation distances from the Project Site are shown in **Figure 5**. SLR personnel conducted a site visit to the area on March 25, 2022. Local industries within 1 km of the Project Site were inventoried. The lands surrounding the Project Site are generally comprised of commercial, residential and employment uses.

In Ontario, facilities that emit significant amounts of contaminants to the environment are required to obtain and maintain an Environmental Compliance Approval (“ECA”) from the MECP or submit an Environmental Activity and Sector Registry (“EASR”). ECAs/ EASRs within 1 km of the Project Site were obtained from the MECP *Access Environment* website².

A complete detailed table of the identified industries is provided in **Table 3**.

Table 3: Identified Industries Within 1000 m of the Proposed Development

Facility	Type of Operation	Environmental Compliance Approval No.	Industry Class	Area of Influence Dist (m)	Actual Distance to Site (m)	Additional Assessment Required?
Hotel X (Formerly Princess Gates Hotel)	Standby Power Generation	0319-ACGP58 (2016)	I	70	625	No
Toronto Police - Traffic Services	Standby Power Generation	5262-6BZSM3 (2005)	I	70	100	No
City of Toronto	Standby Power Generator Sewage Pumping Station	3856-66TLEC (2004)	I	70	500	No
Strachan Transformer Station (Hydro One Networks)	Transformer Station	0001105358 (2019)	I	70	320	No
The Bentway Conservancy	Soil Vapour Venting System	R-010-9113900565 (2022)	I	70	495	No

² <https://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/GoSearch.action>



Facility	Type of Operation	Environmental Compliance Approval No.	Industry Class	Area of Influence Dist (m)	Actual Distance to Site (m)	Additional Assessment Required?
Liberty Village Properties Ltd.	Soil Vapour Venting System	8562-9FTMXK (2014)	I	70	388	No
Liberty Urban Properties Inc.	Sub-slab depressurization system	5116-C9PK33 (2021)	I	70	310	No
Mid-Atlantic Holding Corporation	Sub-slab depressurization system	7239-CD9KNB	I	70	190	No
Maple Leaf Sports & Entertainment	Standby Emergency Generator	8762-82WLST (2010)	I	70	380	No
Centre for Addiction and Mental Health	HVAC and Standby Power	R-002-6529317344 (2015) R-010-4112303288 (2020)	I	70	360	No
Doodnauth Persaud (No longer operating)	Automotive Repair	n/a	n/a	n/a	n/a	No
Bell Canada	Gas Fired Boiler	6800-5F6KFX (2002)	I	70	410	No
Imperial Auto Collision	Automotive Repair	0389-A3WRC7 (2015)	I	70	505	No
Loft Community Services	Standby Power Generation	R-002-4502576482 (2015)	I	70	960	No
Enercare Centre	HVAC and Standby Power	3587-6NMLSZ (2006)	I	70	485	No
Quality Meat Packers Limited (No Longer Operating)	Meat Processing Operation	n/a	n/a	n/a	n/a	No

The neighbourhood has undergone transition over the past decade and traditional employment uses have been replaced by mixed uses including commercial and residential. Many of the commercial uses may include Class I Light industries such as grocery stores, micro breweries, neighbourhood coffee roasters, and local bakeries. These uses represent typical examples of a mixed-use amenity. It is a common land use practise to locate smaller scale employment uses such as these near to residential land uses. Currently, there is a commercial plaza located to the west of the Project Site. This plaza includes a grocery store, coffee shop, pizza operation and other restaurant uses. Air emissions from these facilities have been conservatively



categorized as Class I light industries for this study, even though, conventionally these restaurant types of operations would not be considered industrial. The emissions from these facilities are not anticipated to create land use compatibility concerns at the Project Site.

No facilities were identified inside their potential Area of Influence. Therefore, additional assessment is not required from an air quality perspective.

4.1 Future Uses

A review of development applications in the area indicated that there are 65 active development applications within 1000 m of the Project Site. Most of the applications are minor variances, consent to sever, closed and other minor applications. The following is a summary of the significant applications as listed online at the City of Toronto [applications information centre](#) as of May 30, 2023:

Table 4: Development Applications in the Area

Address	Date	Development Application Information *	Details
355 Adelaide Street West, 46 Charlotte Street, 16 Oxley Street	26/06/2020	20 160837 STE 10 OZ	Updated Zoning Amendment proposal (by a new property owner) to permit a 58-storey mixed-use building containing retail and office uses and 503 residential units. The portion of the proposed building fronting Adelaide Street West and Charlotte Street is 58-storeys (187 metres including the mechanical penthouse) and incorporates the existing heritage building. A 6-storey element is proposed fronting onto Oxley Street. Vehicular and loading access are proposed off Oxley Street and Charlotte Street respectively. This proposal is currently under appeal at the Ontario Land Tribunal (File No.OLT-22-004590).
363 Adelaide Street West, 101, 105 Spadina Avenue, and 16 Oxley Street	17/12/2021	21 249603 STE 10 OZ	Zoning By-law Amendment Application to permit the redevelopment of the site with a 39-storey plus mechanical penthouse mixed-use building with a total height of 133.95 metres. The total proposed gross floor area equals 27,253 square metres including 194 square metres of ground floor retail and 375 residential units above. A new City Park measuring 1,000 square metres is proposed on the northern portion of the site with a public parking garage beneath. This file is being reviewed in conjunction with Site Plan Approval application, File No 21-249606 STE 10 SA.



Address	Date	Development Application Information *	Details
445, 447, 449, 451, Adelaide Street West	01/08/2017	17 209531 STE 20 OZ	Zoning By-law Amendment to facilitate the redevelopment of the site with a 14-storey hotel building having a height of 45.7 metres, including the mechanical penthouse. The proposal includes 146 hotel rooms, 11 parking spaces and a restaurant located within the penthouse level. The zoning amendment application is under appeal to the LPAT.
502 Adelaide Street West, 119, 121, 123 Portland Street	26/09/2016	16 228717 STE 20 OZ	Rezoning application for a 14 storey mixed-use building with commercial uses at grade and residential units above.
25 Augusta Avenue	18/11/2022	22 230860 STE 10 SA	Proposed in-fill addition of a four storey residential building with 31 rentals geared to income units and ancillary non-residential uses on the ground floor. Proposal is within the Rapid Housing Initiative, Open Door Affordable Housing program and C2K review program.
141, 149, 151, 153, 155, 157, 159, 161 Bathurst Street, 579, 589, 591 Richmond Street West	18/06/2021	21 172654 STE 10 OZ	Application to Amend the Zoning By-law to permit the redevelopment of the site at 141, 149 - 161 Bathurst Street and 579, 589-591 Richmond Street West with a 12-storey non-residential building containing retail uses at the ground level and office uses above. The heritage buildings at 141 Bathurst St and 579 Richmond St W are proposed to be partially retained. The heritage buildings at 159 and 161 Bathurst St are proposed to be demolished. This development proposal comprises Phase 1 of a larger master-planned development which also includes the sites at 555 Richmond Street West and 550 Adelaide Street West (Phase 2). The phase 1 and phase 2 development proposals are being reviewed concurrently. Please see Application No. 21- 172691 STE 10 OZ. An Associated Rental Housing Demolition and Conversion application was also submitted (File No. 21-172661 STE 10 RH).
152, 154, 156, 158, 160, 162, 164 Bathurst Street, 621, 623, 625 627 Richmond Street West	08/07/2021	21 181257 STE 10 OZ	Official Plan & Zoning By-law Amendment application for an 18-storey mixed-use building having a non-residential gross floor area of 597 square metres, and a total of 217 residential dwelling units.



Address	Date	Development Application Information *	Details
69, 71, 73 Bathurst Street, 663, 647, 665 King Street West, and 58,60 Stewart Street	22/12/2016	16 270239 STE 20 OZ	Proposed zoning by-law amendment to redevelop the site with a 17-storey mixed use building containing retail uses at grade and residential uses above. The King, Bathurst and Stewart Street walls of the existing heritage building, the Banknote, will be conserved.
38 Camden Street, 465, 471 Richmond Street West	04/07/2019	19 182800 STE 10 OZ	Zoning By-law Amendment application to facilitate the redevelopment of the site with two hotel towers (17 storeys fronting Richmond Street West and 15 storeys fronting Camden Street). The two components will be connected by a common 2-storey podium, with 3 levels of underground parking below. The listed heritage building at 38 Camden Street is not proposed to be conserved.
39, 45, 47 Camden Street	09/11/2021	21 235947 STE 10 OZ	Application to amend the Zoning By-law to allow a 16-storey mixed-use building with a height of 52 metres (58 metres including the mechanical penthouse), a non-residential gross floor area of 364 square metres, and a residential gross floor area of 10,625 square metres. A total of 154 residential units are proposed.
49, 51 Camden Street	19/08/2015	15 209675 STE 20 OZ	Redevelopment of a 620 square metre (0.15 acre) property located on the southeast corner of Camden Street and Brant Street, municipally known as 49 and 51 Camden Street (the subject site), for a 13-storey hotel with a partially integrated mechanical penthouse. The new Ace Hotel would consist of 130 hotel suites, a lower level restaurant, a gymnasium, a ground floor hotel lobby and various hotel-related meeting rooms. A penthouse lounge and outdoor terrace would be located on the 13th floor. A total gross floor area of 7,918 square metres is proposed.
400 Front Street West	07/04/2015	15 136961 STE 20 OZ	Revised plans in support of a proposal to construct three mixed-use towers. Two towers of 59 & 57-storeys are proposed on the north parcel and one tower of 26-storeys is e proposed on the south parcel. A total of 1922 units are proposed along with 3,588 square metres of retail uses. The development would include 632 parking spaces in three levels of underground parking. A proposed on-site parkland dedication is now part of the revised proposal.



Address	Date	Development Application Information *	Details
433 Front Street West	23/05/2017	17 164359 STE 20 OZ	The proposal is to develop a rail corridor overbuild (deck) over the existing active rail corridor to accommodate development, while maintaining the rail activities. The ORCA Project proposes a mixed-use and open space development, consisting of 10 buildings with a combined gross floor area (GFA) of 366,500 m ² . The proposal includes the portion of the Rail Corridor bounded by Front Street West between Spadina and Bathurst; Blue Jays Way; Ice Boat Terrace; and Bathurst Street.
595 Front Street West	03/05/2022	22 141536 STE 10 OZ	Official Plan and Zoning By-law Amendment to permit development above the Union Station rail corridor between Blue Jays Way and Bathurst Street. The proposal includes 9 mixed-use buildings ranging in height from 20 - 65-storeys, a new 2.5 acre City Park, publicly accessible open spaces, three daycare facilities, a community hub, commercial office space, retail space, a hotel and 6,126 residential units. The proposed gross floor area equals 410,503 m ² of which 375,232 m ² would be residential and 35,272 m ² would be non-residential. Please note that this is a scoped submission focused on the public realm, built form and park. The next re-submission will be a complete submission including all required technical reports and studies.
65 Grand Magazine Street, 38 Iannuzzi Street	15/12/2014	14 264174 STE 19 OZ	An official plan amendment and rezoning applicant for a new 32 storey condo tower with 459 residential units and 4 levels of underground parking (total of 420 parking spaces).
401, 415 King Street West	16/06/2010	10 197695 STE 20 OZ	Standard rezoning application for construction of new 55-storey mixed-use building (187 metres to the top of the mechanical penthouse) containing 2,273 square metres of retail use on two floors with residential above. A total of 615 residential units are proposed with 431 parking spaces in a 5 level underground parking garage.
460, 464, 468 King Street West, and 78 Spadina Avenue	26/04/2022	22 138740 STE 10 OZ	Zoning By-law Amendment for a 23-storey (98.6 metres including the mechanical penthouse) non-residential building with retail at-grade and office above. The listed heritage property at 460 King Street West is proposed to be retained while the facade of the listed heritage property at 468 King Street is to be retained. Concurrent SA application: 22 138739 STE 10 SA



Address	Date	Development Application Information *	Details
582 King Street West, 115 Portland Street	11/08/2017	17 215103 STE 20 OZ	Zoning amendment application to allow the redevelopment of the site with a non-residential building with a height of 10 storeys fronting King Street West (43.45 metres including the mechanical penthouse) and 12 storeys fronting Adelaide Street West and Portland Street (51.95 metres including the mechanical penthouse). The heritage buildings on the site will be conserved and incorporated into the development. This development has been approved in principle by the OLT (File No. PL171510).
600 King Street West	26/02/2021	21 120904 STE 10 OZ	Zoning Amendment Application to permit the redevelopment of the site with an addition overtop of and behind the existing heritage building, increasing the height of the existing building to a total of 9-storeys (36.5 metres to the top of the building and 41.5 metres to the top of the mechanical penthouse). The existing 4-storey heritage building is proposed to be incorporated into the development. The development would have a gross floor area of 5,417 square metres, would include 9 bicycle spaces, zero parking spaces, 1 Type B and 1 Type C loading space.
675 King Street West	15/09/2022	22 204199 STE 10 OZ	The proposed development is for a 19-storey mixed-use building with a height of approximately 60 metres to the top of the roof (65.8 metres to the top of the mechanical penthouse) with approximately 11,337 square metres of total gross floor area, including approximately 2,253 square metres of commercial uses containing at-grade retail and replacement of the existing office space. A total of 145 residential units are proposed. An associated Site Plan Control application (22 204198 STE 10 SA) is being concurrently reviewed with this rezoning application.
778, 780, 782, 786, 788 King Street West	12/11/2021	21 237249 STE 10 OZ	Zoning By-law amendment to facilitate the redevelopment of the site for an 18-storey mixed-use building having a non-residential gross floor area of 714 square metres, and a residential gross floor area of 24,126 square metres. 373 residential units are proposed.



Address	Date	Development Application Information *	Details
938, 944, 950 King Street West, 95, 97, 99 Strachan Avenue	04/05/2018	18 153602 STE 19 OZ	Zoning By-law to permit a 14-storey mixed use building with an overall height of 49.9 metres (inclusive of mechanical equipment) containing 263 square metres of retail uses and 191 dwelling units. The design proposes to retain the southern and western elevations of the existing Palace Arms building in its entirety. The proposed development would have a total gross floor area of 12,282 square metres, which would result in a Floor Space Index of 9.17 times the area of the lands. The application proposes 14 vehicular parking spaces and 202 bicycle parking spaces. Site includes 938, 944, and 950 King Street West, and 95, 97, and 99 Strachan Avenue.
952 King Street West	08/09/2022	22 201229 STE 10 OZ	The proposed development consists of a 16-storey mixed-use building, which will have a total height of 50.6 metres to the top of the roof and 56.6 metres to the top of the mechanical penthouse. The building will be comprised of approximately 578 square metres of ground floor retail space, and will contain 213 residential (rental) units, including grade-related townhouse units along the Strachan Avenue frontage. The proposed gross floor area will be approximately 14,441 square metres, resulting in a density of 9.33 FSI. An associated Site Plan Control application (22 201228 STE 10 SA) is being reviewed concurrently with this rezoning application.
470 Lake Shore Boulevard West	29/07/2021	21 191414 STE 10 OZ	Zoning by-law amendment application to facilitate the development of 5,509 square metres of non-residential retail space located below the Gardiner Expressway
545 Lake Shore Boulevard West	12/10/2018	18 241642 STE 20 OZ	Zoning By-law Amendment for a mixed-use development including residential, office and retail uses. The existing heritage building is proposed to be conserved and restored for office uses. Residential uses are proposed on the south portion of the site in two buildings 12 and 22 storeys. Overall, 419 dwelling units are proposed and 9745square metres of non-residential floor area. A courtyard open space is proposed centrally located within the site between the existing heritage building and the new development. 144 vehicle parking spaces and 466 bicycle parking spaces are proposed.



Address	Date	Development Application Information *	Details
1, 9 Niagara Street, 18 Portland Street	01/11/2021	21 232793 STE 10 OZ	Application to amend the Zoning By-law Amendment to allow the redevelopment of the site with a 23-storey mixed-use building having a non-residential gross floor area of 2640 square metres, and a residential gross floor area of 14,459.90 square metres. A total of 182 residential dwelling units are proposed.
125, 133 Niagara Street, 2 Tecumseth Street	17/11/2017	17 264041 STE 19 OZ	The revised Zoning Amendment By-law application proposes to redevelop the site with four buildings containing a mix of commercial, employment and residential uses, an on-site public park, a multi-use path, other pedestrian and cycling connections and two privately-owned, publicly-accessible open spaces at 2 Tecumseth Street and 125-133 Niagara Street. The proposed development is comprised of a 22 and a 30-storey mixed-use building, a 7-storey commercial building and a two-storey commercial building.
835 Queen Street West	26/06/2020	20 160774 STE 10 SA	Proposal for a 6-storey mixed-use building containing 19 residential dwelling units. The proposed non-residential gross floor area is 136 square metres, and the proposed residential gross floor area is 1118 square metres.
150 Queens Wharf Road	26/04/2021	21 146032 STE 10 OZ	150 Queens Wharf Road Housing Now Zoning By-law Amendment application to facilitate the development of the site for a 29-storey mixed-use building having a non-residential gross floor area of 307.0 square metres, and a residential gross floor area of 21,593.0 square metres. A total of 282 residential dwelling units are proposed.
444, 446, 448, 450 Richmond Street West	05/07/2017	17 192881 STE 20 OZ	Zoning By-law Amendment to facilitate redevelopment of the site with a 19-storey (including mezzanine) mixed-use retail and residential project, comprised of a 7-storey tower atop a 12-storey podium (including mezzanine). The project proposes 116 residential condominium units (subject to final design layout) and 118 square metres of retail. On-site parking for 5 car-share spaces and 1 service space is available at grade, accessed from a rear laneway.



Address	Date	Development Application Information *	Details
555 Richmond Street West	18/06/2021	21 172691 STE 10 OZ	Application to Amend the Zoning By-law to permit the redevelopment of the site at 555 Richmond Street West. The existing 12-storey office building fronting Richmond Street will be retained and a new 16-storey residential rental building with retail uses on the ground floor fronting Adelaide Street West is proposed. This development proposal comprises Phase 2 of a larger master-planned development which also includes the sites at 141 - 161 Bathurst Street and 579-591 Richmond Street West (Phase 1). The phase 1 and phase 2 development proposals are being reviewed concurrently. Please see Application No. 21- 172654 STE 10 OZ.
822 Richmond Street West	13/07/2022	22 175863 STE 10 OZ	The proposal seeks to replace the 1-storey commercial building and surface parking with an 8-storey residential building containing 22 residential units.
147 Spadina Avenue	03/09/2021	21 208078 STE 10 OZ	Proposed Zoning Amendment application to redevelop the site with a 25-storey mixed-use building with a height of 79.8 metres (85.8 including the mechanical penthouse). A non-residential gross floor area of 433.6 square metres is proposed along with 223 residential units.
182, 184 Spadina Avenue	01/08/2019	19 199402 STE 10 OZ	The application proposes to amend the Zoning By-law to redevelop the site with a hotel development comprised of a two-storey base building and two tower elements above, one fronting Spadina Avenue (14 storeys - 41.45 metres including the mechanical penthouse) and the other Cameron Street (15 storeys - 44.4 metres including the mechanical penthouse). A total of 250 hotel suites are proposed. Parking and loading areas will be accessed via Cameron Street. This file is being reviewed in conjunction with and application for site plan approval (File No 21- 250663 STE 10 SA).
40, 46 Spadina Avenue, 378 Wellington Street West	10/08/2022	22 188521 STE 10 OZ	Applications to amend the Official Plan and Zoning By-law to permit the redevelopment of the site with a 28-storey mixed-use building with retail at-grade along Spadina Avenue, office spaces within the base, and residential above. The proposed building will contain a total of 521 dwelling units. This application is being reviewed in conjunction with the associated Site Plan Application File No. 22 188520 STE 10 SA.



Address	Date	Development Application Information *	Details
49 Spadina Avenue	28/02/2017	17 122573 STE 20 OZ	Zoning By-law amendment to retain the existing six-storey heritage building on the western portion of the site and to develop a new, 20-storey tower on the eastern half of the site. The existing retail and commercial uses within the heritage building will be maintained and the proposed tower addition will contain retail uses at grade and office uses above. No vehicular parking is proposed.
109, 111, 115, 127 Strachan Avenue	24/12/2021	21 251437 STE 10 OZ	Official Plan and Zoning By-law amendment application to facilitate the redevelopment of the site for a 13 storey mixed-use building having a non-residential gross floor area of 130 square metres, and a residential gross floor area of 21,235 square metres. A Site Plan application is being processed concurrently. See 21 251435 STE 10 SA.
2 Strachan Avenue	07/03/2022	22 120103 STE 10 SA	The proposed development intends to develop a 30 storey, 382 suite hotel which is connected to a 7,000 seat venue that will host E-sports events, concerts and other large gatherings. A surface parking lot (comprised of 108 parking spaces) is proposed west of the site, between New Brunswick Way and the hotel, which will serve as a public parking lot for the hotel, venue and the Exhibition grounds. The development will also consist of 1 level of underground, accessed off of New Brunswick Way, which will service the loading area for the hotel and venue. Additional public parking (comprised of 358 parking spaces) will also be found within the underground.
277 Wellington Street West	23/12/2020	20 233424 STE 10 OZ	Zoning By-law Amendment to facilitate redevelopment of the site with new 66-storey mixed use building. 116 square metres of retail use and 9,169 square metres of office space is proposed within the 9-storey podium, along with 37,170 square metres of residential gross floor area within the tower. A total of 645 residential units are proposed.
354 Wellington Street West	18/04/2023	23 135190 STE 10 SA	To alter the existing 7½-storey residential building by adding three storeys above (10½-storey building in total). The proposed addition is for the western portion of the existing building on the site.



Address	Date	Development Application Information *	Details
462 Wellington Street West	01/04/2019	19 133227 STE 10 OZ	Zoning By-law amendment to permit the development of a 15 storey mixed-use building with retirement residential uses including independent living, assisted living and memory care, office and retail uses. A total of 137dwelling units and rooms are proposed and 7,156 square metres of non-residential floor area. The proposal included the conservation of the Northrop and Lyman Company Manufacturing heritage building. A 230 square metre privately owned publicly-accessible open space is also proposed.
467 Wellington Street West	20/07/2022	22 179828 STE 10 OZ	Zoning By-law Amendment application to facilitate the redevelopment of the site with a 23-storey mixed-use building with retail at-grade and residential above. 225 residential units are proposed. This application is being reviewed in conjunction with the associated Site Plan Application File No. 22 179827 STE 10 SA.
485, 489 Wellington Street West	09/02/2016	16 114472 STE 20 OZ	Proposal for Zoning By-law Amendment to permit a 15 storey mixed use building with 117 residential units and 455 metres of retail space with one level of underground parking.

The above table illustrates that many of the surrounding land owners are pursuing rezoning applications to enable more efficient use of land and mixed uses including residential. As discussed above, the neighbourhood has undergone transition over the past decade and traditional employment uses have been replaced by mixed uses including commercial and residential. Many of the commercial uses may include facilities that have characteristics of Class I Light industries, such as grocery stores, micro breweries, neighbourhood coffee roasters, and local bakeries. These uses represent typical examples of a mixed-use amenity. It is a common land use practise to locate smaller scale employment uses such as these near to residential land uses.

Based on the above discussion, air emissions from Class I light industries that are permitted under the mixed use provisions of the Zoning By-law are not anticipated to create land use compatibility concerns at the Project Site.

4.2 Summary

No facilities were identified inside their Potential Area of Influence. Therefore, additional assessment from an air quality perspective is not required.



5.0 Transportation Related Air Pollution

Transportation related air pollution (TRAP) is generally considered in background pollution levels, however, based on recent studies conducted by Toronto Public Health (TPH), the City of Toronto is starting to look more closely at TRAP and its potential air emissions on new residential developments near major highways and roadways. The 2017 Toronto Public Health *'Avoiding the Trap' Technical Report – Land Use Planning at the Project site Level* and *"Operational and Behaviour strategies in Buildings"* document notes that TRAP is a major local contributor to air pollution in Toronto and can result in adverse health outcomes for people residing near highways and roadways. Common mitigation strategies for TRAP include filtration, strategic intake/amenity location, HVAC system operational procedures (i.e. timing around rush hour), physical barriers and vegetation buffers.

The City of Toronto document entitled *Reducing Health Risks from Traffic Related Air Pollution (TRAP) in Toronto*, October 16, 2017³ identifies that:

"Exposures to traffic-related air pollution (TRAP) are highest near highways and busy roads. The health literature indicates that health risk from TRAP is higher within 500 metres of highways with an average daily traffic volume of 100,000 vehicles or more, and within 100 metres of arterial roads with an average daily traffic volume of 15,000 vehicles or more."

The report recommends that City Staff

"develop guidance to assist appropriate City agencies, corporations, and divisions in establishing traffic-related air pollution mitigation measures at City owned sites located within 500 metres of roads with annual average traffic volumes of 100,000 vehicles or more per day, and within 100 metres of roads with annual average traffic volumes of 15,000 vehicles or more per day; and

develop best practices guidelines for new and existing buildings, in consultation with industry professionals, and raise awareness of these practices among school board staff, childcare centre operators, long-term care facility operators, and residents, as well as builders, developers, designers, architects, engineers and other professionals"

At this time, there is no guidance related to addressing TRAP within potential exposure zones.

5.1 Arterial Roadways

Major arterial roadways near to the Project Site include Lynn Williams Street.

The Project Site is inside a TRAP exposure zone of 500 m to the Gardiner Expressway. Detailed TRAP studies are typically performed for sites immediately adjacent to major highways (i.e. within ~100 m). Therefore, a detailed TRAP assessment is not warranted for the Project Site. A review of the site sensitive uses and incorporation of best management practices to address TRAP is recommended as the design progresses through the planning process.

It is generally a good practice to locate fresh air intakes in rooftop mechanical spaces, or at above-grade locations to provide separation distance from vehicle emissions (roadways, loading bays, on-site parking), and to include standard MERV rated filters on fresh air intakes.

³ <https://www.toronto.ca/legdocs/mmis/2017/pe/bgrd/backgroundfile-108665.pdf>



5.2 Go Transit Weston Subdivision

The GO Transit Weston Subdivision is located approximately 80 m north of the Project Site property boundary. The subdivision consists of multiple tracks used for through traffic of passenger trains.

The Project Site is buffered from the GO Transit Weston Subdivision by existing multi-storey mixed use commercial/residential developments along Weston Battery Road. These existing buildings are the closest existing points of reception for the railway operations.

Although within 80 m of the Project Site, there is significant vertical separation distance to the GO Transit Weston Subdivision. These rail lines are below grade in this area to prevent level street crossings and to facilitate uninterrupted movement of the passenger/commuter trains.

Because there is no idling of rail cars associated with storage and yard facilities along this corridor, air emissions from the GO Transit Weston Subdivision are not anticipated at the Project Site.



6.0 Noise Assessment

6.1 Industrial (Stationary) Sources

6.1.1 Guidelines

6.1.1.1 MECP Publication NPC-300 Guidelines for Stationary Noise

The applicable MECP noise guidelines for new sensitive land uses adjacent to existing industrial commercial uses are provided in MECP Publication NPC-300. NPC-300 revokes and replaces the previous noise assessment guideline, Publication LU-131 and Publication NPC-205, which was previously used for assessing noise impacts as part of Certificates of Approval / Environmental Compliance Approvals granted by the MECP for industries.

The new guideline sets out noise limits for two main types of noise sources:

- Non-impulsive, “continuous” noise sources such as ventilation fans, mechanical equipment, and vehicles while moving within the property boundary of an industry. Continuous noise is measured using 1-hour average sound exposures (L_{eq} (1-hr) values), in dBA; and
- Impulsive noise, which is a “banging” type noise characterized by rapid rise time and decay. Impulsive noise is measured using a logarithmic mean (average) level (LLM) of the impulses in a one-hour period, in dBA.

Furthermore, the guideline requires an assessment at, and provides separate guideline limits for:

- Outdoor points of reception (e.g., back yards, communal outdoor amenity areas); and
- Façade points of reception such as the plane of windows on the outdoor façade which connect onto noise sensitive spaces, such as living rooms, dens, eat-in kitchens, dining rooms and bedrooms.

The applicable noise limits at a point of reception are the higher of:

- The existing ambient sound level due to road traffic, or
- The exclusion limits set out in the guideline.

The following tables set out the exclusion limits from the guideline.

Table 5: NPC-300 Exclusion Limits for Non-Impulsive Sounds (L_{eq} (1-hr), dBA)

Time of Day	Class 1 Area		Class 4 Area	
	Plane of Windows of Noise Sensitive Spaces	Outdoor Points of Reception	Plane of Windows of Noise Sensitive Spaces	Outdoor Points of Reception
7 am to 7 pm	50	50	60	55
7 pm to 11 pm	50	50	60	55
11 pm to 7 am	45	n/a	55	n/a



Table 6: NPC-300 Exclusion Limits for Impulsive Sounds (L_{LLM}, dBAI)

Time of Day	No. of Impulses in a 1-hour Period	Class 1 Area		Class 4 Area	
		Plane of Windows of Noise Sensitive Spaces	Outdoor Points of Reception	Plane of Windows of Noise Sensitive Spaces	Outdoor Points of Reception
7 am to 11 pm	9 or more	50	50	60	55
	7 to 8	55	55	65	60
	5 to 6	60	60	70	65
	4	65	65	75	70
	3	70	70	80	75
	2	75	75	85	80
	1	80	80	90	85
11 pm to 7 am	9 or more	45	n/a	55	n/a
	7 to 8	50	n/a	60	n/a
	5 to 6	55	n/a	65	n/a
	4	60	n/a	70	n/a
	3	65	n/a	75	n/a
	2	70	n/a	80	n/a
	1	75	n/a	85	n/a
Notes:					
n/a Not Applicable. Outdoor points of reception are not considered to be noise sensitive during the overnight period.					
- Area classifications are: Class 1 – Urban, Class 4 - Urban Redevelopment					

The applicable guideline limits for infrequent events such as testing of emergency generator sets, are +5 dB higher than the values above.

6.1.1.2 Application of the NPC-300 Guidelines

The stationary noise guidelines apply only to residential land uses and to noise-sensitive commercial and institutional uses, as defined in NPC-300 (e.g., schools, daycares, hotels). For the Project Site, the stationary noise guidelines only apply to the residential portions of the development, including:

- Individual residences;
- Communal indoor amenity areas; and
- Communal outdoor amenity areas.

The above have been considered as noise-sensitive points of reception in the analysis.



6.1.1.3 Proposed Area Classification

Under NPC-300 noise guidelines, noise sensitive receptors are defined using area classifications. The receptor areas are classified as either:

- Class 1 – Urban areas
- Class 2 – Suburban / semi-rural areas
- Class 3 – Rural areas
- Class 4 – Infill areas

Depending on the receptor area classification, different guideline limits apply. Classes 1, 2 and 3 were included in the predecessor guidelines to NPC-300, namely MECP Publications NPC-205, NPC-232, and LU-131. The Class 4 designation is a new designation, intended to allow for infill and redevelopment, whilst still protecting residences from undue noise.

Based on the nature of the area, the Class 1 area urban sound level limits apply. The area is urban in nature and dominated by man-made sounds, including road traffic noise and an “urban hum”, 24-hours per day.

6.1.1.4 City of Toronto Noise By-law

The City of Toronto Noise By-law (Chapter 591 of the Municipal Code) applies to noise emissions within the city, including from industrial/ commercial uses. The following provisions of the By-law apply:

Section 591-2.4. Loading and unloading.

No person shall emit or cause or permit the emission of sound resulting from loading, unloading, delivering, packing, unpacking, and otherwise handling any containers, products, or materials from 11 p.m. to 7 a.m. the next day, except until 9 a.m. on Saturdays, Sundays, and statutory holidays.

And:

Section 591-2.8. Stationary sources and residential air conditioners.

A. No person shall cause or permit the emission of sound from a stationary source or residential air conditioner that, when measured with a sound level meter a point of reception, has a sound level (expressed in terms of Leq for a one-hour period) exceeding 50 dB(A) or the applicable sound level limit prescribed in provincial noise pollution control guidelines.

B. Subsection A does not apply to the emission of sound from a stationary source that is in compliance with a provincial environmental compliance approval.

6.1.1.5 Guideline Summary and Interpretation

The following presents a summary of the guidelines and settlements presented above.

- The applicable Ministry of the Environment noise guideline for assessing new residential development applications is Publication NPC-300, which is also referenced in the City Noise By-law. Noise levels from industry meeting NPC-300 requirements will meet the requirements of Bylaw Section 591-2.8
- The exclusionary Class 1 limits have been adopted in this study.



Inclusion of the surrounding significant noise sources was determined through a combination of site visit observations by SLR personnel and a review of available aerial photography.

6.1.2 Sources of Interest

As discussed in Section 4, there are no industrial facilities within their applicable Guideline D-6 Area of Influence. Therefore, a detailed assessment of the industries is not required. There are however, several commercial and institutional sources of noise near the development, including the Metro grocery store, the existing heritage building to the south and various multi-tenant low-rise commercial buildings.

Based on the information obtained from aerial images and from the site visit on March 25th, 2022, the significant sources of noise near the Project Site have been identified.

A detailed assessment was not completed, as these sources are expected to meet NPC-300 guidelines on the adjacent residential buildings are located closer to the Metro/low-rise commercial building (120 Liberty). Based on site-visit observations, the background ambient sound levels on-site are dominated by an “urban hum” from surrounding roadways (specifically the Gardiner Expressway). Therefore, noise impacts from surrounding stationary noise sources are not a concern. Based on the above review, a detailed assessment of stationary noise was not considered necessary to meet the City of Toronto requirements

The Class 1 noise guideline limits are met. No physical noise mitigation measures are required.

6.2 Transportation Sources

6.2.1 MECP Publication NPC-300 Guidelines for Transportation Sources

6.2.1.1 Indoor Criteria

The following table summarizes the criteria in terms of energy equivalent sound exposure (L_{eq}) levels for specific indoor noise-sensitive locations. These indoor criteria vary with sensitivity of the space. As a result, sleep areas have more stringent criteria than Living / Dining room space.

Table 7: NPC-300 Sound Level Criteria for Road and Rail Noise

Type of Space	Time Period	Energy Equivalent Sound Exposure Level L_{eq} (dBA) ^[1]		Assessment Location
		Road	Rail ^[2]	
Criteria for Residential Units				
Living / Dining Room	Daytime (7am to 11pm)	45	40	Indoors
	Night-time (11pm to 7am)	45	40	Indoors
Sleeping Quarters	Daytime (7am to 11pm)	45	40	Indoors
	Night-time (11pm to 7am)	40	35	Indoors



Type of Space	Time Period	Energy Equivalent Sound Exposure Level L_{eq} (dBA) ^[1]		Assessment Location
		Road	Rail ^[2]	
Supplementary Criteria for Non-Residential Uses				
General offices, reception areas, retail stores, etc.	Daytime (7am to 11pm)	50	45	Indoors
Living/dining areas of residences, hospitals, schools, nursing/retirement homes, day-care centres, theatres, places of worship, libraries, individual or semi-private offices, conference rooms, reading rooms, etc.	Daytime (7am to 11pm)	45	40	Indoors
Sleeping quarters of hotels/motels	Night-time (11pm to 7am)	45	40	Indoors
Sleeping quarters of residences, hospitals, nursing/retirement homes, etc.	Night-time (11pm to 7am)	40	35	Indoors

Notes: [1] Road and Rail noise impacts are to be combined for assessment of impacts.

[2] Whistle/warning bell noise is excluded for OLA noise assessments and included for indoor assessments, where applicable.

6.2.1.2 Ventilation and Warning Clauses

The following table summarizes requirements for ventilation where windows potentially would have to remain closed as a means of noise control. Despite the implementation of ventilation measures where required, some occupants may choose not to use the ventilation means provided, and as such, warning clauses advising future occupants of the potential excess over the indoor guideline limits are required.

Table 8: NPC-300 Ventilation and Warning Clause Requirements

Assessment Location	Time Period	Energy Equivalent Sound Exposure Level - L_{eq} (dBA)		Ventilation and Warning Clause Requirements ^[2, 3]
		Road	Rail ^[1]	
Plane of Window	Daytime (7am to 11pm)	≤ 55		None
		56 to 65 incl.		Forced Air Heating with provision to add AC + Applicable Warning Clause(s)
		> 65		Central AC + Applicable Warning Clause(s)
	Night-time (11pm to 7am)	51 to 60 incl.		Forced Air Heating with provision to add AC+ Applicable Warning Clause(s)
		> 60		Central AC + Applicable Warning Clause(s)

Notes: [1] Whistle/warning bell noise is excluded.

[2] Road and Rail noise is combined for determining Ventilation and Warning Clause requirements.



6.2.1.3 Building Shell Requirements

The following table provides sound exposure (L_{eq}) thresholds which if exceeded, require the building shell and components (i.e., wall, windows) to be designed and selected accordingly to ensure that the indoor location criteria are met.

Table 9: NPC-300 Building Component Requirements

Assessment Location	Time Period	Energy Equivalent Sound Exposure Level - L_{eq} (dBA)		Component Requirements
		Road	Rail ^[1]	
Facade	Daytime (7am to 11pm)	> 65	> 60	Designed/ Selected to Meet Indoor Requirements ^[2]
	Night-time (11pm to 7am)	> 60	> 55	

Notes: [1] Including whistle/warning bell noise.

[2] The resultant sound isolation parameter from Road and Rail are to be combined for determining the overall acoustic parameter.

6.2.1.4 Outdoor Sound Level Criteria

The following table summarizes criteria in terms of energy equivalent sound exposure (L_{eq}) levels for the outdoor noise-sensitive locations, with a focus of outdoor areas being amenity spaces (called Outdoor Living Areas (OLAs) per NPC-300).

Table 10: NPC-300 Outdoor Sound Level Criteria for Road and Rail Noise

Type of Space	Time Period	Energy Equivalent Sound Exposure Level L_{eq} (dBA) ^[1, 2]	Assessment Location
OLA	Daytime (0700-2300h)	55	Outdoors

Notes: [1] Excluding whistle/warning bell noise for OLA noise assessments

[2] Road and Rail noise impacts are to be combined for assessment of OLA impacts.

6.2.1.5 Mitigation and Warning Clauses

The following table summarizes mitigation and warning clause requirements for outdoor amenity spaces.

Table 11: NPC-300 Outdoor Living Area Mitigation & Warning Clause Requirements

Assessment Location	Time Period	Energy Equivalent Sound Exposure Level - L_{eq} ^[1, 2] (dBA)	Mitigation and Warning Clause Requirements ^[3]
OLA	Daytime (7am to 11pm)	≤ 55	None
		56 to 60 incl.	Noise Control Measures may be applied, and/or Applicable Warning Clause(s)
		> 60	Noise barrier to reduce noise to 55 dBA, or Noise barrier to reduce noise to 60 dBA and Applicable Warning Clause(s)

Notes: [1] Whistle/warning bell noise is excluded.

[2] Road and Rail noise is combined for determining Ventilation and Warning Clause requirements.



As indicated in NPC-300, noise control measures may be applied to reduce sound levels to 55 dBA. If measures are not provided, potential purchasers/tenants are required to be informed of potential noise problems with the applicable Warning Clause(s).

If noise impacts are predicted to be greater than 60 dBA, noise control measures are required to reduce noise levels to 55 dBA. If noise control measures are not technically feasible for meeting 55 dBA, an excess of up to 5 dBA is allowed, with the inclusion of the applicable Warning Clause(s).

6.2.2 Traffic Data and Future Projections

Traffic data in the form of intersection turning movement counts for local City roads were obtained from the project traffic consultants BA Group. Truck percentages were provided by BA Group, SLR assumed a split between medium and heavy trucks based on in-house database for similar roadways. Volumes for the Gardiner Expressway were obtained from the City of Toronto Open Data Portal. The data was processed to provide Annual Average Daily Traffic (AADT) volumes, truck percentages, and other required information. Traffic volumes were projected to a 2037 design year based on a standard 1.5% growth rate (more than 10 years in the future from potential completion of the development). Copies of all traffic data used, and calculations can be found in **Appendix C**. The following summarizes the road traffic volumes used in the analysis.

Table 12: Summary of Road Traffic Data Used

Roadway Link	Future Year 2037 Traffic Volume (AADT) ^[1]	% Day / Night Volume Split ^[2]		% Commercial Traffic Breakdown ^[3]		Vehicle Speed (km/h)
		Daytime	Night-time	Medium Trucks	Heavy Trucks	
Gardiner Expressway - Eastbound	109,160	85	15	5.0	15.0	90
Gardiner Expressway - Westbound	112,425	85	15	5.0	15.0	90
Lynn Williams Street	2,852	90	10	0.5	0.4	50
East Liberty Street	8,374	90	10	0.9	0.8	50

Notes: [1] Traffic volumes were grown to the year 2037.

[2] Day/Night splits were assumed based on SLR in-house database.

6.2.3 Railway Traffic Data

Rail traffic data was obtained from CN for both CN freight and VIA passenger trains, and from Metrolinx for GO Transit trains. A 2.5% per annum growth rate was applied to the CN rail data to determine the 10-year future forecast volume. The forecasted GO rail volume includes both diesel and electric trains but recommends that electrified trains be considered equivalent to diesel trains in estimating noise impacts.

The rail traffic data used in the assessment is summarized in **Table 15** and **Table 16** for the Weston/Galt and Oakville Subdivisions, respectively. Copies of the rail traffic data and volume calculations for modelling are provided in **Appendix C**.



Table 13: Summary of Rail Traffic Data Used in the Transportation Analysis – Weston/Galt Subdivision

Rail	Train Type	No. of locomotives/cars per Train	# of Trains		Modelled Speed (km/h)
			Daytime (7am to 11pm)	Night-time (11pm to 7am)	
CN Trains	Diesel Way Freight Train	4/25	0	0	97
	Diesel VIA Passenger Train	2/10	0	5	97
GO Diesel	Diesel GO Commuter Train	1/12	130	28	97
	Diesel GO Commuter Train	2/12	26	0	97
GO Electric	Diesel GO Commuter Train	1/12	172	36	97
	Diesel GO Commuter Train	2/12	24	0	97
Up Express	DMU UP Commuter Train	1/3	256	72	97

Table 14: Summary of Rail Traffic Data Used in the Transportation Analysis – Oakville Subdivision

Rail	Train Type	No. of locomotives/cars per Train	# of Trains		Modelled Speed (km/h)
			Daytime (7am to 11pm)	Night-time (11pm to 7am)	
CN Trains	Diesel Way Freight Train	4/25	0	2	97
	Diesel VIA Passenger Train	2/10	13	0	97
GO Diesel	Diesel GO Commuter Train	1/12	66	11	97
	Diesel GO Commuter Train	2/12	26	4	97
GO Electric	Diesel GO Commuter Train	1/12	112	24	97
	Diesel GO Commuter Train	2/12	42	8	97
Up Express	DMU UP Commuter Train	1/3	0	6	97

6.2.4 Projected Sound Levels

Future road traffic sound levels at the proposed development were predicted using Cadna/A, a commercially available noise propagation modelling software. Roadways were modelled as line sources of sound, with sound emission rates calculated using ORNAMENT algorithms, the road traffic noise model of the MECP. These predictions were validated and are equivalent to those made using the MECP ORNAMENT or STAMSON v5.04 road traffic noise models.

Future rail operation sound levels at the proposed development were predicted using the FTA/FRA modelling algorithms included in the Cadna/A. FTA/FRA reference sound levels were used for diesel locomotives, and Diesel Multiple Units (UP Express) and rail cars for Passenger and Freight Trains.



Facades considered to be non-noise sensitive (e.g. blank walls) were excluded from the analysis.

As the majority of surrounding ground is concrete/asphalt, a reflective ground type has been applied in the modelling.

Sound levels were predicted along the residential façades of the proposed development using the “building evaluation” feature of Cadna/A. This feature allows for noise levels to be predicted across the entire façade of a structure.

Total façade sound levels are shown in **Figure 7** and **Figure 8** for combined roadway and railway impacts on the development façades for daytime and night-time, respectively. Overall predicted sound levels are provided in the following table:

Table 15: Projected Transportation Sound Levels at Facades

Component	Façade [1]	Roadway Sound Levels		Railway Sound Levels		Combined Road and Rail Sound Levels	
		Leq Day (dBA)	Leq Night (dBA)	Leq Day (dBA)	Leq Night (dBA)	Leq Day (dBA)	Leq Night (dBA)
2nd Floor – 6th Floor	N	47	43	62	59	63	59
	E	57	53	61	57	62	58
	S	61	56	55	52	62	57
	W	61	57	63	60	66	61
7th Floor – 42nd Floor	N	50	46	66	62	66	62
	E	61	57	63	60	65	61
	S	66	62	58	55	67	62
	W	66	61	65	61	68	64

Notes: [1] Façade locations are shown in **Figure 7**.

6.2.5 Façade Recommendations

Due to sound levels exceeding **Table 11** requirements, a detailed assessment of glazing is required. Indoor sound levels and required façade Sound Transmission Classes (STCs) were estimated using the procedures outlined in National Research Council Building Practice Note BPN-56. Façade calculations are provided in **Appendix D**. As detailed floor plans were not available at the time of the analysis, the following assumptions were applied to the development units:

- 50 % glazing was assumed for living/dining room, bedroom, and studio unit facades;
- living/dining rooms were assumed to have a façade-to-floor area ratio of 50%;
- sleeping quarters and hotel units were assumed to have a façade-to-floor area ratio of 100%;
- studio units were assumed to have a façade-to floor area ratio of 75%; and
- the non-glazing portions of the façade were assumed to have a STC 45 rating.



Facade STC requirements are summarized in the following table:

Table 16: Façade Sound Transmission Class (STC) Requirements

Component	Façade	Minimum Required STC Rating		
		Wall	Living Room Windows/ Patio Door	Bedroom Windows
2nd Floor – 6 th Floor	N	45	OBC	34
	E	45	OBC	30
	S	45	OBC	24
	W	45	OBC	34
7 th Floor – 42 nd Floor	N	45	32	37
	E	45	OBC	34
	S	45	OBC	29
	W	45	OBC	34

Notes: “OBC” - Glazing elements meeting minimum thermal and structural requirements of the Ontario Building Code.

The STC requirements at corner units with windows on more than one façade may have increased requirements (up to 3 STC points). Final STC requirements should be determined later in the planning process, once final floor layouts and façade designs are available (e.g., at SPA).

6.2.6 Outdoor Amenity Area Sound Levels

There are two communal outdoor amenity areas proposed for the development, as shown in **Figure 9**. Predicted overall sound levels are provided in the following table. The location of required noise barriers are shown in **Figure 10**.

Table 17: Predicted Outdoor Amenity Area Sound Levels

Amenity Area	Predicted Unmitigated Sound Level (dBA)	Guideline Limit [1] (dBA)	Meets Guideline?	Warning Clause / Noise Mitigation Measure	Predicted Mitigated Sound Level (dBA)	Meets Guideline?
Level 7	65	60	No	Type B / 2m Barrier	60	Yes
Level 42	65	60	No	Type B / 2m Barrier	57	Yes

Notes: [1] Sound levels up to 60 dBA are allowed with the use of a Type A or Type B Warning Clause.

Noise walls must be continuous with no gaps or cracks and must have a minimum surface density (mass per unit area) of 20 kg/m² (4 lbs per sq.ft.). Several different products can be used which meet these specifications, including wood, metal, glass, or plexiglass structures.

A **Type B** noise warning clause is required for all residential units.



6.2.7 Ventilation and Warning Clause Requirements

Central air-conditioning and a “**Type D**” warning clause is required for all units. See **Appendix A** for warning clause details. The warning clauses must be registered on Title and included in all agreements of purchase and sale or lease and all rental agreements.

6.3 Summary of Noise Conclusions and Recommendations

The potential for noise impacts on and the proposed development have been assessed. Based on the results of our studies:

- Adverse noise impacts from industrial/commercial facilities are not anticipated at the Project Site. The requirements of MECP Guideline D-6 are met.
- An assessment of transportation noise impacts has been completed for the surrounding roadways and railways.
- Based on transportation façade sound levels, outlined in **Section 6.2.5**, upgraded glazing is required for all the residential units within the proposed development.
- Façade STC requirements should be reviewed by an acoustical consultant as the design progresses.
- A Type B warning clause is required for all units within the development. A 2m barrier must be included surrounding the 7th and 42nd floor rooftop OLAs, see **Figure 10** for the location of the barriers. Warning clause details are provided in **Appendix A**.
- With the inclusion of the feasible mitigation measures and warning clauses outlined above, adverse noise impacts from transportation sources are not anticipated.

7.0 Vibration Assessment

7.1 Industrial (Stationary) Sources

There are no existing or proposed significant industrial vibration sources within 75 m of the Project Site, such as large stamping presses or forges. Under applicable MECP guidelines, a detailed vibration assessment is not required. Adverse impacts from industrial vibration are not anticipated. Further study is not required.

7.2 Transportation Sources

There is no specific MECP guideline with respect to railway vibration for land use approvals. Both CN and Metrolinx/GO Transit have published their own criteria, and both require that vibration impact assessments be conducted to ensure that adverse vibration impacts do not occur. The Railway Association of Canada (RAC) guideline was also used for rail vibration and used as a reference tool of best practices for rail-adjacent development. Both CN and Metrolinx/GO endorse the RAC guidelines.

Both CN and Metrolinx/GO require the following:

- Ground-borne vibration transmission to be evaluated in a report through site testing to determine if dwellings within 75 metres of the railway rights-of-way will be impacted by vibration conditions in excess of 0.14 mm/sec Root Mean Square (RMS) between 4 Hz and 200 Hz.



- The monitoring system should be capable of measuring frequencies between 4 Hz and 200 Hz, + 3 dB with an RMS averaging time constant of 1 second.
- If in excess, isolation measures will be required to ensure living areas do not exceed 0.14 mm/sec RMS on and above the first floor of the dwelling.

7.2.1 Guidelines

The Railway Association of Canada / Federation of Canadian Municipalities (“RAC/FCM”) have developed *Guidelines for New Development in Proximity to Railway Operations*. The “Proximity Guidelines” have been adopted by CN, CP, and Metrolinx. International Standard ISO 2631-2: 2003 (1989) also provides supplementation criteria for commercial and office space and for industrial buildings. For public transit systems, the MECP has previously issued a number of draft protocols for vibration assessment of various planned TTC expansions. The MECP has also developed a draft *Guideline for Noise and Vibration Assessment of Transit Projects*. The adopted guideline limits are presented in the following table.

Table 18: Transportation Vibration Guideline Limits

Train Type	Receptor Type	Limit (mm/s RMS)	Source
Heavy Rail (Freight and Commuter)	Residential	0.14	RAC/FCM, CN, CP, Metrolinx, MECP
	Commercial / Office	0.40	ISO 2631-2: 2003 (1989)
	Industrial	0.80	ISO 2631-2: 2003 (1989)
Transit Rail (Streetcars and LRTs)	Residential	0.10	TTC, MECP

Notes: Limits are overall vibration levels in the vertical direction, measured in root-mean square (“RMS”) values (1-second averaging time), in the frequency range from 4 Hz to 200 Hz.

7.2.2 Vibration Measurements

Measurements of ground-induced vibration due to rail traffic were made at the existing site. Measurements were conducted on Tuesday March 29th, 2022.

Measurements of ground vibrations were conducted at a single (1) location within the property boundary. Location 1 was setback approximately 100 m from the rail line which is in line with the ground floor setback of the new development. The vibration measurement location is shown in **Figure 11**.

Vibration velocity amplitudes were collected with Syscom MRC3000 units at a sample rate of 1024 Hz. Following the site visit, the data were reviewed for quality control and post-processed to compute RMS velocity using a 1-second integration time.

During the measurement period on March 29th, approximately nine (9) train events were recorded at Location 1. The measured vibration levels were below the 0.4mm/s threshold for commercial and retail spaces and the 0.14mm/s threshold for residential spaces which are located on the upper floors.



7.2.3 Vibration Measurement Results

Table 21 summarizes a representative sample of major train events over the monitoring period. The estimated levels are below the 0.14mm/s RMS residential vibration threshold in the CN/CPR and Metrolinx vibration guidelines. Based on the current design and setback distance, it is unlikely that vibration mitigation will be required at this stage.

Table 19: Predicted Outdoor Amenity Area Sound Levels

Train Reference	Location	Time	Measured Vibration Level (mm/s RMS) ^[1]	CN/GO Criteria (mm/s)	Meets Limit?
1	1	8:49	0.006	0.14	Y
2		9:01	0.006		Y
3		9:31	0.008		Y
4		10:01	0.005		Y
5		10:05	0.004		Y
6		10:23	0.007		Y
7		10:31	0.004		Y
8		10:39	0.005		Y
9		11:01	0.015		Y

Notes: [1] Measured values are root-mean-square vibration velocity.

7.2.4 Vibration Control Recommendations

Maximum ground-borne vibration levels at all parcel locations within the proposed development meet the CN/ GO criteria. Therefore, no additional mitigation measures are required. CN and Metrolinx noise warning clauses should be included in documents registered on Title, details are provided in **Appendix A**.

7.3 Summary of Vibration Conclusions and Recommendations

The potential for vibration impacts on and the proposed development have been assessed. Based on the results of our studies:

- Adverse vibration impacts from transportation sources are not anticipated.



8.0 Conclusions

A compatibility/mitigation assessment has been completed, examining the potential for air quality, dust, odour, and noise and vibration impacts from surrounding roadways and nearby industrial land uses to affect the Project Site.

The assessment has included a review of air quality and noise emissions from industrial facilities in the area.

The assessment has included a review of air quality and noise emissions from industrial facilities in the area. The Project Site is anticipated to be compatible with the surrounding employment land uses. Based on our assessment, the Project Site will not affect industrial facility compliance with applicable Provincial environmental policies, regulations, approvals, authorizations, and guidelines, including the City Noise Bylaw. The requirements of MECP Guideline D-6, and Publication NPC-300 are met. As the applicable policies and guidelines are met, the Project Site is:

- Unlikely to result in increased risk of complaint and nuisance claims;
- Unlikely to result in operational constraints for the major facilities; and
- Unlikely to result in constraints on major facilities to reasonably expand, intensify or introduce changes to their operations.

Receptor-based mitigation measures, including façade upgrades, noise barriers (parapets), and various warning clauses are required to ensure that the applicable transportation noise guidelines are met.

Industrial and transportation vibration impacts have been assessed. Adverse impacts from vibration are not anticipated.

The required mitigation measures are summarized in **Appendix A**. These measures can be secured as part of conditions for site plan approval.



9.0 Closure

Should you have questions on the above report, please contact the undersigned.

Regards,

SLR Consulting (Canada) Ltd.



Kaitlin Raheb, P. Eng.
Air Quality Engineer

Jason Dorssers, B.Eng., EIT
Acoustics Consultant

R. L. Scott Penton, P.Eng.
Principal



10.0 References

- Environmental Commissioner of Ontario (ECO, 2010), *Review of Posted Decision: Developing an Odour Policy Framework*, April 2010.
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- Ontario Regulation 419/05 – *Local Air Quality*.





Figures

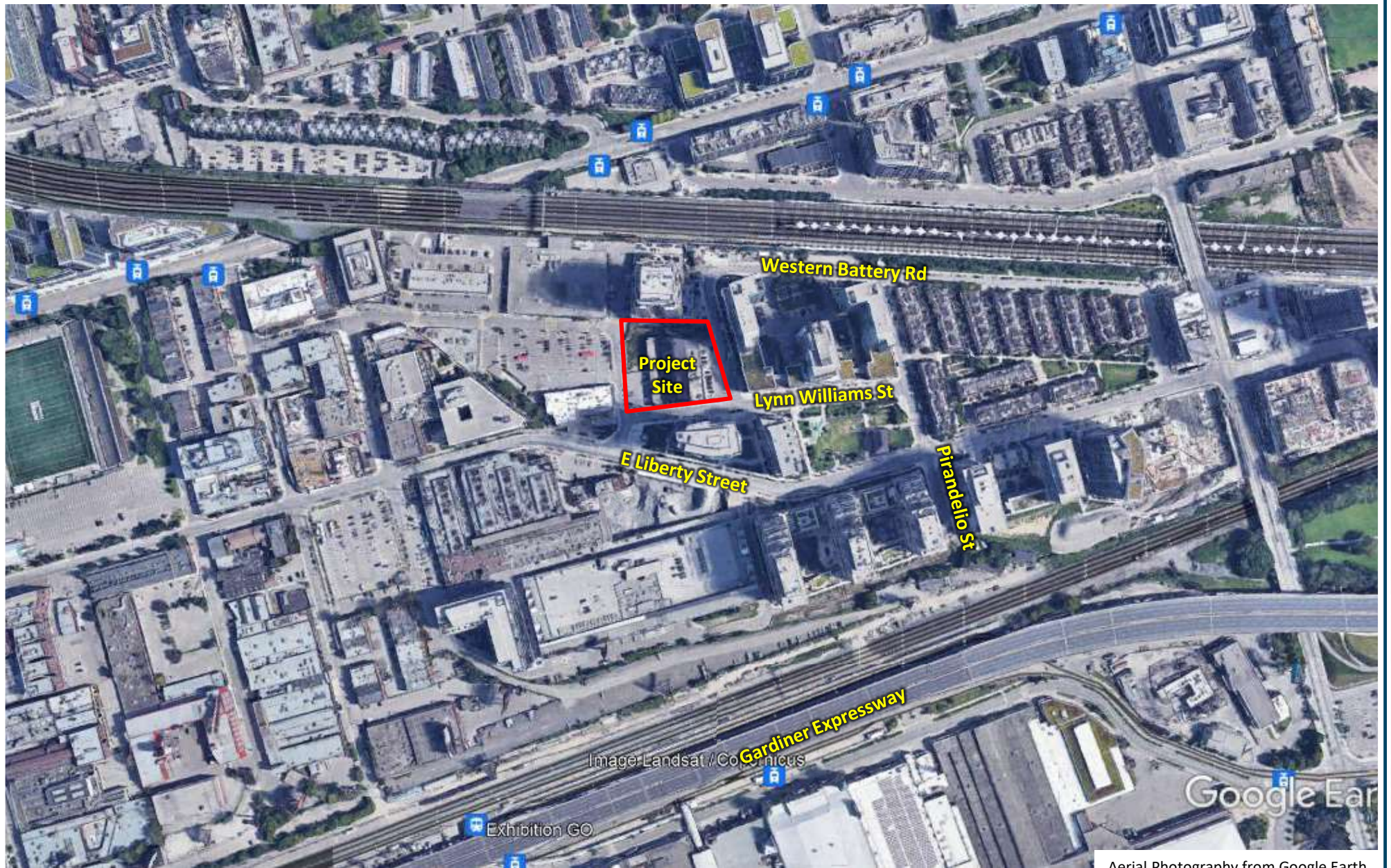
Compatibility & Mitigation Study Air Quality, Dust, Odour, Noise & Vibration

86 & 70 Lynn Williams Street

Shiplake Ltd.

SLR Project No.: 241.030929.00001

October 4, 2023



Aerial Photography from Google Earth

SHIPLAKE LTD.

86 & 70 LYNN WILLIAMS STREET

SITE AND CONTEXT PLAN

True North



Scale: 1:6,000

Date: Oct 4, 2023 Rev 0.0

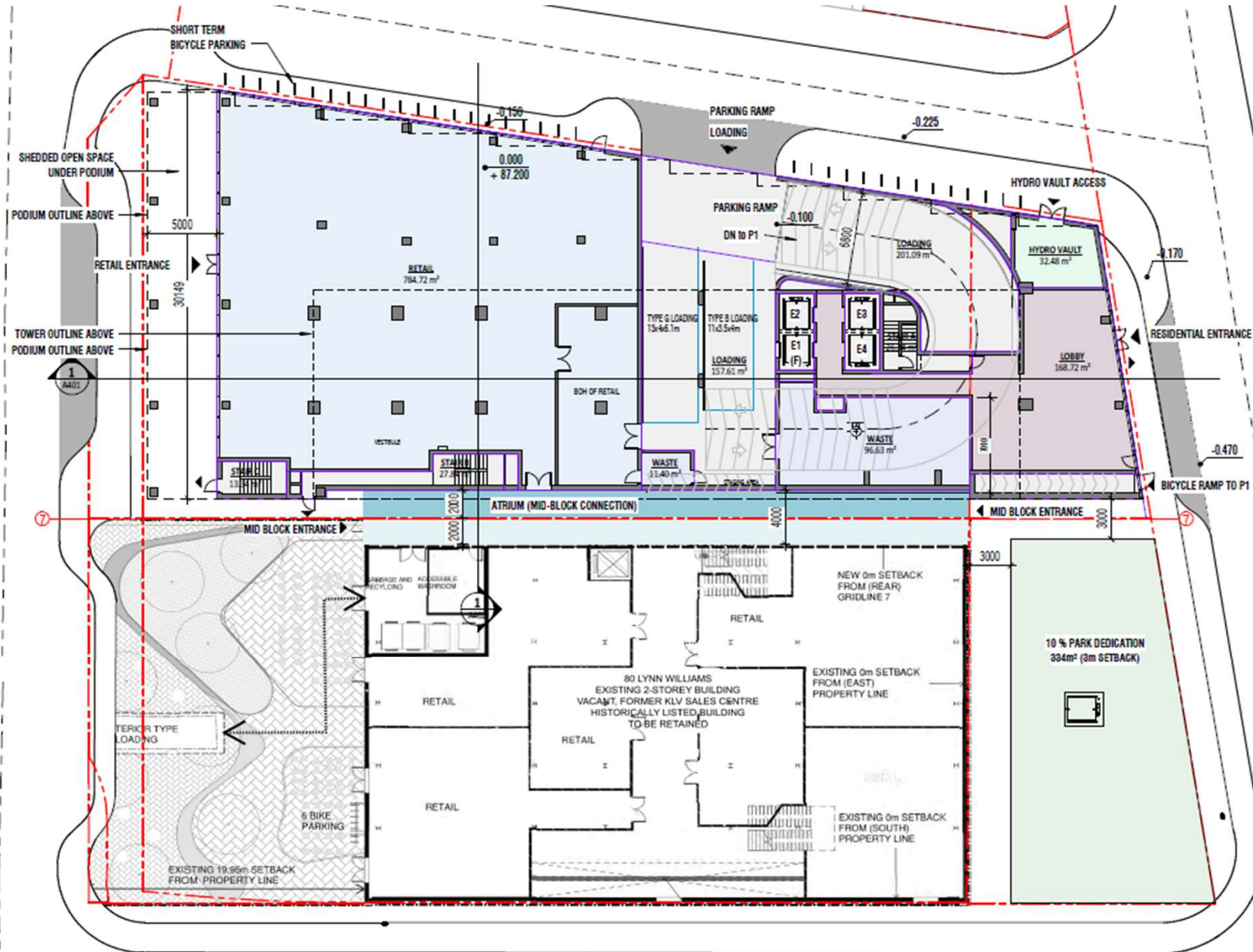
Project No. 241.30929.00001

METRES

Figure No.

1





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86 & 70 LYNN WILLIAMS STREET

PROPOSED SITE PLAN

True North



Scale: 1:6,000

Date: Oct 4, 2023

Project No. 241.30929.00001

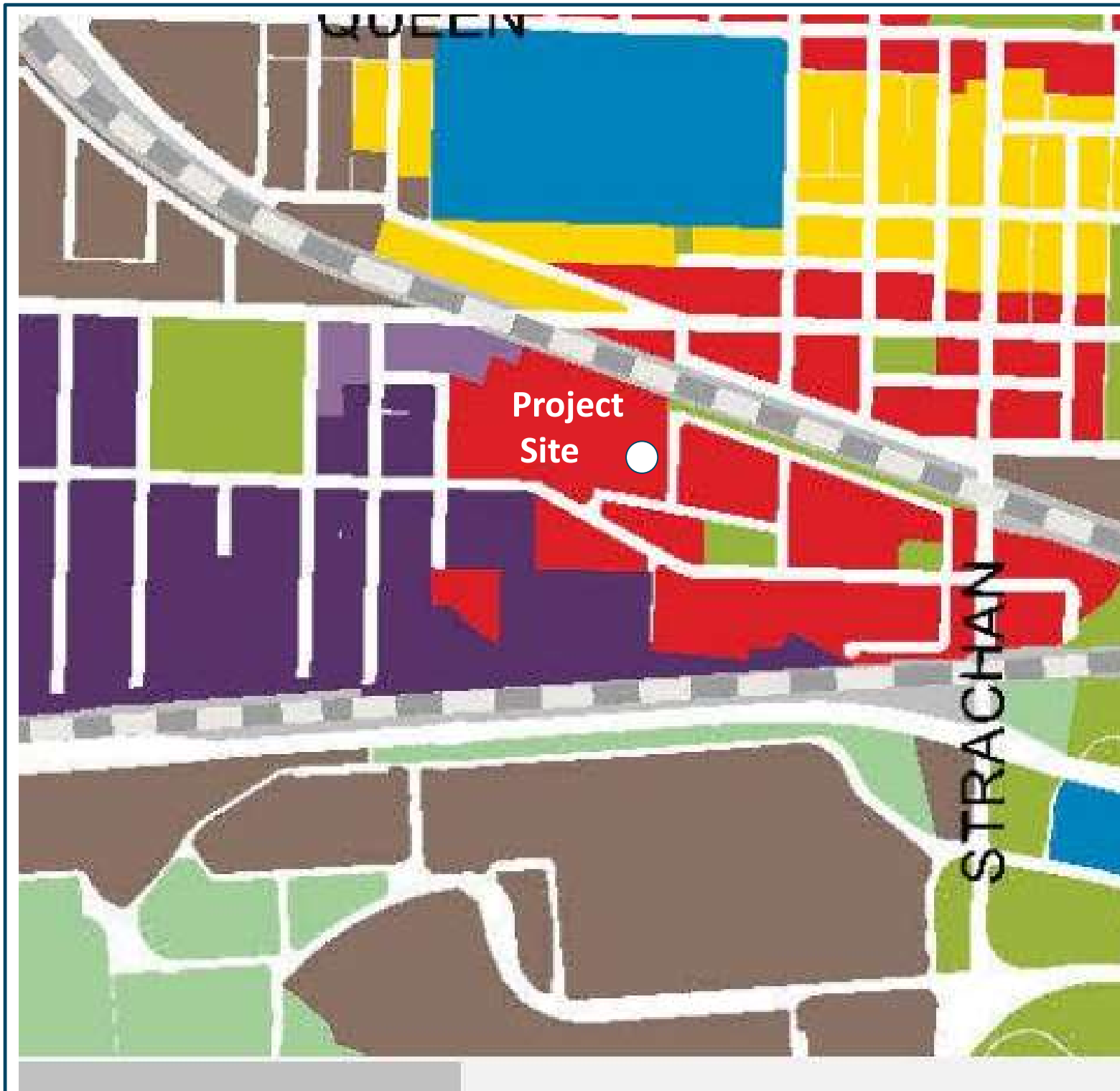
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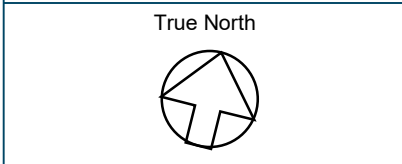
Figure No.

2





- Land Use Designations**
- Neighbourhoods
 - Apartment Neighbourhoods
 - Mixed Use Areas
 - Natural Areas
 - Parks
 - Other Open Space Areas (Including Golf Courses, Cemeteries, Public Utilities)
 - Institutional Areas
 - Regeneration Areas
 - General Employment Areas
 - Core Employment Areas
 - Utility Corridors



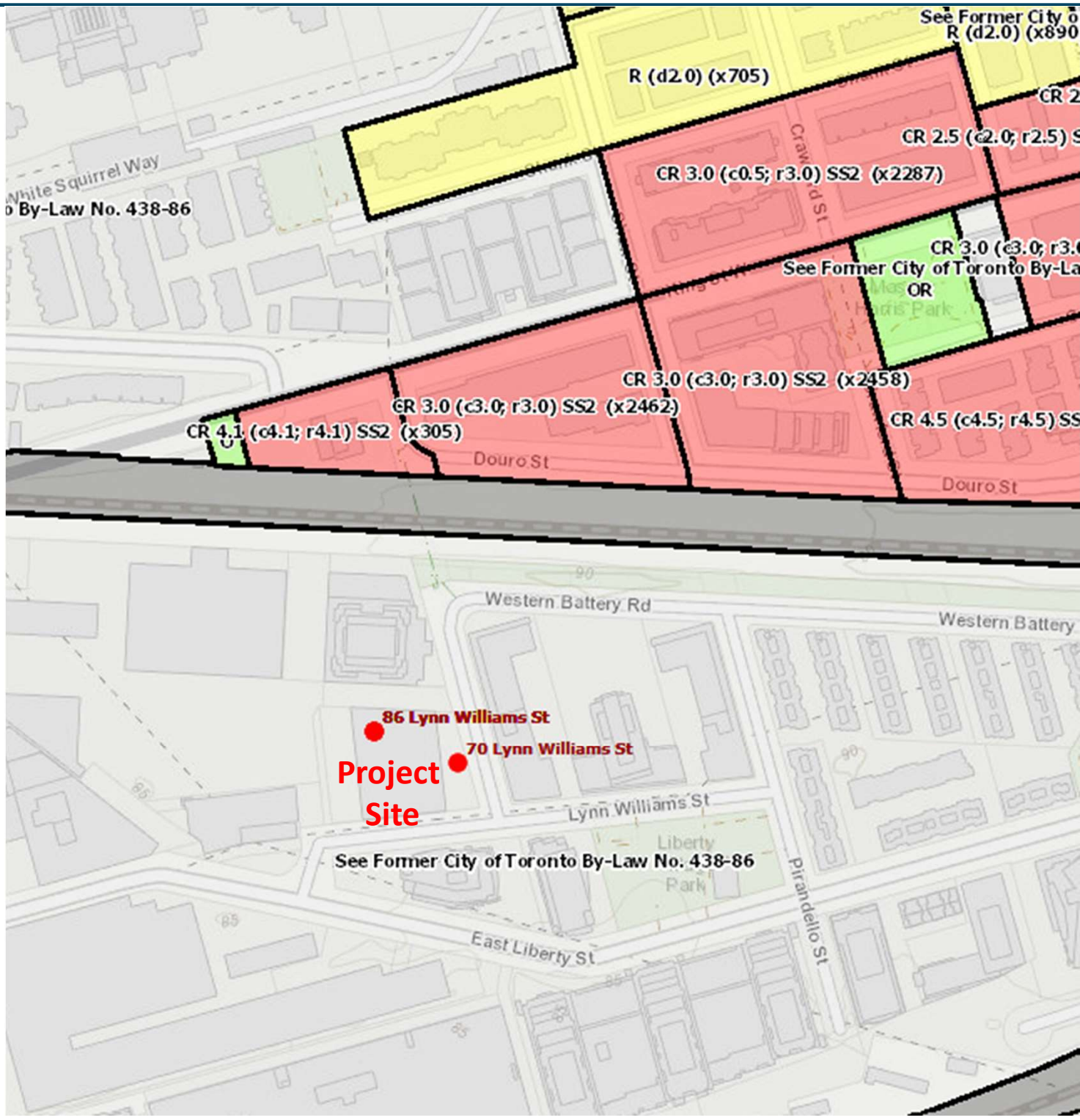
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86 & 70 LYNN WILLIAMS STREET
TORONTO, ONTARIO

EXCERPT FROM OFFICIAL
PLAN MAP 18
https://www.toronto.ca/wp-content/uploads/2017/11/97fe-cp-official-plan-Map-18_LandUse_AODA.pdf

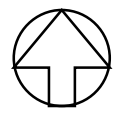
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Date: Oct 4, 2023	Rev 0.0	Figure No.
Project No. 241.30929.00001		3





- Zone Categories
- Residential
 - Residential Apartment
 - Open Space
 - Utility and Transportation
 - Commercial
 - Commercial Residential
 - Commercial Residential Employment
 - Employment Industrial
 - Institutional

True North



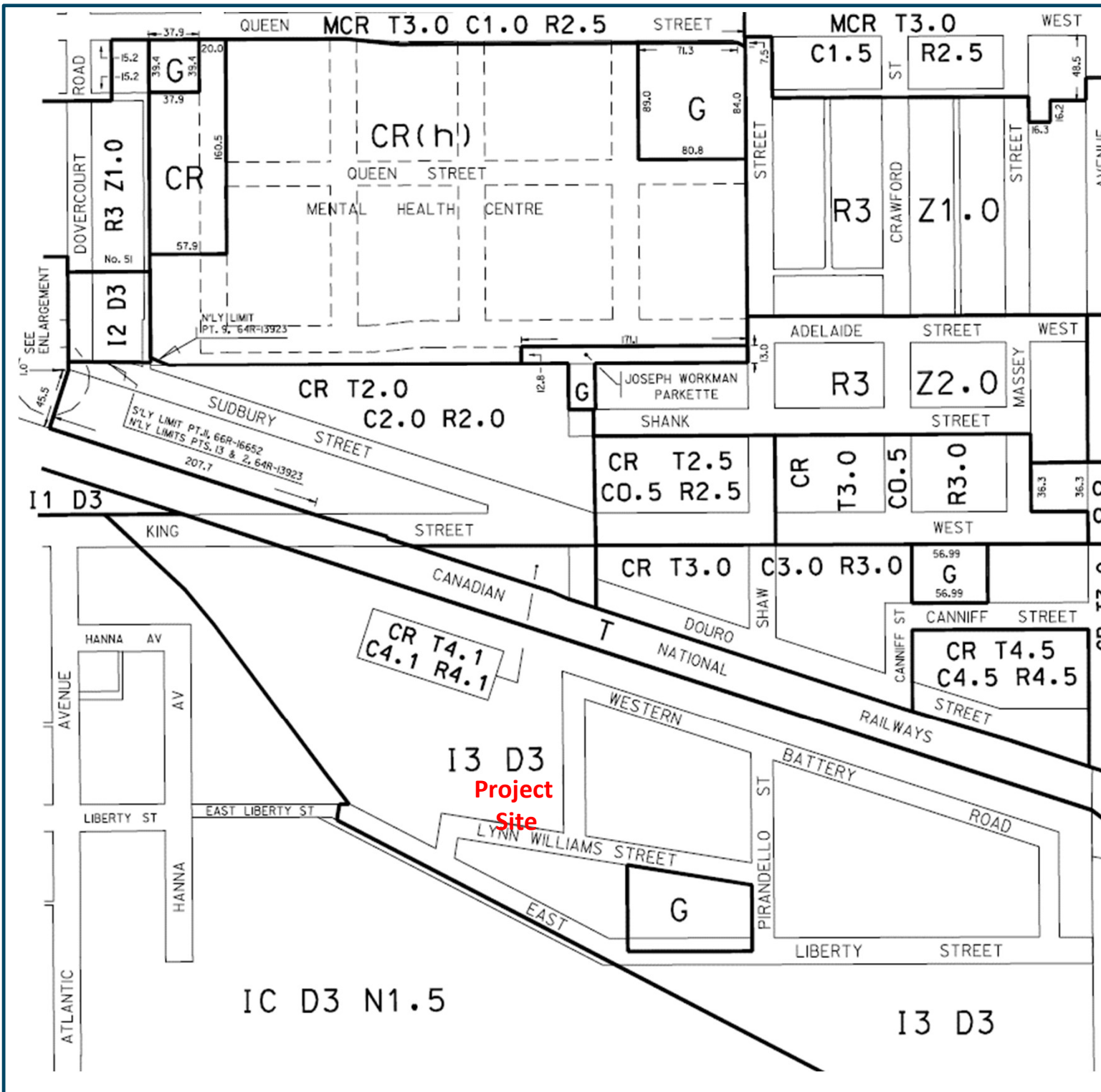
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TORONTO, ONTARIO

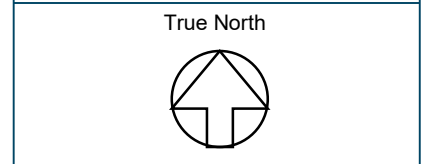
AREA ZONING MAP
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Date: Oct 4, 2023	Rev 0.0	Figure No.
Project No. 241.30929.00001		4a





- Zone Categories
- Residential
 - Residential Apartment
 - Open Space
 - Utility and Transportation
 - Commercial
 - Commercial Residential
 - Commercial Residential Employment
 - Employment Industrial
 - Institutional



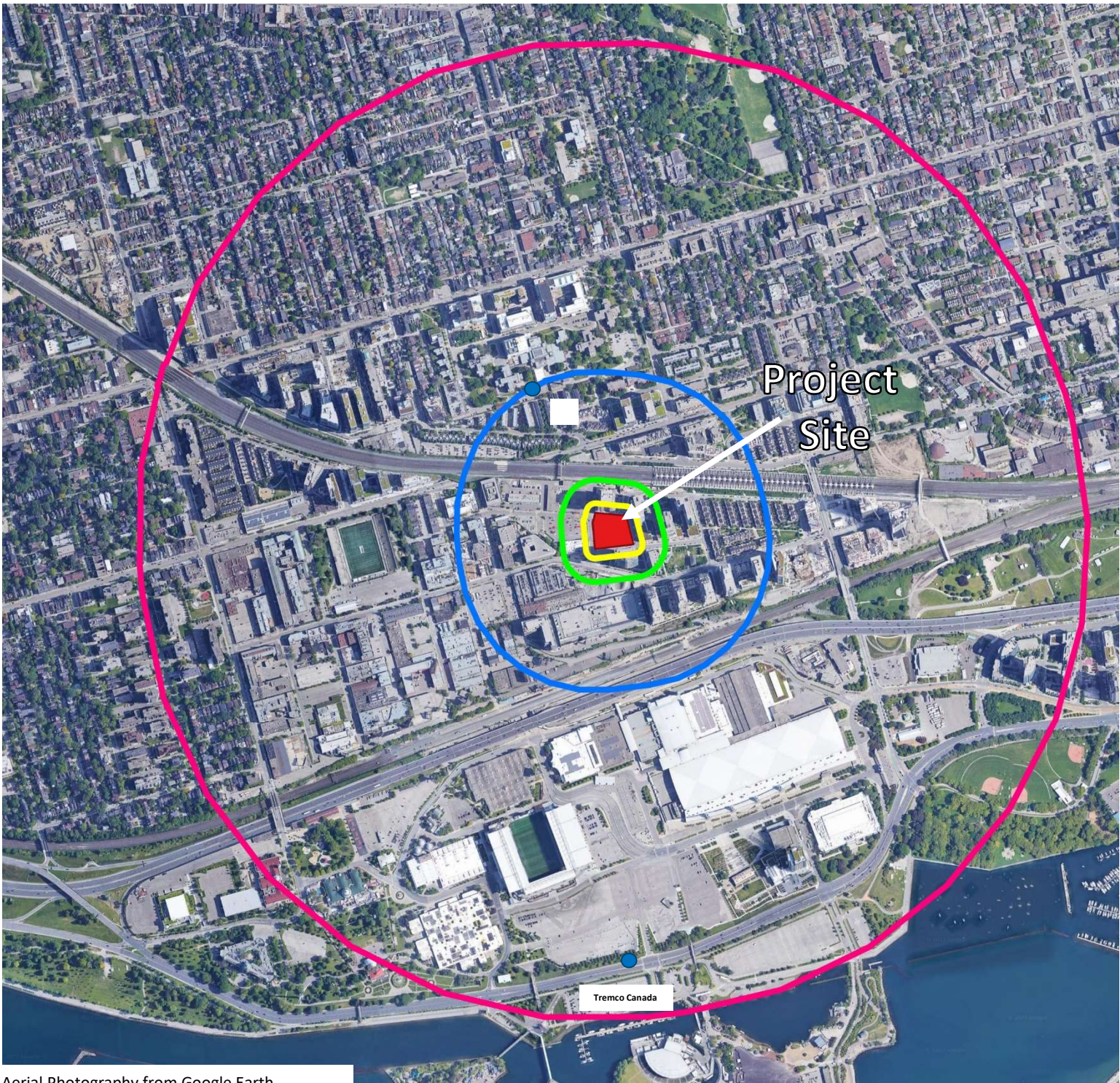
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TORONTO, ONTARIO






EXCERPT FROM FORMER CITY
OF TORONTO ZONING BY-LAW
MAP 49G-322

Scale:	n/a	METRES
Date: Oct 4, 2023	Rev 0.0	Figure No.
Project No. 241.30929.00001		4b

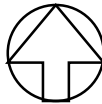




Aerial Photography from Google Earth

-  Facility with MECP Permit (ECA/EASR)
-  20 m Separation
-  70 m Separation
-  300 m Separation
-  1000 m Separation

True North



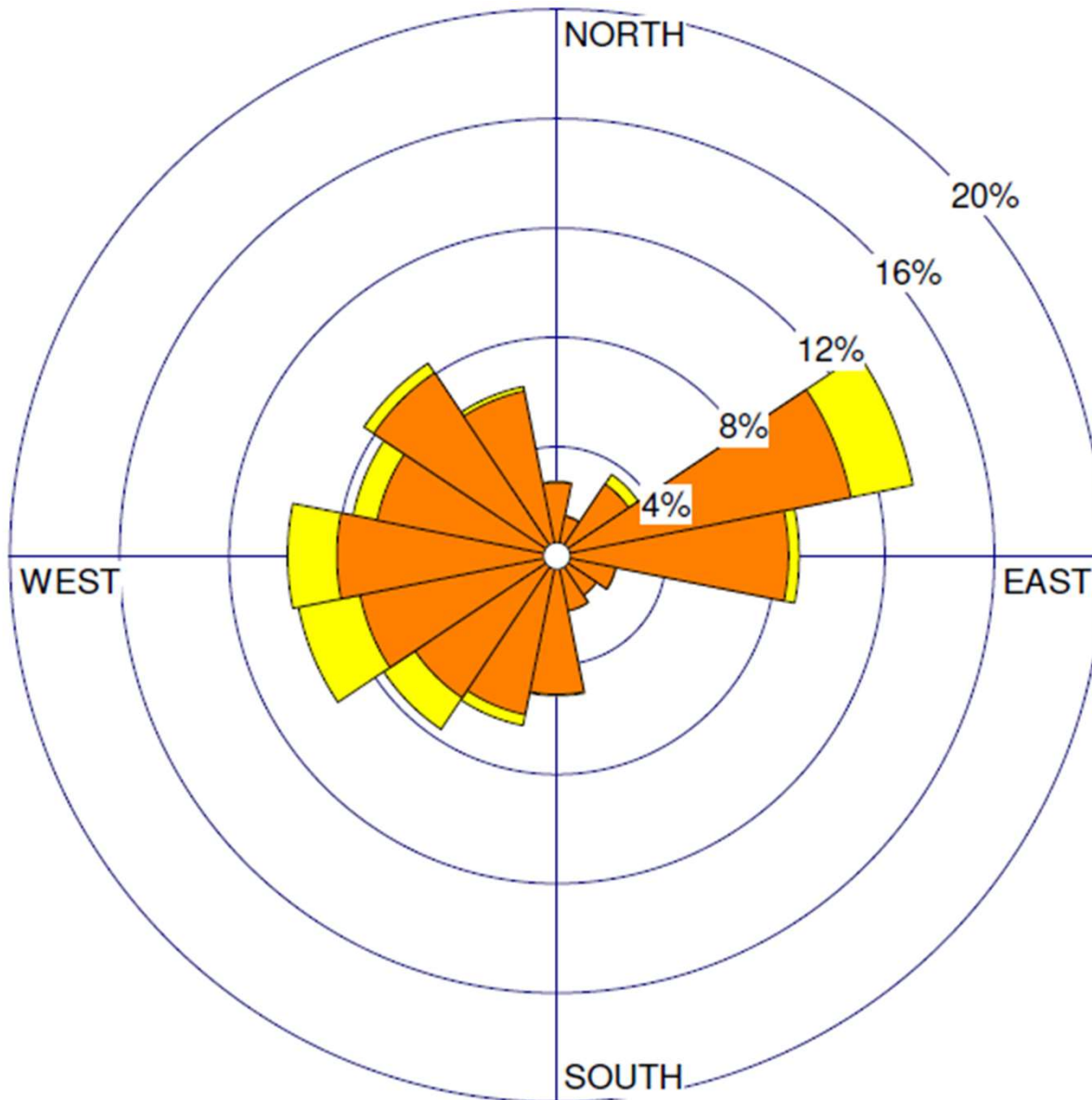
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TORONTO, ONTARIO

GUIDELINE D-6 SEPARATION
DISTANCES – 1000 M

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Date: Oct 4, 2023	Rev 0.0	Figure No.
Project No. 241.30929.00001		5





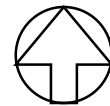
WIND SPEED
(m/s)

≥ 8.33

0.10 - 8.33

Calms: 3.25%

True North



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TORONTO, ONTARIO

WIND FREQUENCY
DISTRIBUTION DIAGRAM
(WIND ROSE)
BILLY BISHOP TORONTO
CITY AIRPORT

Scale: n/a METRES

Date: Oct 4, 2023 Rev 0.0 Figure No.

Project No. 241.30929.00001

6





Legend	
	< 45 dBA
	≥ 45 dBA
	≥ 50 dBA
	≥ 55 dBA
	≥ 60 dBA
	≥ 65 dBA
	≥ 70 dBA
	≥ 75 dBA

Aerial Photography from Google Earth

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PREDICTED FAÇADE SOUND LEVELS – COMBINED ROAD + RAIL - DAYTIME

True North



Scale: 1:500

METRES

Date: Oct 4, 2023

Rev 0.0

Figure No.

7

Project No. 241.30929.00001





Aerial Photography from Google Earth

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86 & 70 LYNN WILLIAMS STREET

PREDICTED FAÇADE SOUND LEVELS – COMBINED ROAD + RAIL – NIGHT-TIME

True North



Scale: 1:500

Date: Oct 4, 2023

Rev 0.0

Project No. 241.30929.00001

METRES

Figure No.



8







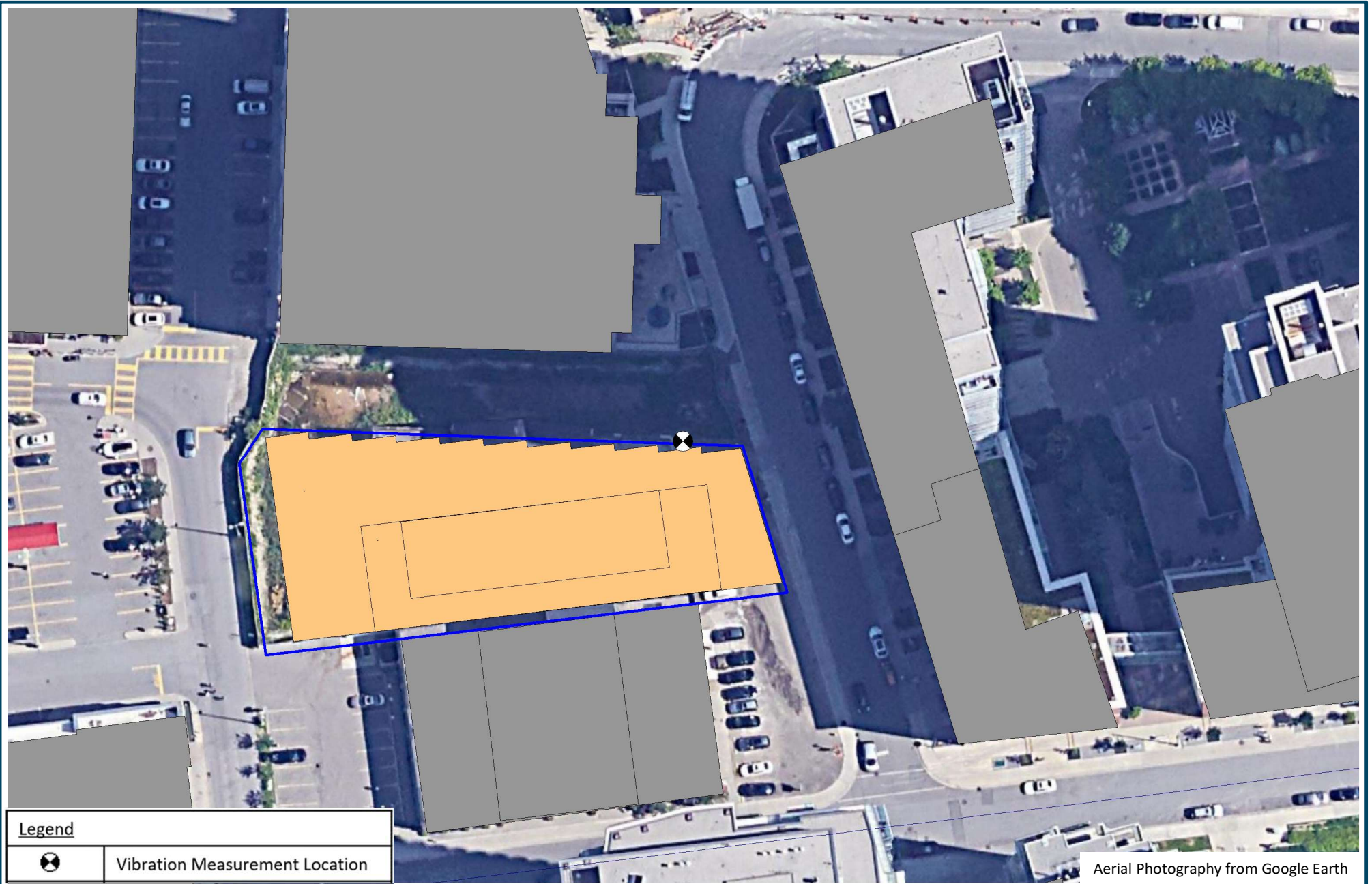
Legend	
	Proposed Development
	Sound Barrier
	Receiver
	Outdoor Amenity Space

Aerial Photography from Google Earth

SHIPLAKE LTD.		True North 	Scale: 1:500 METRES			
86 & 70 LYNN WILLIAMS STREET			Date: Oct 4, 2023	Rev 0.0		Figure No. 9
PREDICTED OUTDOOR AMENITY SOUND LEVELS – COMBINED ROAD + RAIL – DAYTIME			Project No. 241.30929.00001			



SHIPLAKE LTD.	True North	Scale: 1:350	METRES
86 & 70 LYNN WILLIAMS STREET		Date: Oct 4, 2023	Rev 0.0
LOCATION OF REQUIRED NOISE BARRIERS/PARAPETS		Project No. 241.30929.00001	Figure No. 10 



Legend

	Vibration Measurement Location
--	--------------------------------

Aerial Photography from Google Earth

SHIPLAKE LTD.

86 & 70 LYNN WILLIAMS STREET

VIBRATION MEASUREMENT LOCATION

True North



Scale: 1:750

Date: Oct 4, 2023

Rev 0.0

Project No. 241.30929.00001

METRES

Figure No.

11





Appendix A Mitigation and Warning Clause Summary

Compatibility & Mitigation Study Air Quality, Dust, Odour, Noise & Vibration

86 & 70 Lynn Williams Street

Shiplake Ltd.

SLR Project No.: 241.030929.00001

October 4, 2023

Appendix A Mitigation and Warning Clause Summary

Type B Warning Clause

“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 (rail traffic) (air traffic) may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment.”

Type D Warning Clause

“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.”





Appendix B Development Drawings

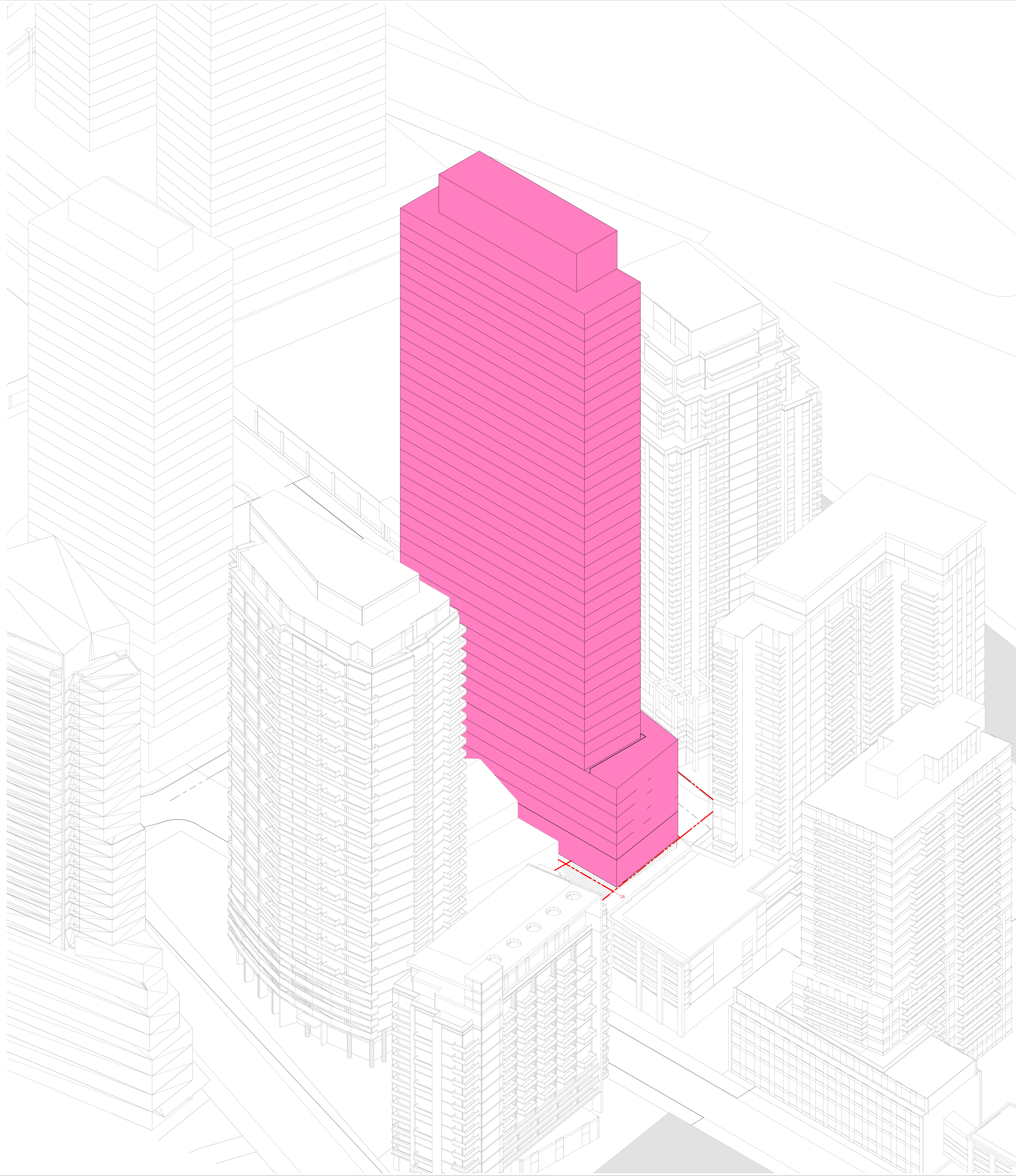
Compatibility & Mitigation Study Air Quality, Dust, Odour, Noise & Vibration

86 & 70 Lynn Williams Street

Shiplake Ltd.

SLR Project No.: 241.030929.00001

October 4, 2023



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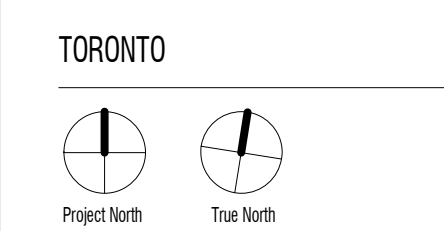
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86 LYNN WILLIAMS STREET



SCALE
PROJECT NO. 201803
ISSUE DATE May 10, 2023

COVER SHEET

A000

1.0 SUMMARY

SITE AREA - (BLOCK 11 - PART 2) 1,669.9 m² (+691.0 m² EAST EXTENSION)
(BLOCK 2 - PART 3) 120.7 m²
TOTAL 2481.6 m²
PARK DEDICATION 264.0 m² (5m SETBACK, 10.6% > 10%) 334.0 m² (3m SETBACK, 13.5% > 10%)

TOTAL GFA - 33,540m²
FSI - 13.3
NEW RESIDENTIAL UNITS - 588

BUILDING HEIGHTS
Tower: 132 m (43 STORIES)
Mechanical/Amenity Penthouse: 9 m
TOTAL: 141 m

2.0 UNIT MIX

2.1 RESIDENTIAL UNIT MIX table with columns: Unit Type, No. Units, Minimum Size (SF), Maximum Size (SF), % of Units

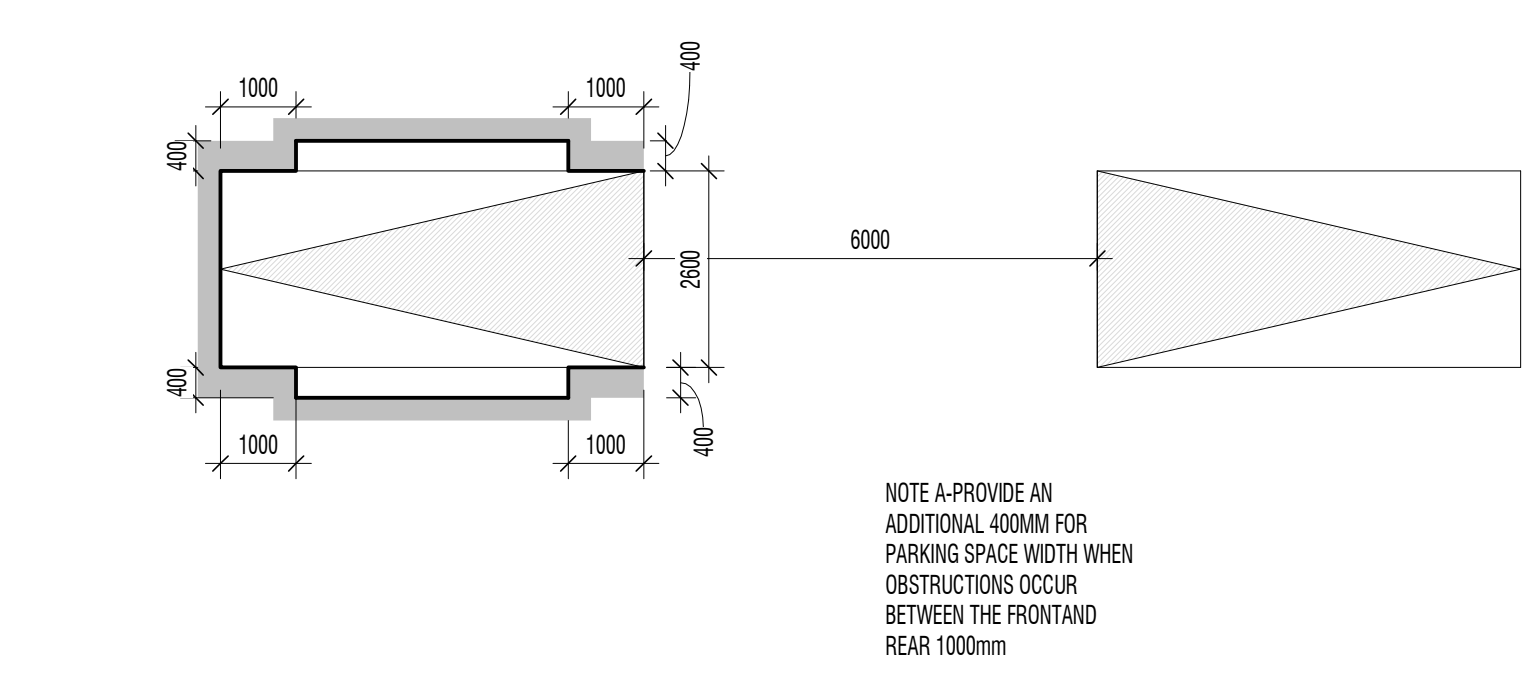
2.3 BF UNITS - BREAKDOWN table showing unit counts for various unit types across levels

2.2 UNITS BY FLOOR table showing unit counts for Level 2 and Level 3-4

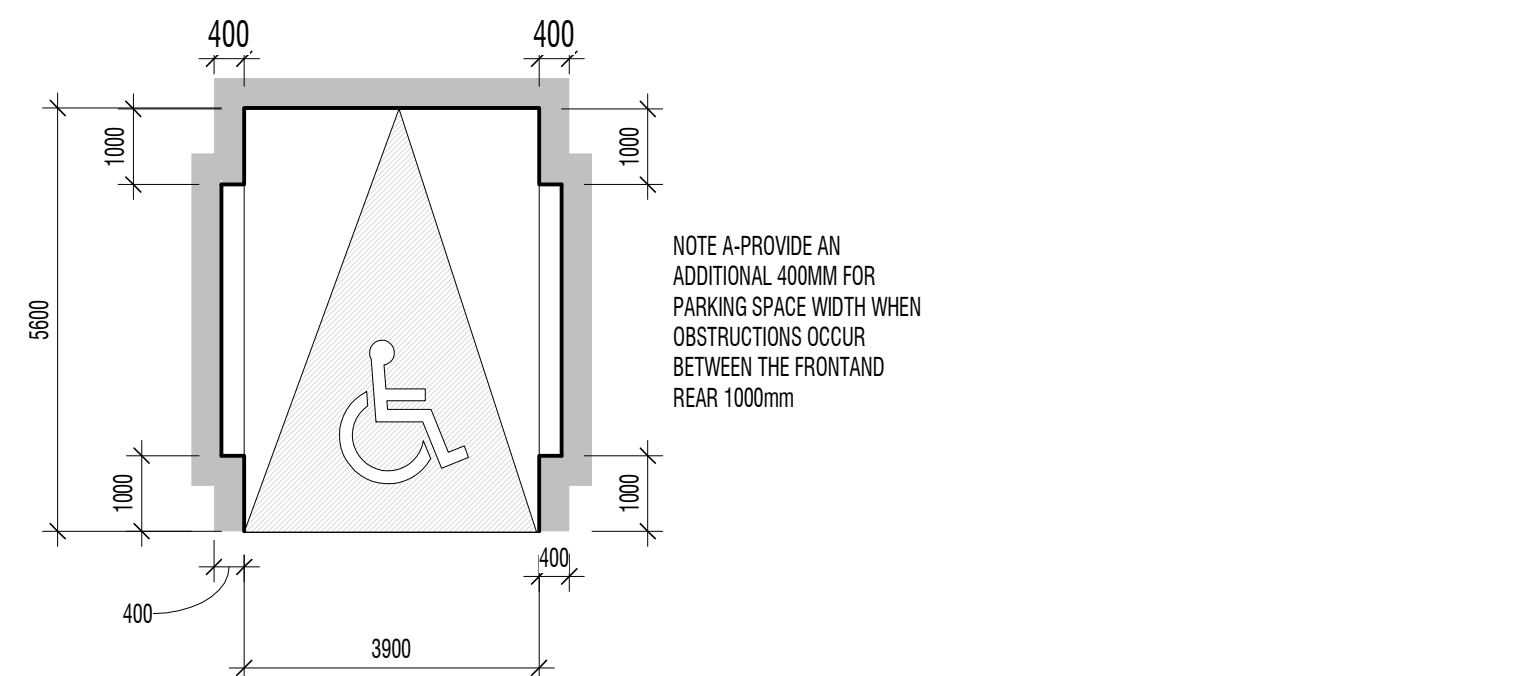
2.2 UNITS BY FLOOR table showing unit counts for Level 5-6 and Level 7

2.2 UNITS BY FLOOR table showing unit counts for Level 8-16 and Level 23: 14

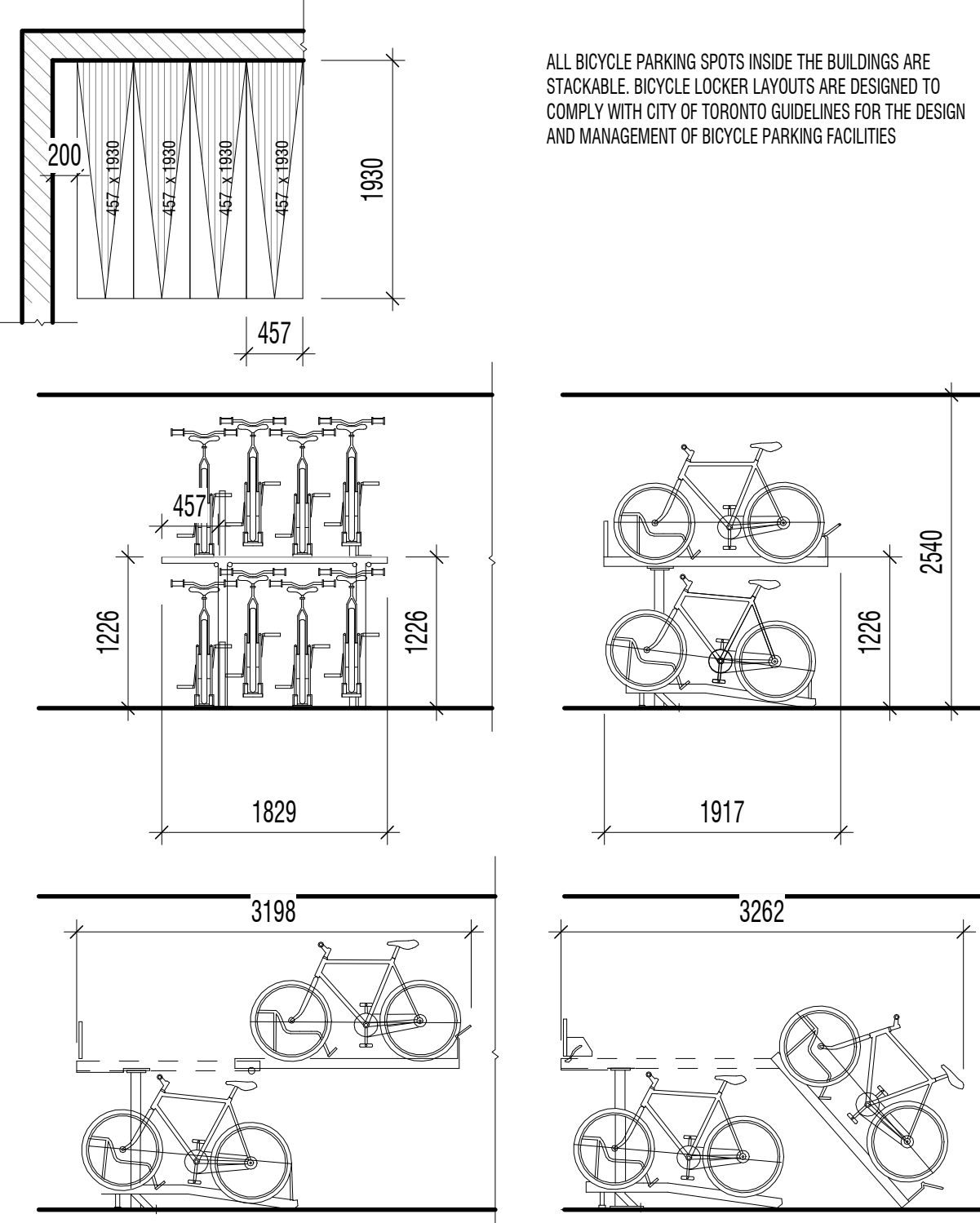
TYPICAL PARKING SPOT



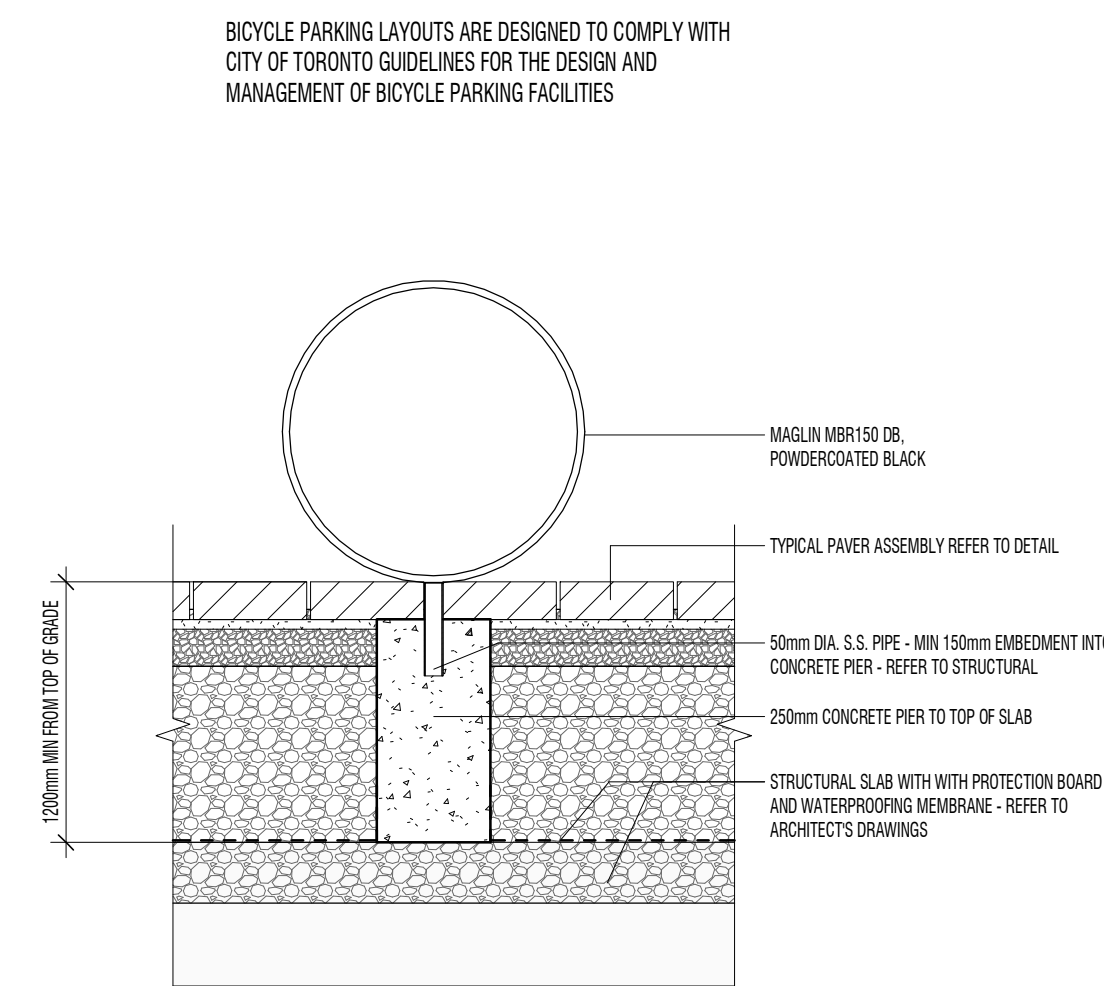
TYPICAL ACCESSIBLE PARKING SPOT



LONG-TERM BICYCLE PARKING: TYPICAL BICYCLE LOCKER



SHORT-TERM BICYCLE PARKING: TYPICAL BICYCLE RING AT GRADE



3.0 FLOOR AREA

3.1 FLOOR AREA - TOTALS table with columns: Total GCA, GFA Deductions, Total GFA, Indoor Amenity, Outdoor Amenity

2.2 FLOOR AREA table with columns: Level, GCA/Level, Total GCA, GFA Deductions, Total GFA, Residential GFA, Retail GFA, Leasable, Indoor Amenity, Outdoor Amenity

BELOW-GRADE table showing floor area and amenity metrics for levels P1 and P2

ABOVE-GRADE table showing floor area and amenity metrics for levels 1 through 11

5.0 PARKING

5.1 CAR PARKING table showing car parking counts for P1 and P2

5.2 BICYCLE PARKING table showing bicycle parking counts for P1 and P2

4.0 AMENITY

4.1 AMENITY table showing amenity metrics for 588 units

6.0 STORAGE

6.1 LOCKERS table showing locker counts for levels 2, 3, 4, 5, 6, and P2

7.0 LOADING

7.1 LOADING table showing loading counts for levels 1 and P1

8.0 WASTE

8.1 WASTE STORAGE AREA table showing waste storage area for Level 1

Ontario Building Code Date Matrix Parts 3 or 9 table with columns: Item, Project Description, Building Code Reference, and various code sections (1-21)

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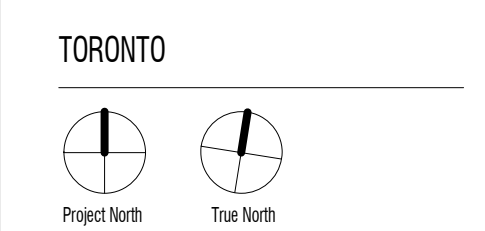
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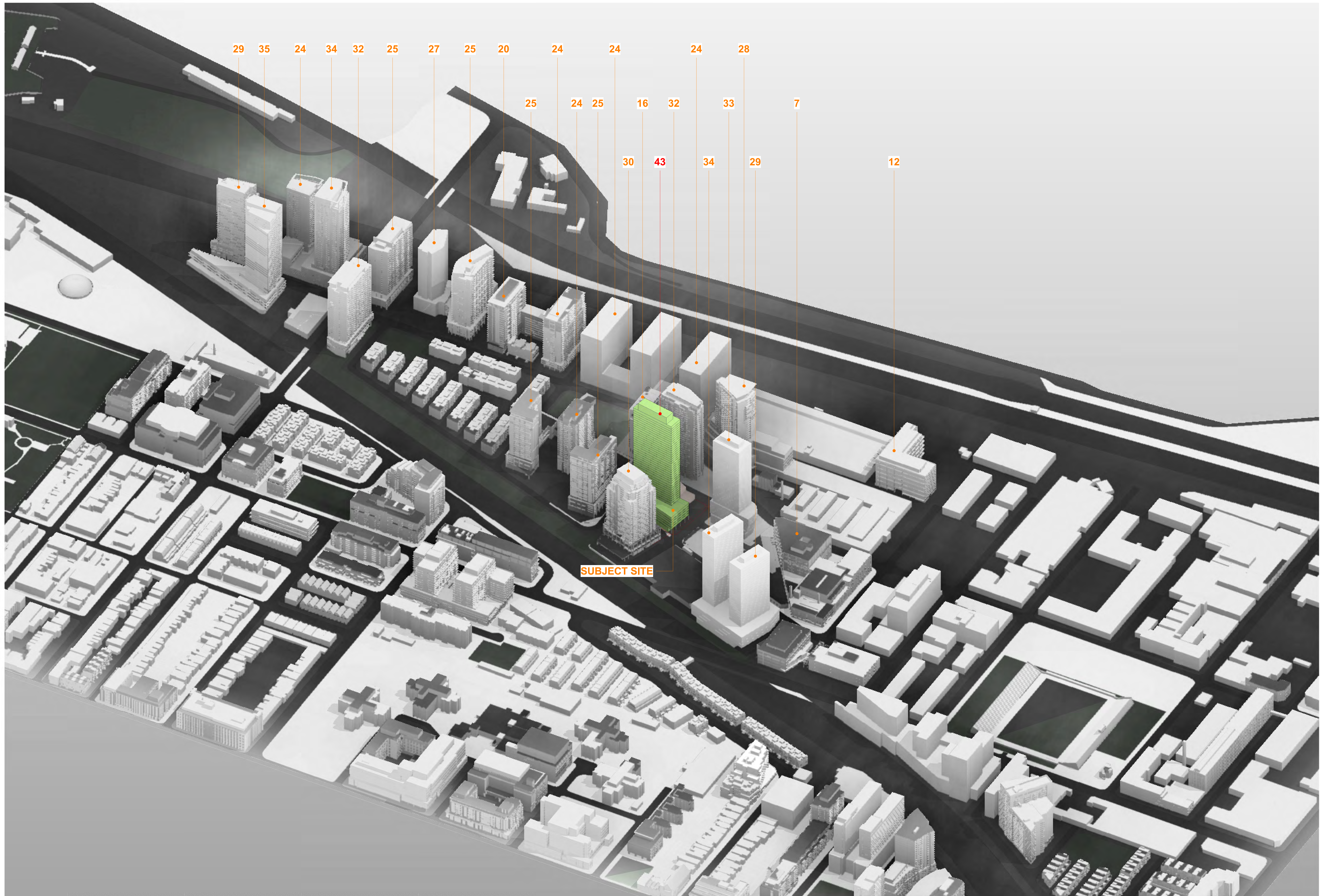
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CONTEXT PLAN



SUBJECT SITE

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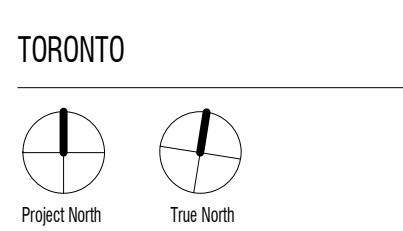
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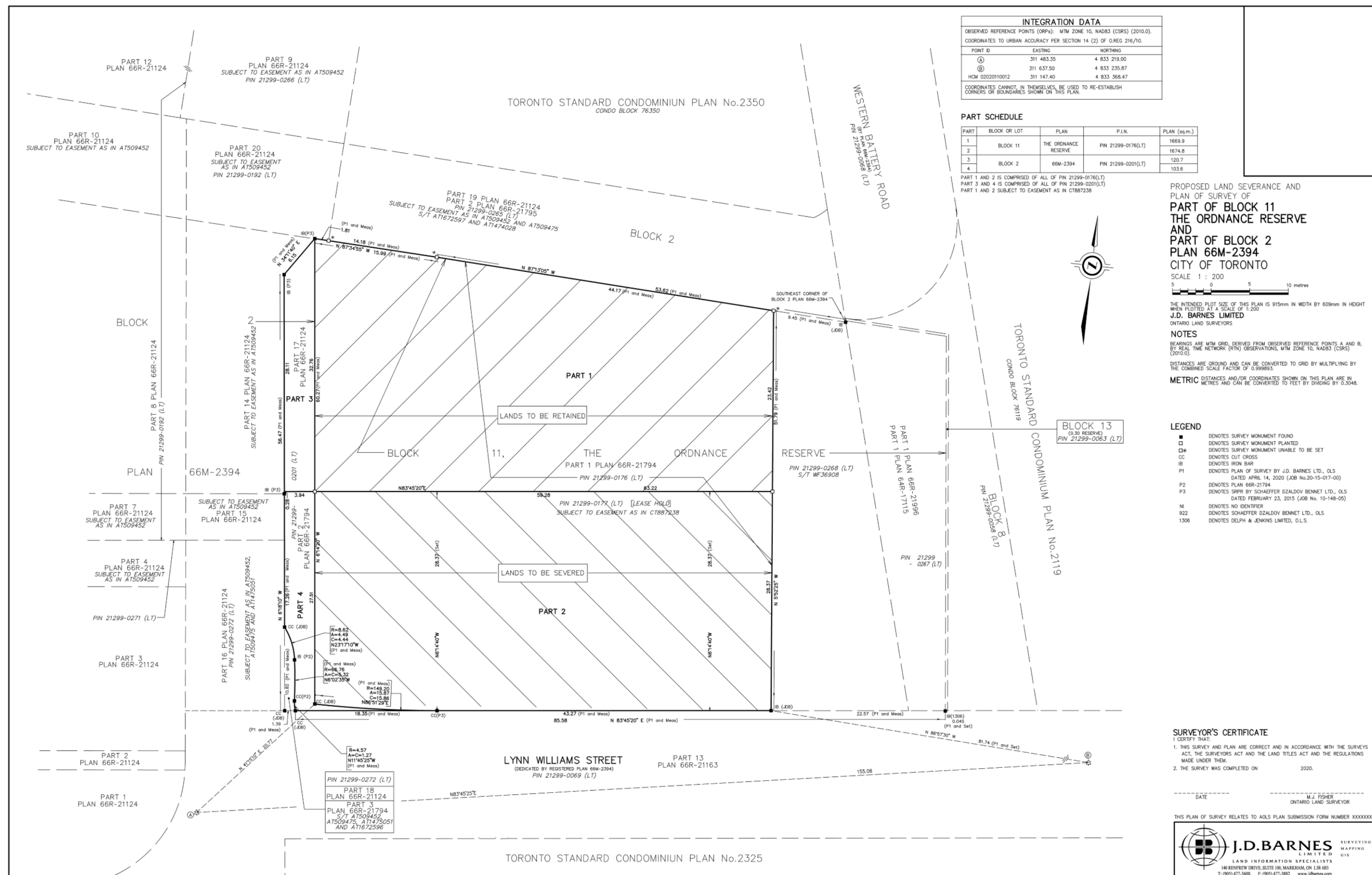
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CONTEXT 3D VIEW

A101B

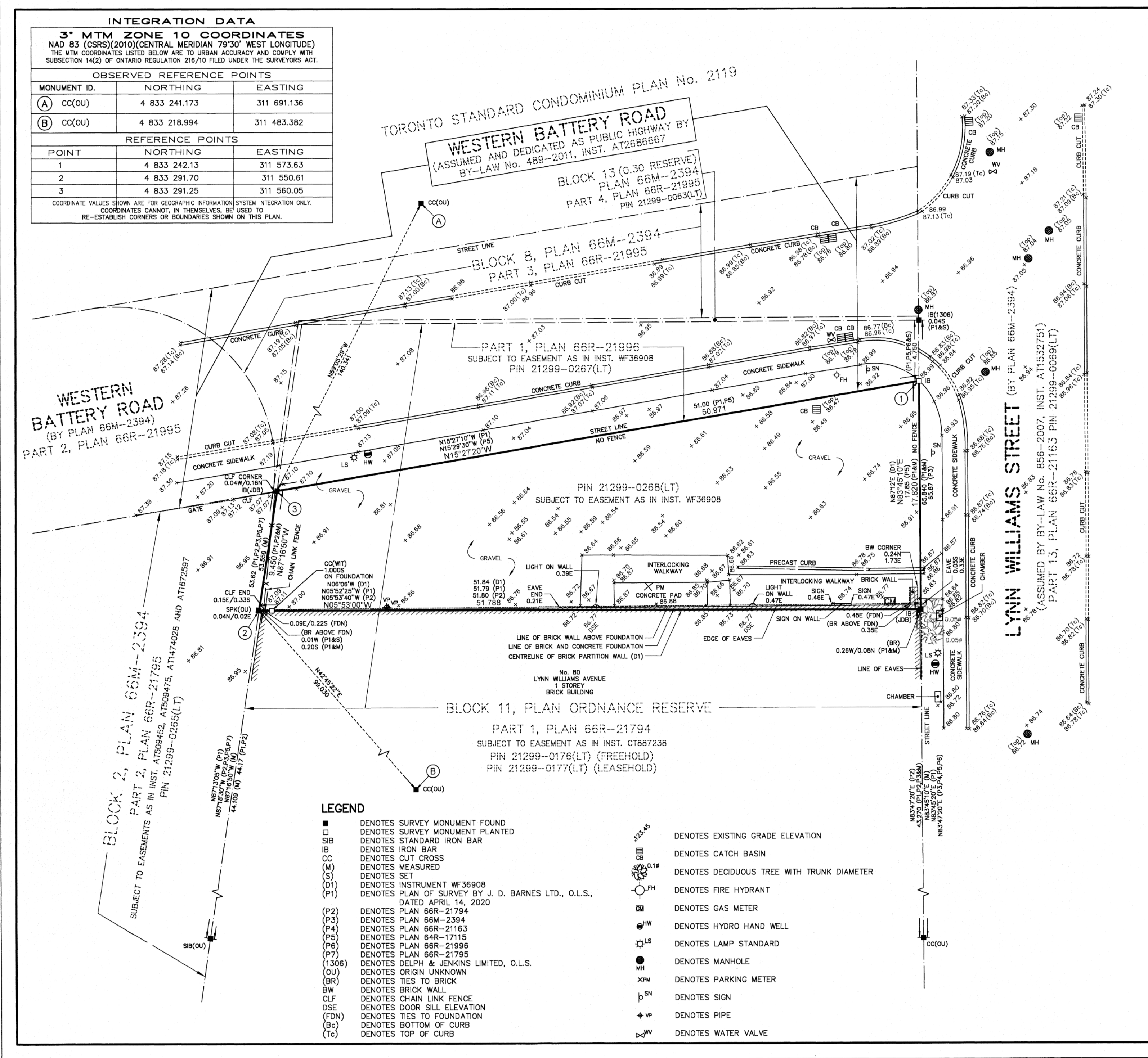


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PLAN OF SURVEY SHOWING TOPOGRAPHICAL INFORMATION OF PART OF BLOCK 11 PLAN ORDNANCE RESERVE CITY OF TORONTO

SCALE 1 : 200

KRCMAR SURVEYORS LTD. 2023

METRIC; DISTANCES AND COORDINATES SHOWN HEREIN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

BEARING

BEARINGS SHOWN HEREIN ARE GRID DERIVED FROM GPS OBSERVATIONS OF OBSERVED REFERENCE POINTS 'A' AND 'B', USING THE LEICA SMARTNET RTK NETWORK AND ARE REFERRED TO THE 3° MTM COORDINATE SYSTEM, ZONE 10, CENTRAL MERIDIAN 79°30' WEST LONGITUDE, (3° MODIFIED TRANSVERSE MERCATOR PROJECTION, NAD 83 (CSRS)(2010)).

DISTANCES SHOWN HEREIN ARE GRID DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999899.

ELEVATION

ELEVATIONS SHOWN HEREIN ARE GEODETIC AND ARE RELATED TO CITY OF TORONTO BENCHMARK No. CT1482, HAVING AN ELEVATION OF 88.057 METRES (CGVD28-PRE78).

SURVEY REPORT

1. THE RE-ESTABLISHMENT OF THE SUBJECT PROPERTY BOUNDARIES IS BASED ON INFORMATION CONTAINED IN THE RELEVANT TITLE DOCUMENTS, REGISTERED PLANS AND ON THE EVIDENCE OF FRONT SURVEYS FOUND DURING THE COURSE OF PREPARING THE SUBJECT SURVEY.
2. THE TYPE AND LOCATION OF THE EXISTING BUILDINGS AND OTHER IMPROVEMENTS, FENCES ETC. ON OR NEAR THE SUBJECT PROPERTY ARE AS SHOWN ON THE SURVEY PLAN.
3. COMPLIANCE WITH MUNICIPAL ZONING REQUIREMENTS IS NOT CERTIFIED BY THIS REPORT.
4. SUBJECT LAND COMPRISES PART OF BLOCK 11, PLAN ORDNANCE RESERVE BEING ALL OF PIN 21299-0268(LT).
5. SUBJECT TO EASEMENT AS IN INST. WF36908.

TOTAL SITE AREA = 690.2 m²

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEY ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 11th DAY OF APRIL, 2023

DATE APRIL 12, 2023

S.V. RAMSARAO
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER 17495

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FIELD: D.L.K. DRAWN: CL CHECKED: S.M.R. JOB NO: 21-136

DWG NAME: 21-136(01) PLOT INFO: 09-51 136(01)2023 WORK ORDER NO: 37640

1137 Centre Street, Thornhill, ON L4J 3M5 905.738.0053 F 905.738.6221 www.krcmar.ca

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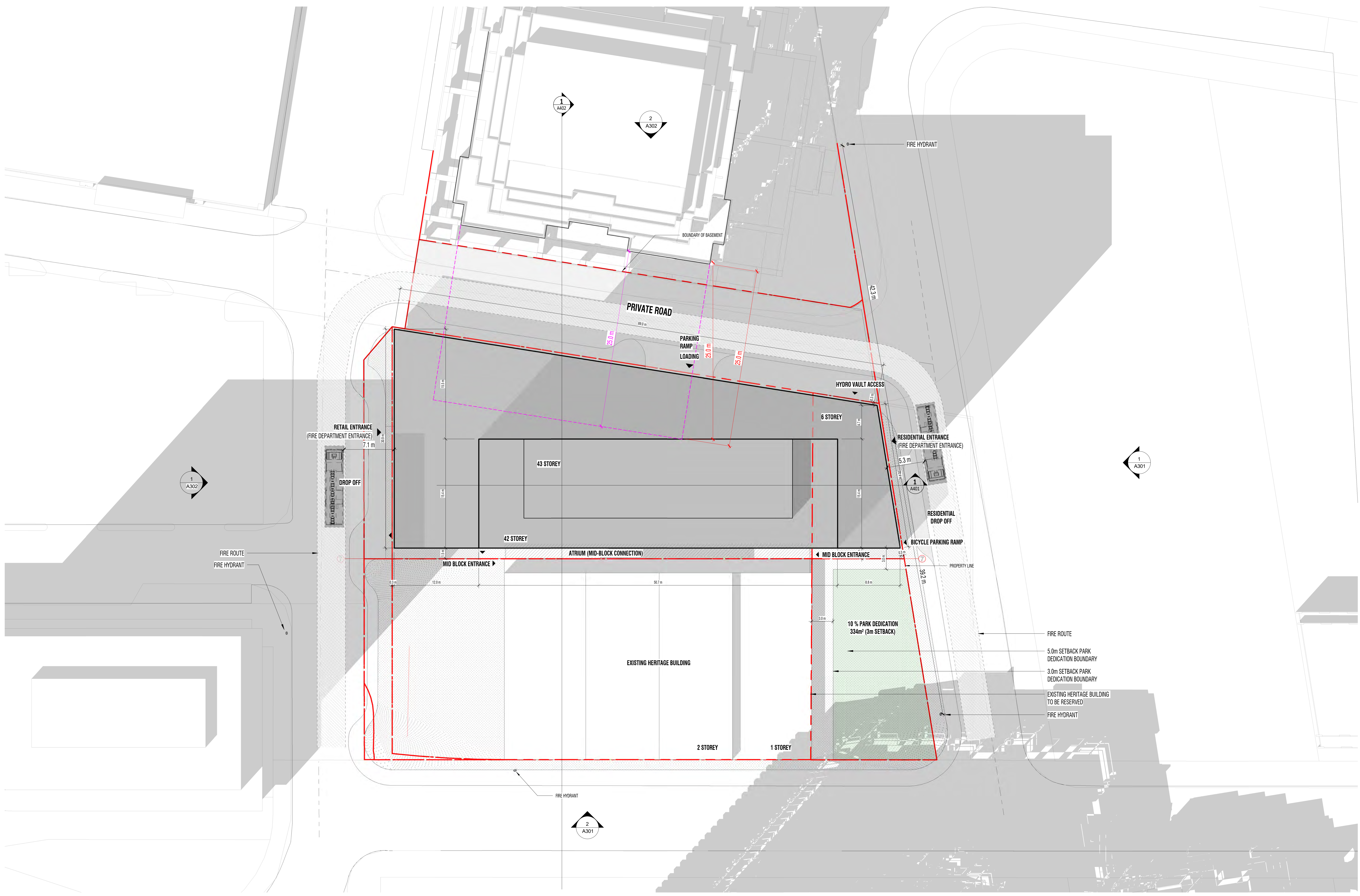
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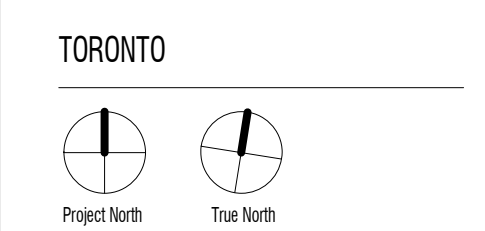
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ROOF SITE PLAN

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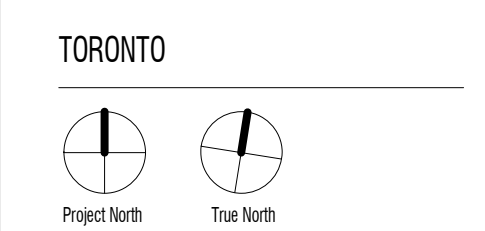
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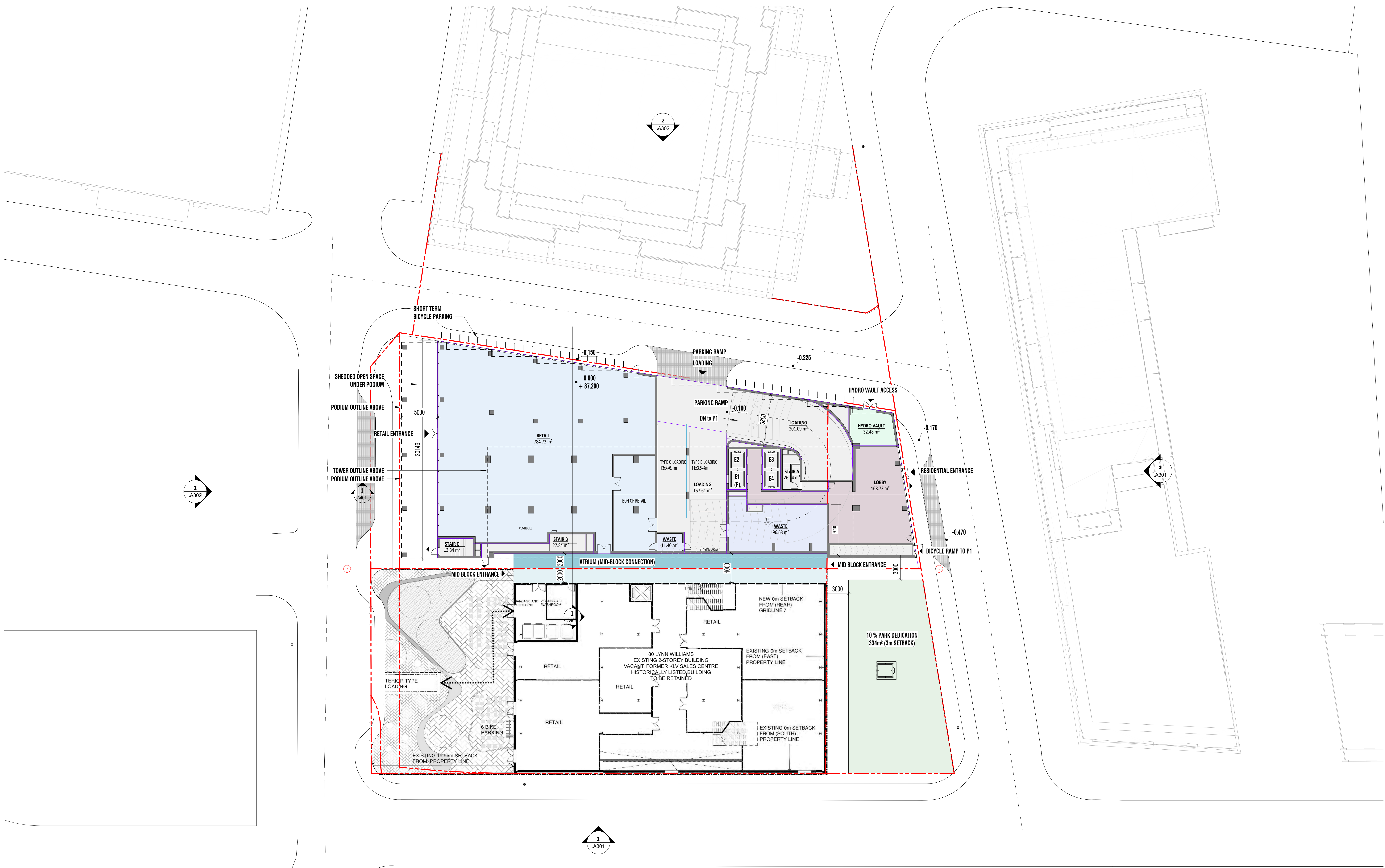
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GROUND FLOOR SITE PLAN

A104



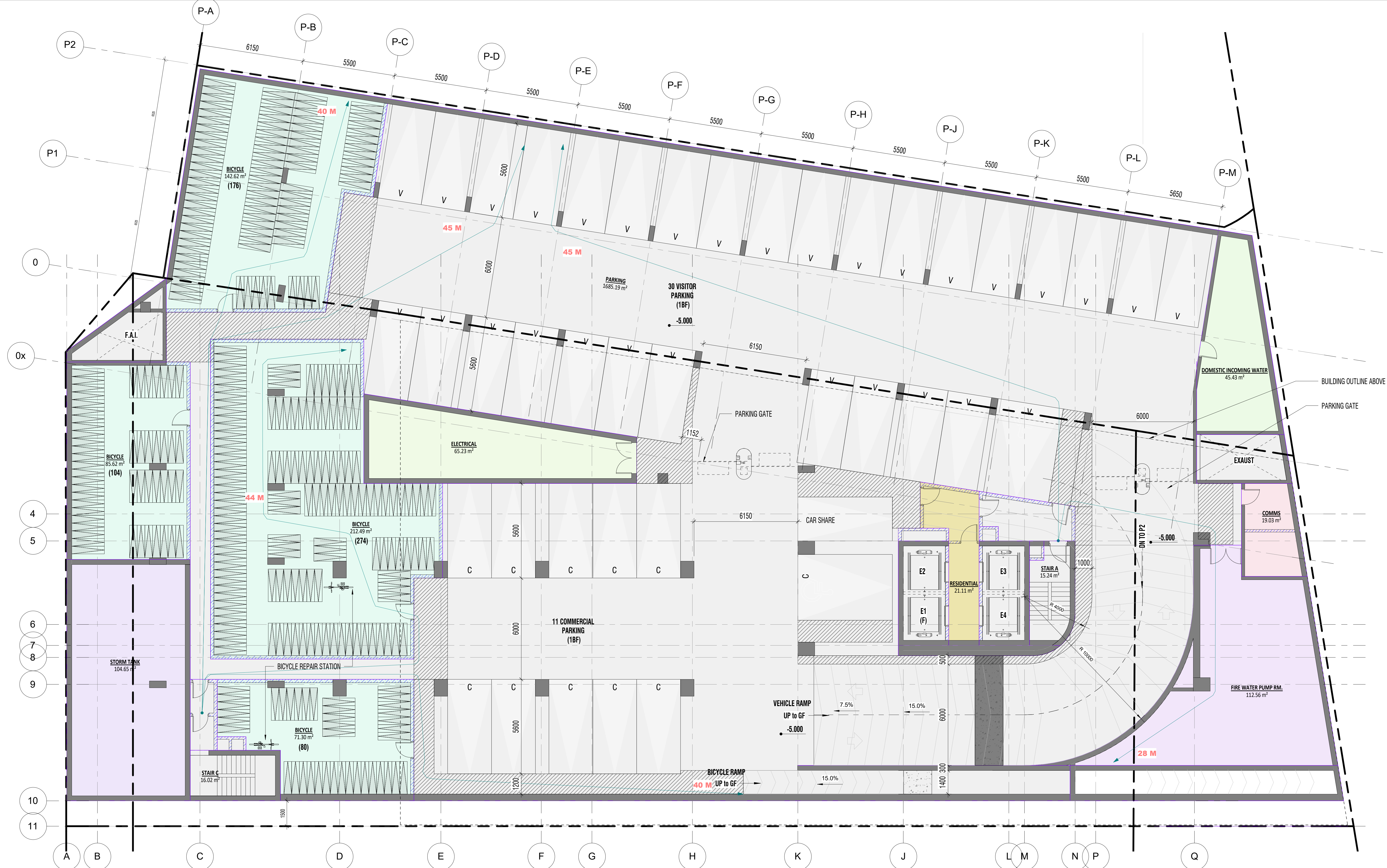
5.2 BICYCLE PARKING			
Level	Bicycle Parking		Total Bicycle Parking
	Long-Term	Short-Term	
P1	634	0	634
Level 1	0	70	70
TOTAL	634	70	704

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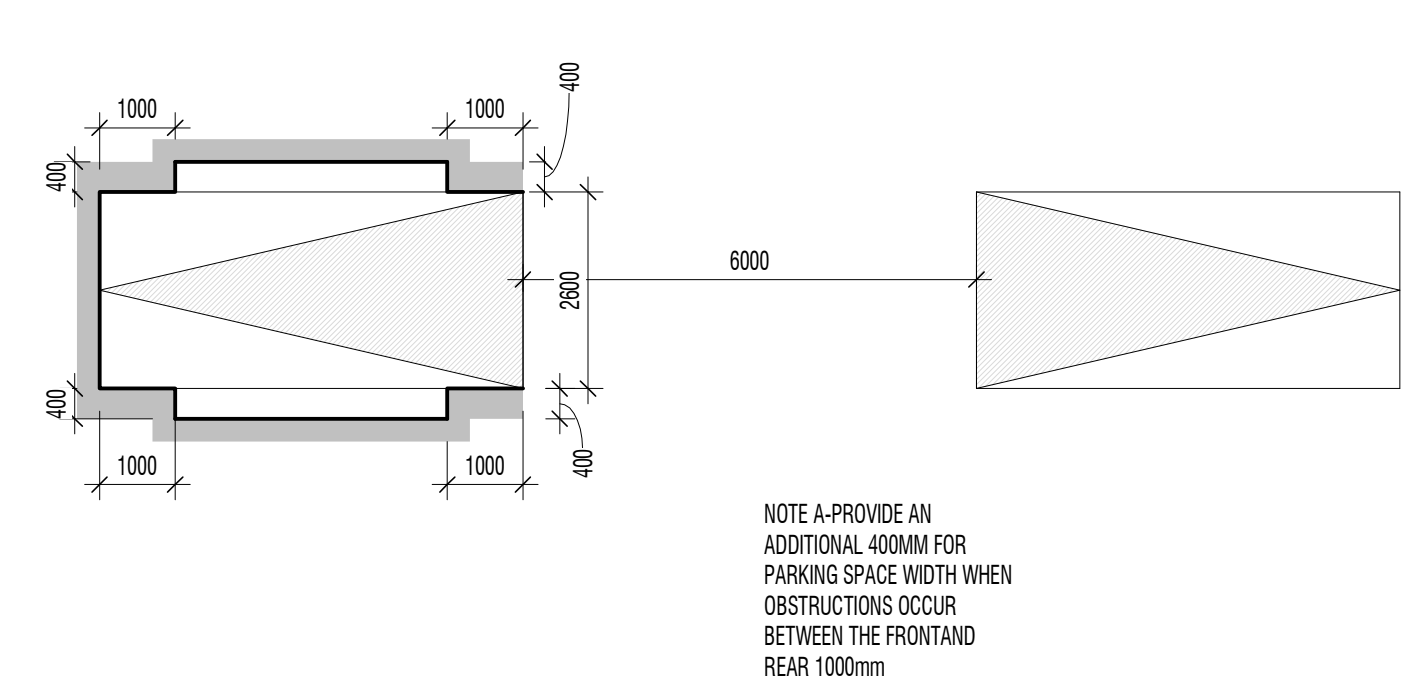
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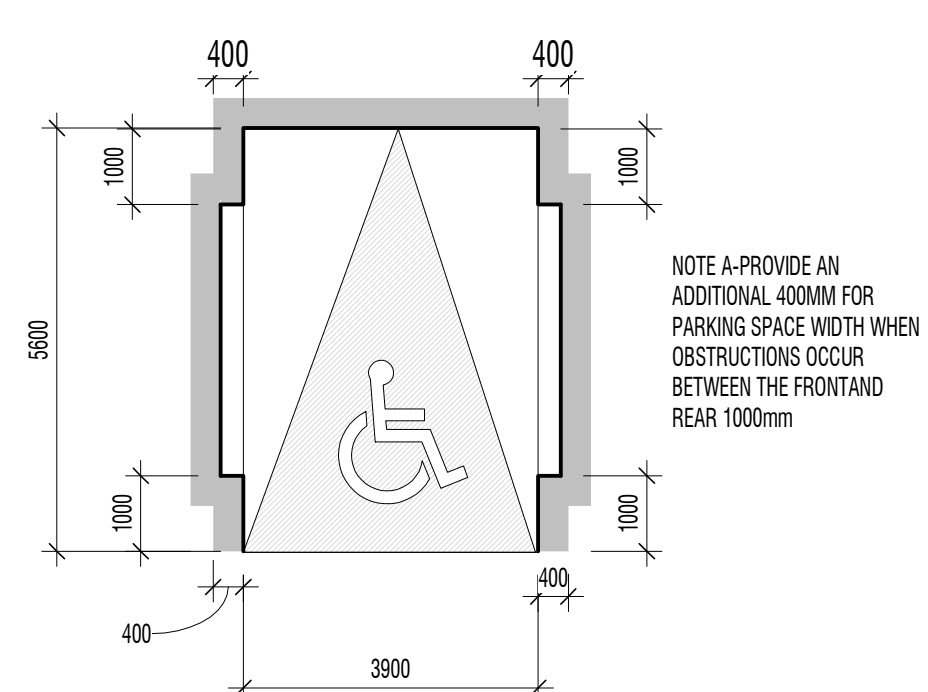
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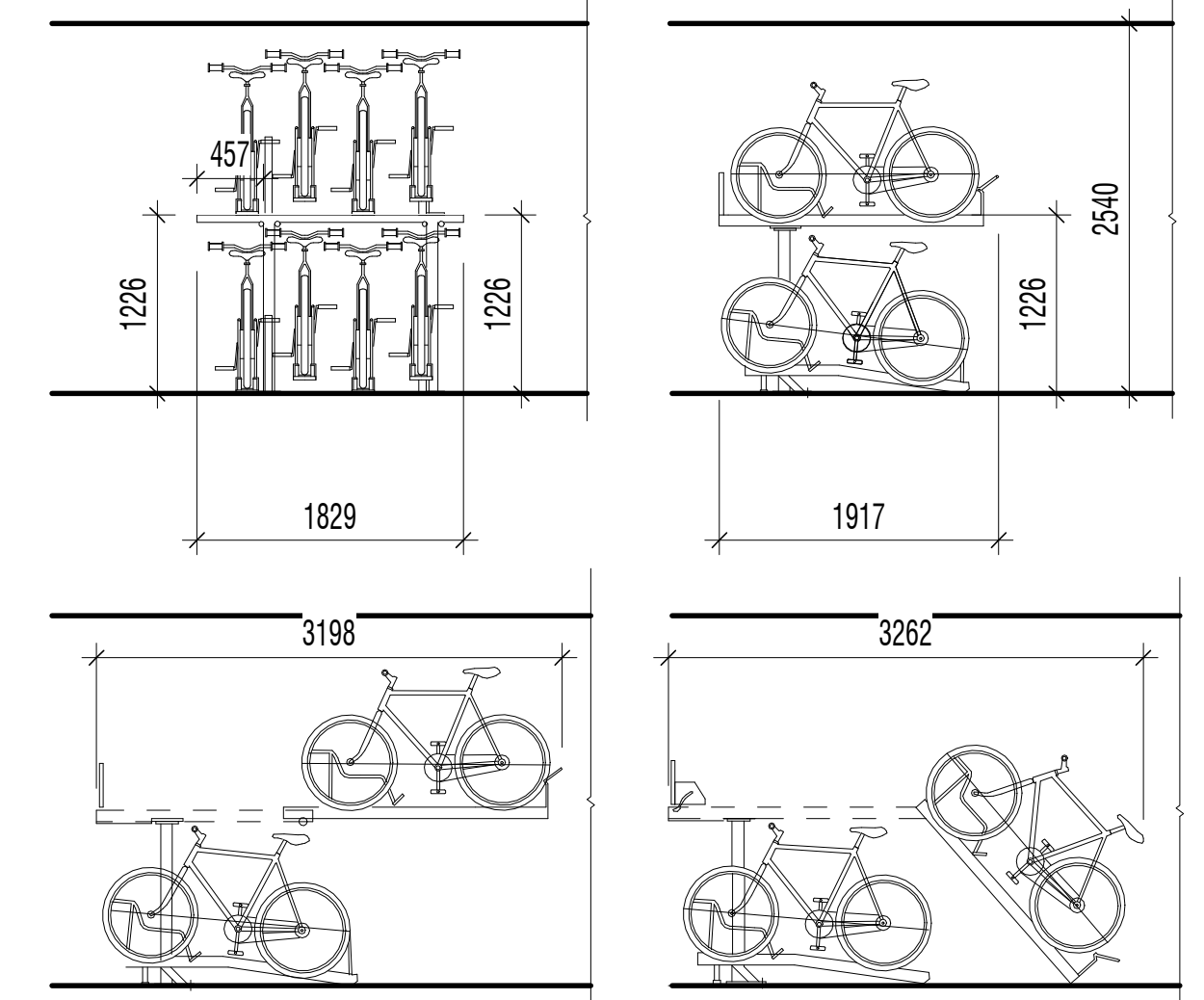
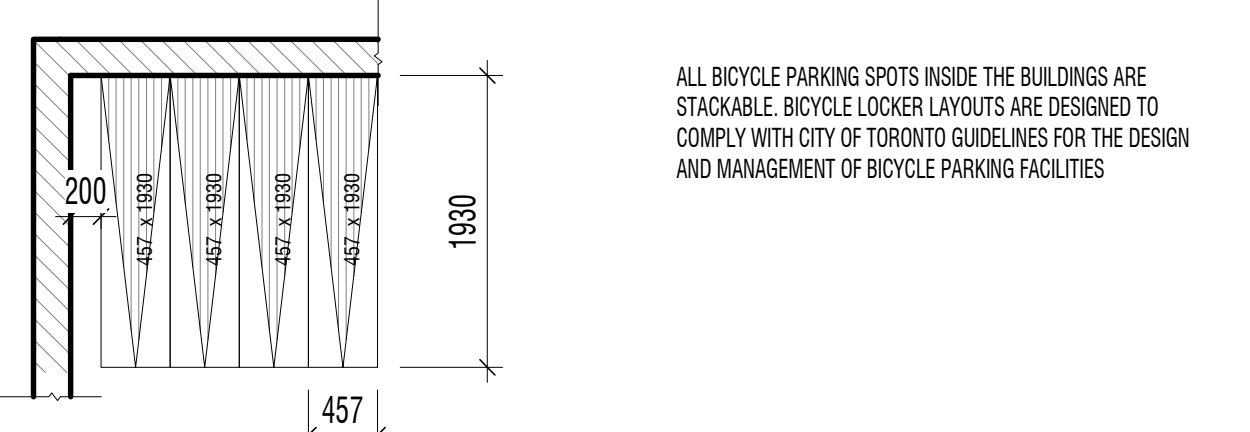
TYPICAL PARKING SPOT



TYPICAL ACCESSIBLE PARKING SPOT

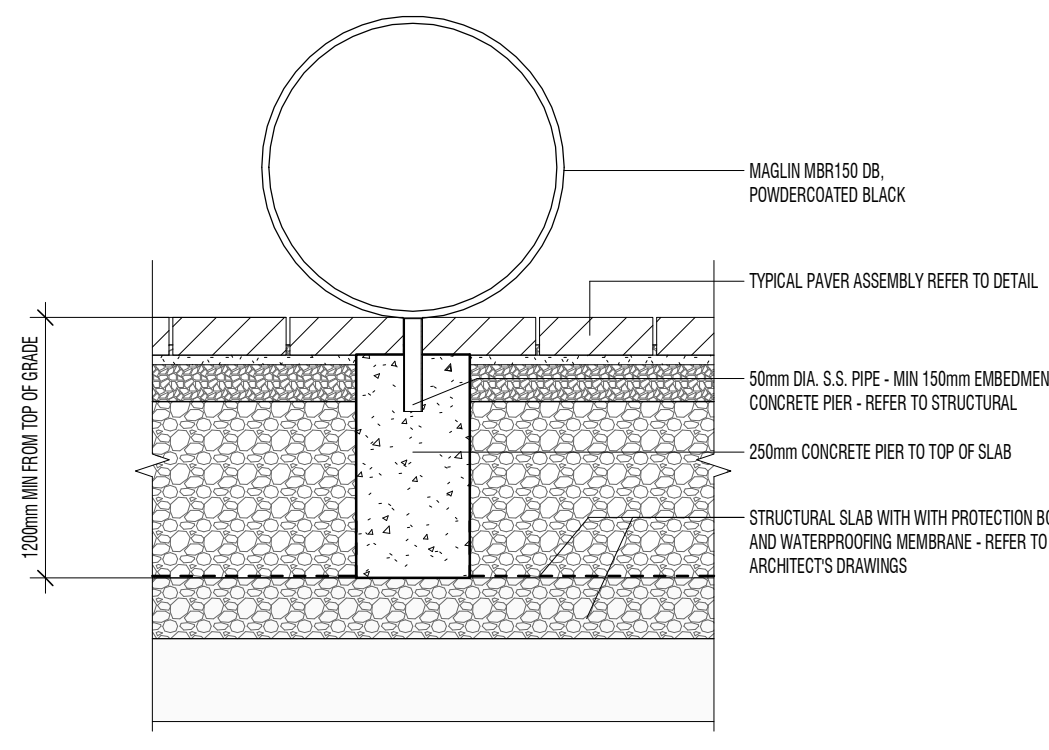


LONG-TERM BICYCLE PARKING: TYPICAL BICYCLE LOCKER



SHORT-TERM BICYCLE PARKING: TYPICAL BICYCLE RING AT GRADE

BICYCLE PARKING LAYOUTS ARE DESIGNED TO COMPLY WITH CITY OF TORONTO GUIDELINES FOR THE DESIGN AND MANAGEMENT OF BICYCLE PARKING FACILITIES



5.1 CAR PARKING

Level	Residential Car Parking			Visitor Car Parking			Retail Car Parking			Car Share Parking	Total Car Parking
	Regular	BF	Total	Regular	BF	Total	Regular	BF	Total		
P1	0	0	0	29	1	30	10	1	11	1	42
P2	66	2	68	0	0	0	0	0	0	0	68
TOTAL	66	2	68	29	1	30	10	1	11	1	110

5.2 BICYCLE PARKING

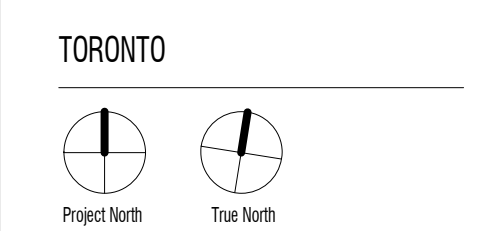
Level	Bicycle Parking		Total Bicycle Parking
	Long-Term	Short-Term	
P1	634	0	634
Level 1	0	70	70
TOTAL	634	70	704

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SCALE As indicated
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LEVEL P1
 FLOOR PLAN

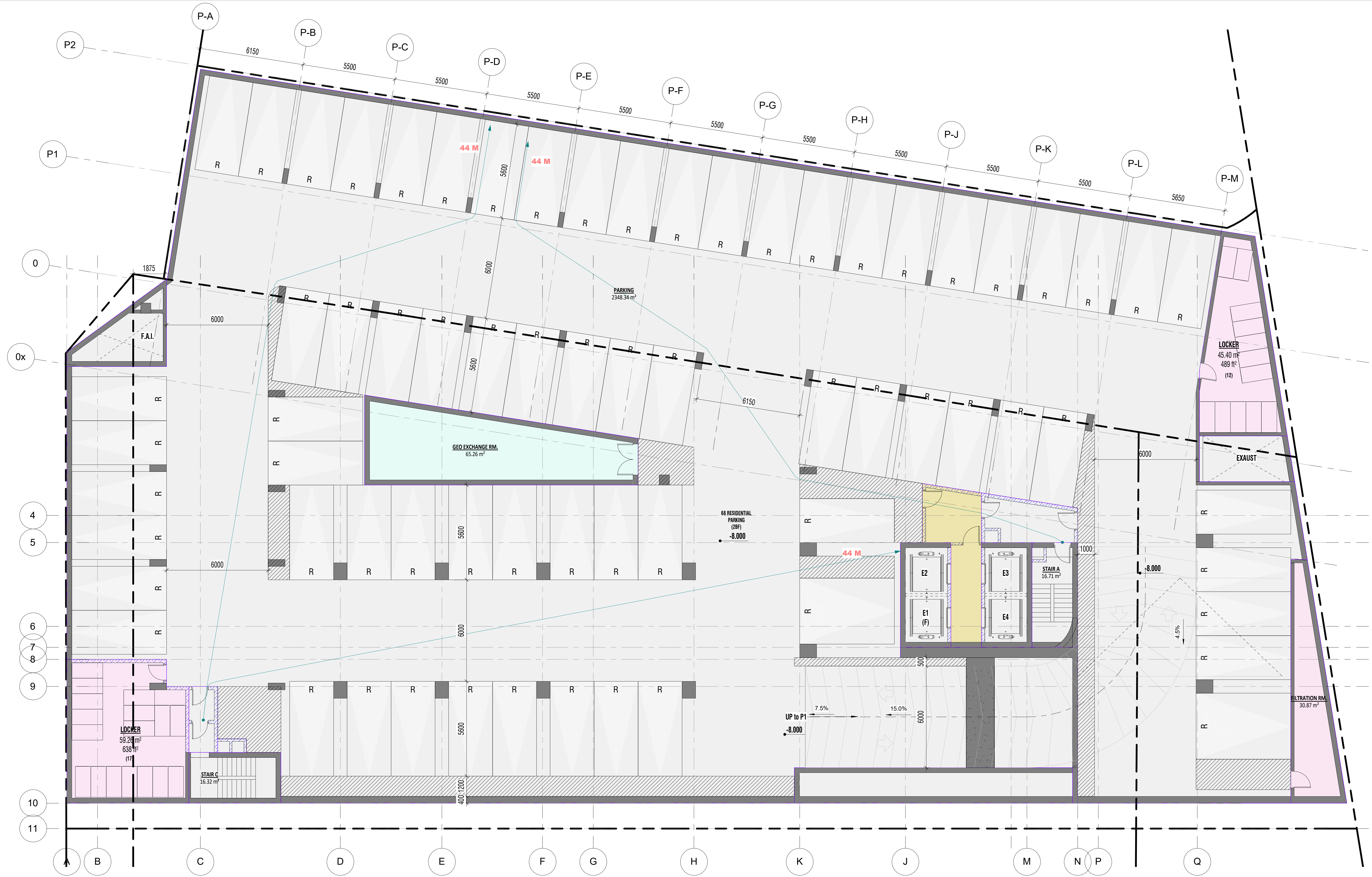
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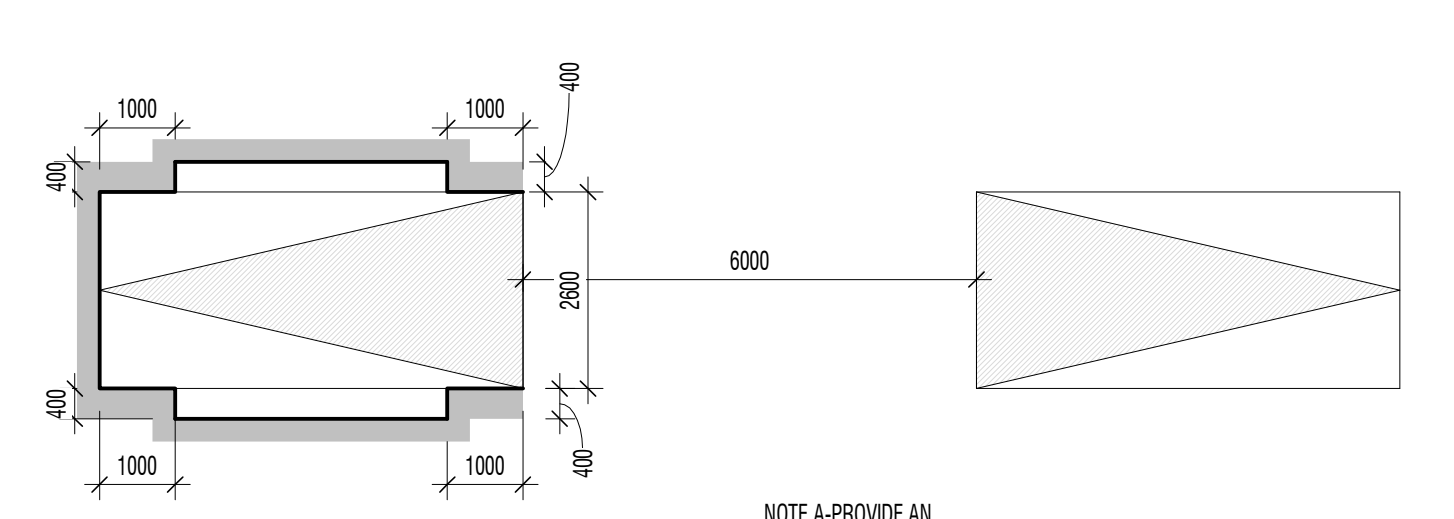
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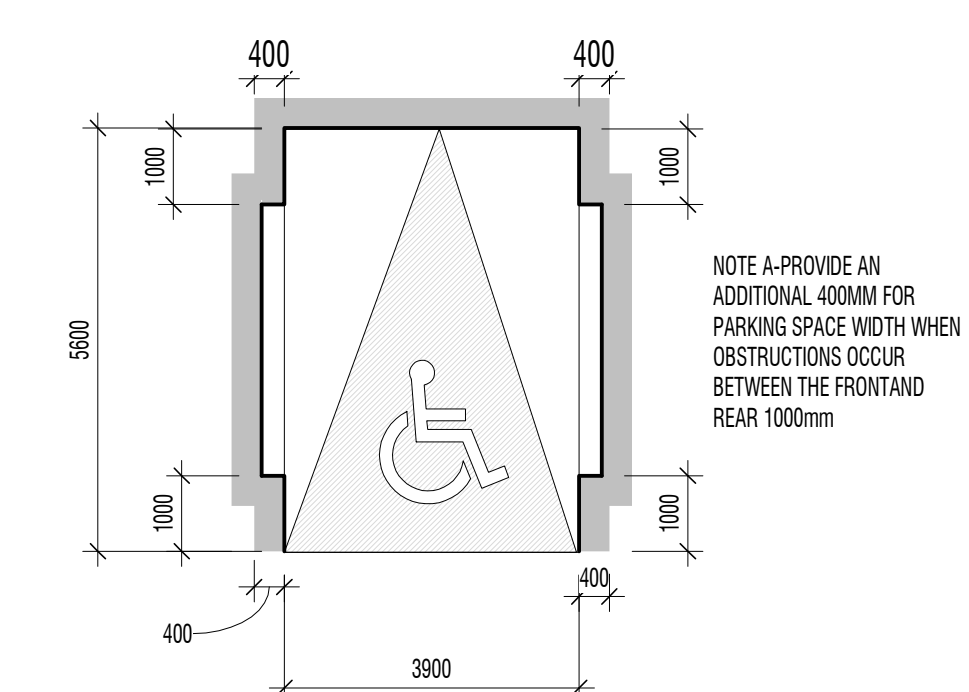
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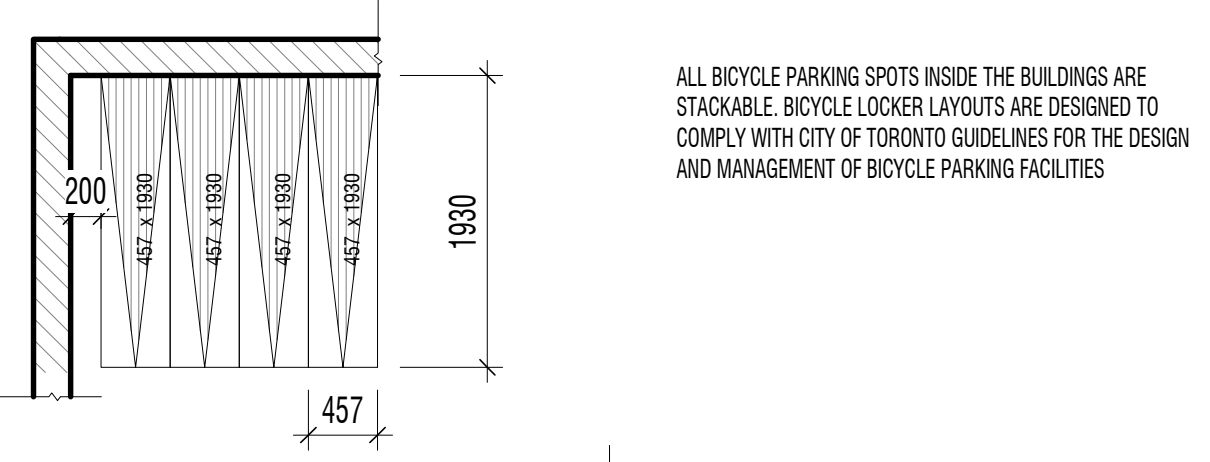
TYPICAL PARKING SPOT



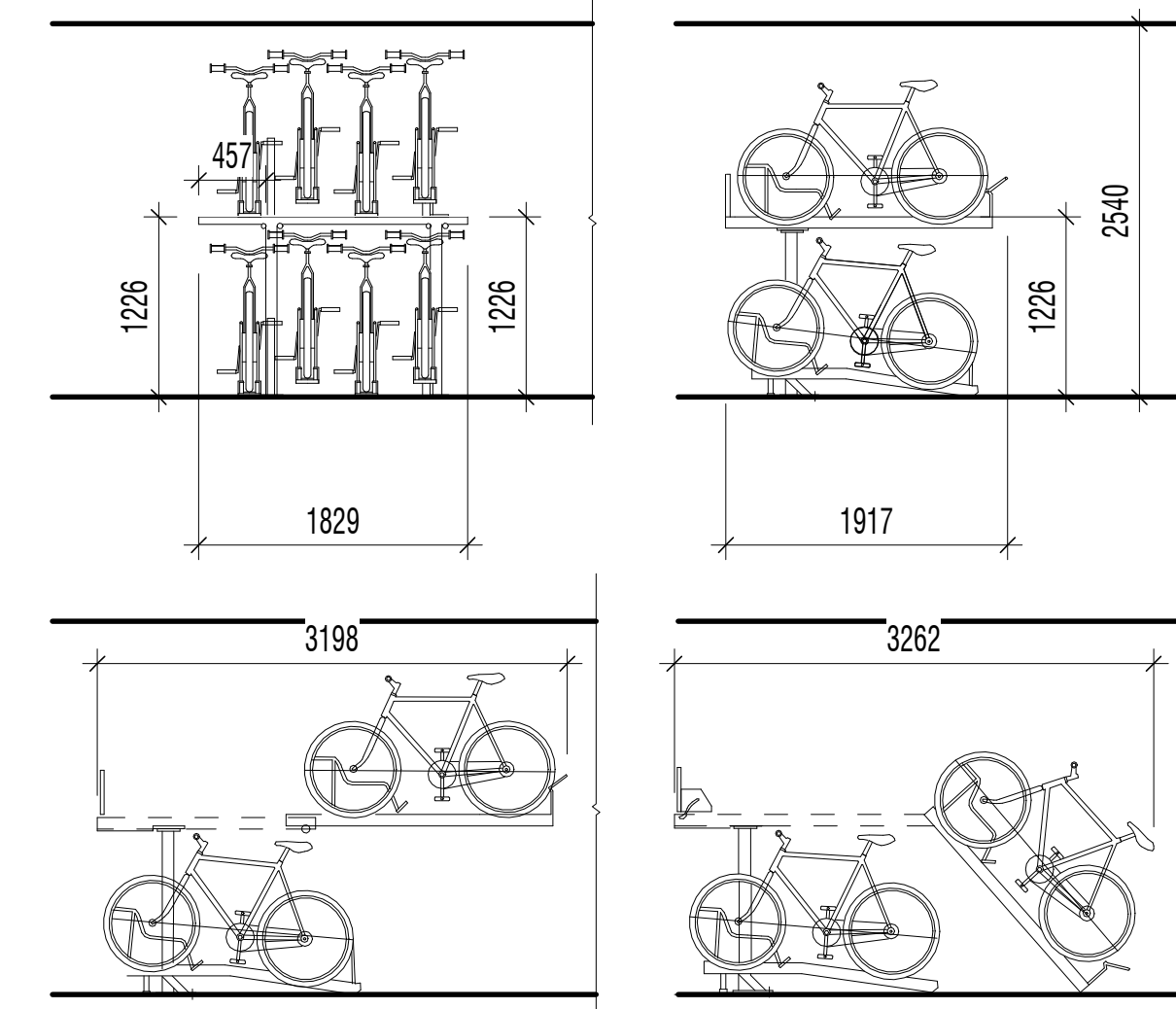
TYPICAL ACCESSIBLE PARKING SPOT



LONG-TERM BICYCLE PARKING: TYPICAL BICYCLE LOCKER

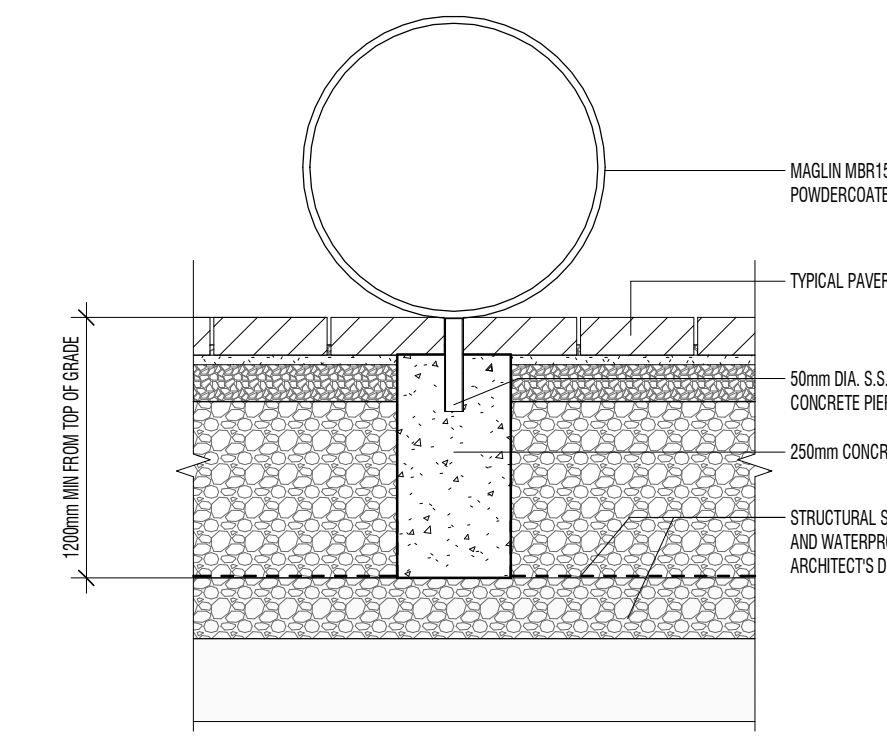


ALL BICYCLE PARKING SPOTS INSIDE THE BUILDINGS ARE STACKABLE. BICYCLE LOCKER LAYOUTS ARE DESIGNED TO COMPLY WITH CITY OF TORONTO GUIDELINES FOR THE DESIGN AND MANAGEMENT OF BICYCLE PARKING FACILITIES.



SHORT-TERM BICYCLE PARKING: TYPICAL BICYCLE RING AT GRADE

BICYCLE PARKING LAYOUTS ARE DESIGNED TO COMPLY WITH CITY OF TORONTO GUIDELINES FOR THE DESIGN AND MANAGEMENT OF BICYCLE PARKING FACILITIES.



5.1 CAR PARKING

Level	Residential Car Parking			Visitor Car Parking			Retail Car Parking			Car Share Parking	Total Car Parking
	Regular	BF	Total	Regular	BF	Total	Regular	BF	Total		
P1	0	0	0	29	1	30	10	1	11	1	42
P2	66	2	68	0	0	0	0	0	0	0	68
TOTAL	66	2	68	29	1	30	10	1	11	1	110

5.2 BICYCLE PARKING

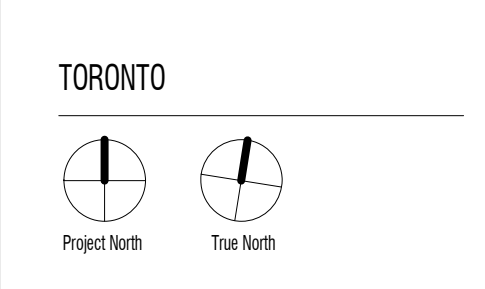
Level	Bicycle Parking		Total Bicycle Parking
	Long-Term	Short-Term	
P1	634	0	634
Level 1	0	70	70
TOTAL	634	70	704

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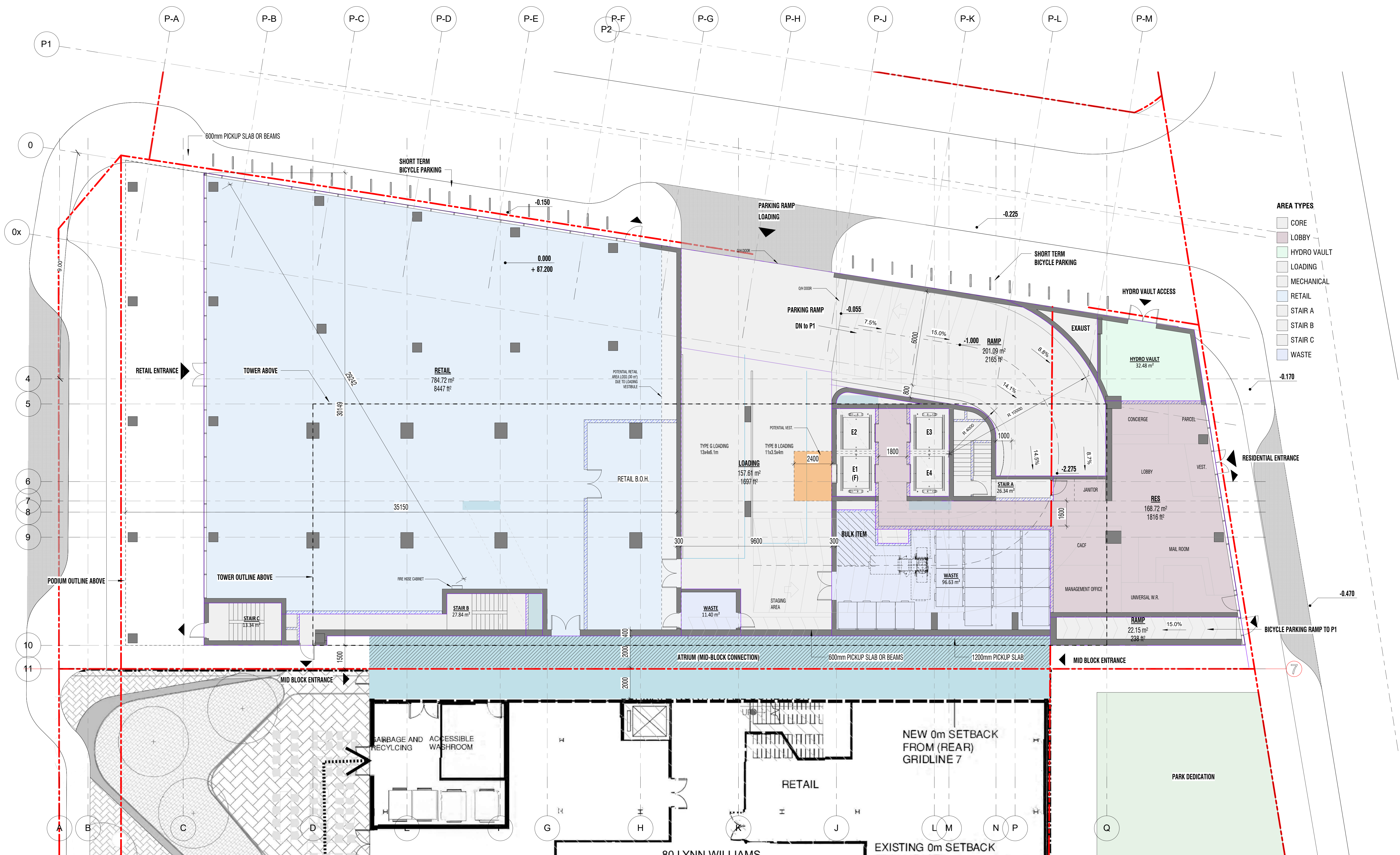
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SCALE As indicated
PROJECT NO. 201803
ISSUE DATE May 10, 2023

LEVEL P2 FLOOR PLAN

A106



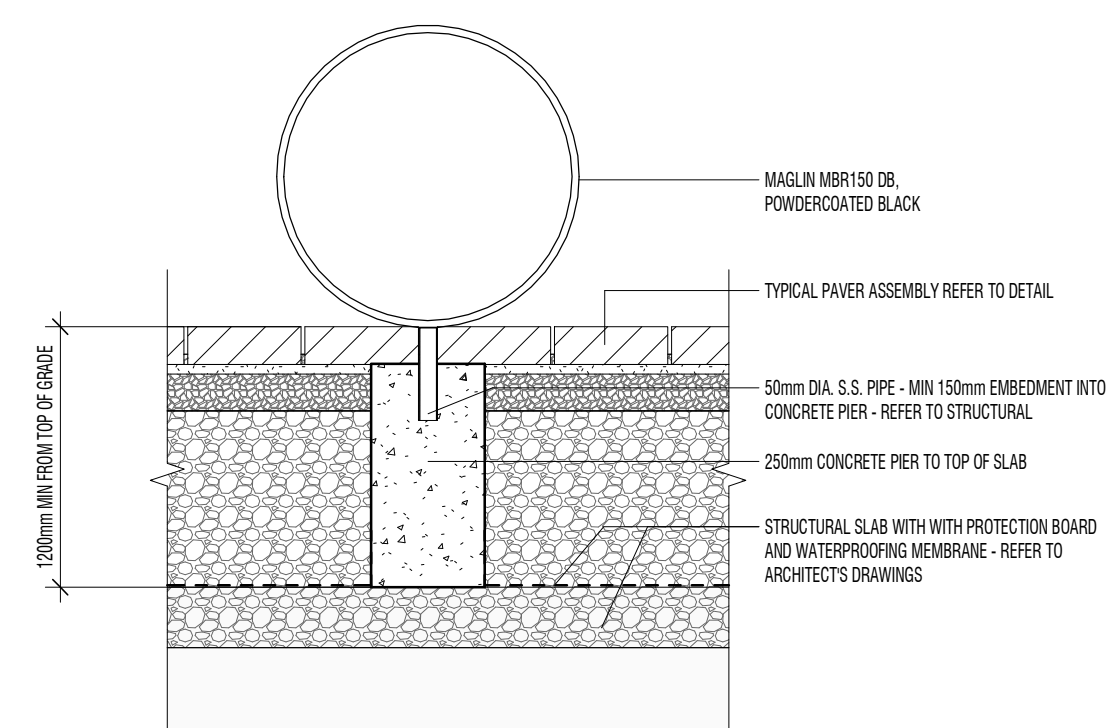
AREA TYPES

- CORE
- LOBBY
- HYDRO VAULT
- LOADING
- MECHANICAL
- RETAIL
- STAIR A
- STAIR B
- STAIR C
- WASTE

**SHORT-TERM BICYCLE PARKING:
TYPICAL BICYCLE RING AT GRADE**

BICYCLE PARKING LAYOUTS ARE DESIGNED TO COMPLY WITH CITY OF TORONTO GUIDELINES FOR THE DESIGN AND MANAGEMENT OF BICYCLE PARKING FACILITIES

Level	Bicycle Parking		Total Bicycle Parking
	Long-Term	Short-Term	
P1	634	0	634
Level 1	0	70	70
TOTAL	634	70	704



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- AREA TYPES**
- 1B
 - 1B+D
 - STUDIO
 - 2B
 - 3B
 - BALCONY
 - CORE
 - INDOOR AMENITY
 - LOCKER
 - MECH
 - STAIR A
 - STAIR B

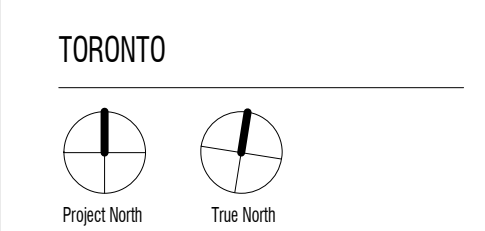
6.1 LOCKERS	
LEVEL 2	28
LEVEL 3	28
LEVEL 4	28
LEVEL 5	80
LEVEL 6	80
P2	29
273	

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LEVEL 2 FLOOR PLAN

A202

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AREA TYPES

- 1B
- 1B+D
- STUDIO
- 2B
- 3B
- CORE
- INDOOR AMENITY
- LOCKER
- STAIR A
- STAIR B

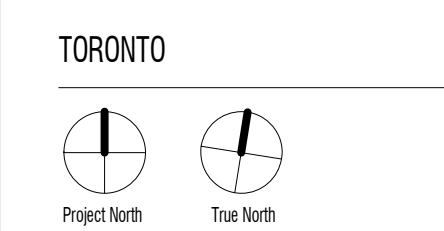
6.1 LOCKERS	
LEVEL 2	28
LEVEL 3	28
LEVEL 4	28
LEVEL 5	80
LEVEL 6	80
P2	29
	273

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**LEVEL 3-4
FLOOR PLAN**

A203

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AREA TYPES

- 1B
- 1B+D
- STUDIO
- 2B
- CORE
- LOCKER
- STAIR A
- STAIR B

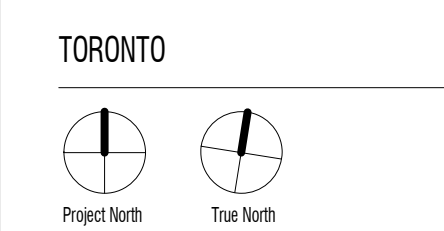
6.1 LOCKERS	
LEVEL 2	28
LEVEL 3	28
LEVEL 4	28
LEVEL 5	80
LEVEL 6	80
P2	29
273	

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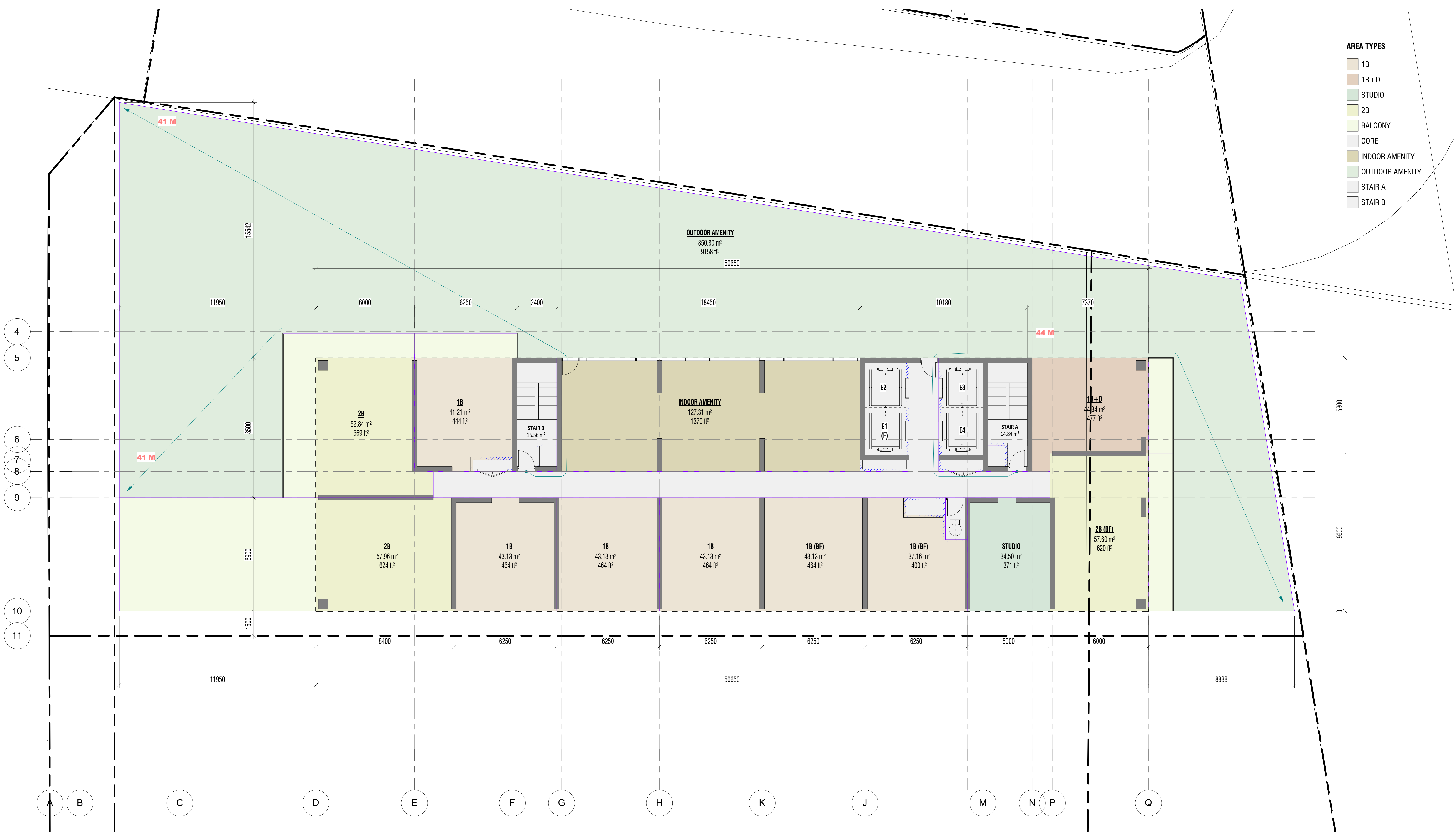
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**LEVEL 5-6
FLOOR PLAN**

A204



AREA TYPES

1B
1B+D
STUDIO
2B
BALCONY
CORE
INDOOR AMENITY
OUTDOOR AMENITY
STAIR A
STAIR B

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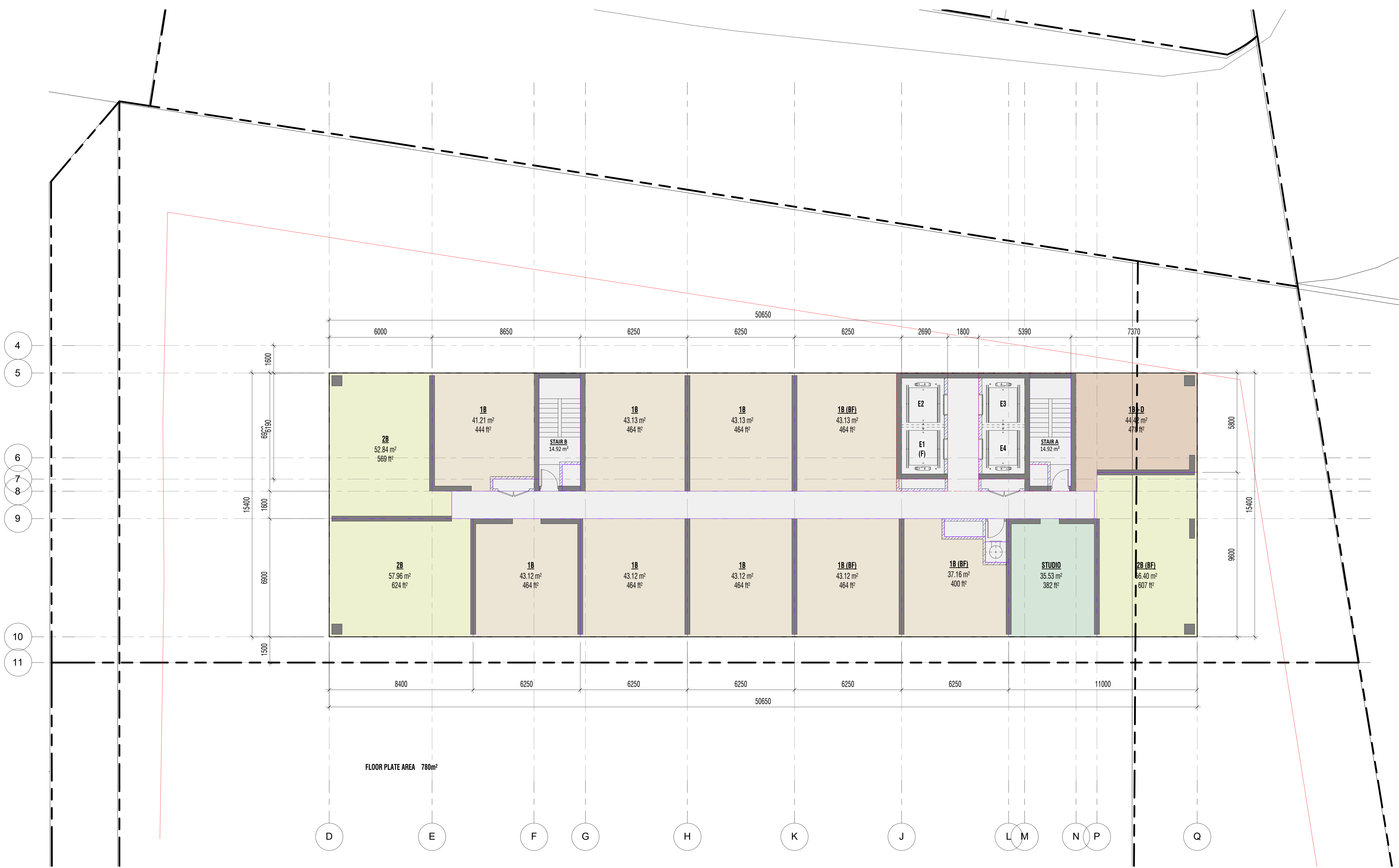
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AREA TYPES

- 1B
- 1B + D
- STUDIO
- 2B
- CORE
- STAIR A
- STAIR B

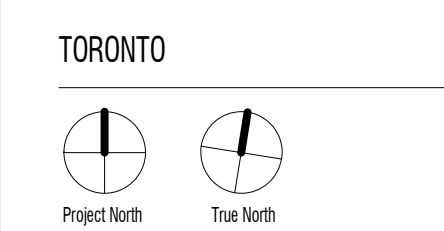


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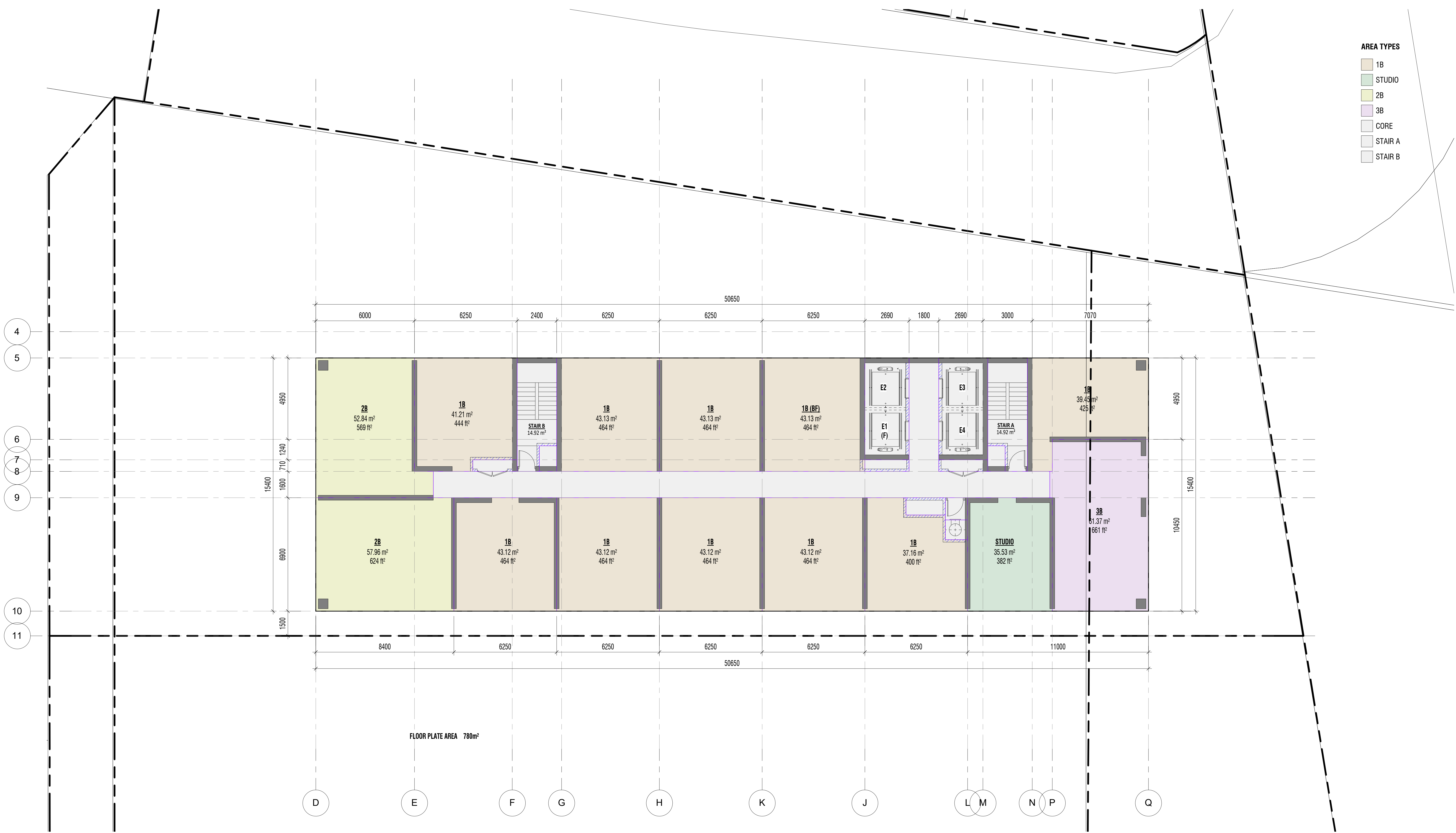
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**LEVEL 8-16
 FLOOR PLAN**

A206

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AREA TYPES

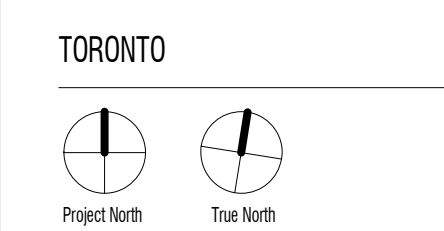
- 1B
- STUDIO
- 2B
- 3B
- CORE
- STAIR A
- STAIR B

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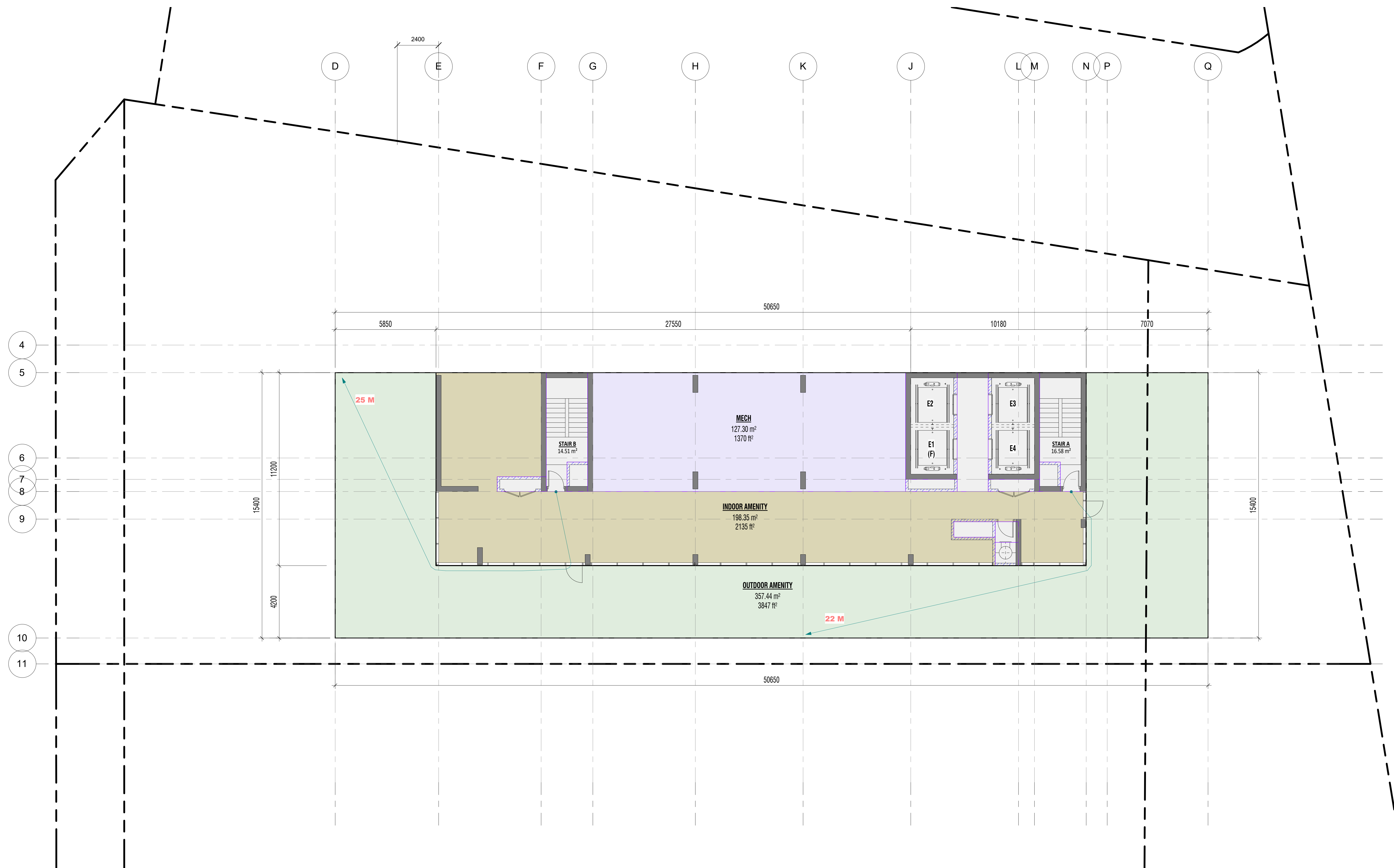
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**LEVEL 17-42
FLOOR PLAN**

A207



- AREA TYPES**
- CORE
 - INDOOR AMENITY
 - MECH
 - OUTDOOR AMENITY
 - STAIR A
 - STAIR B

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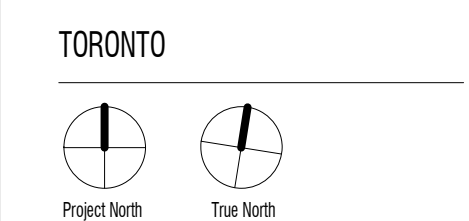
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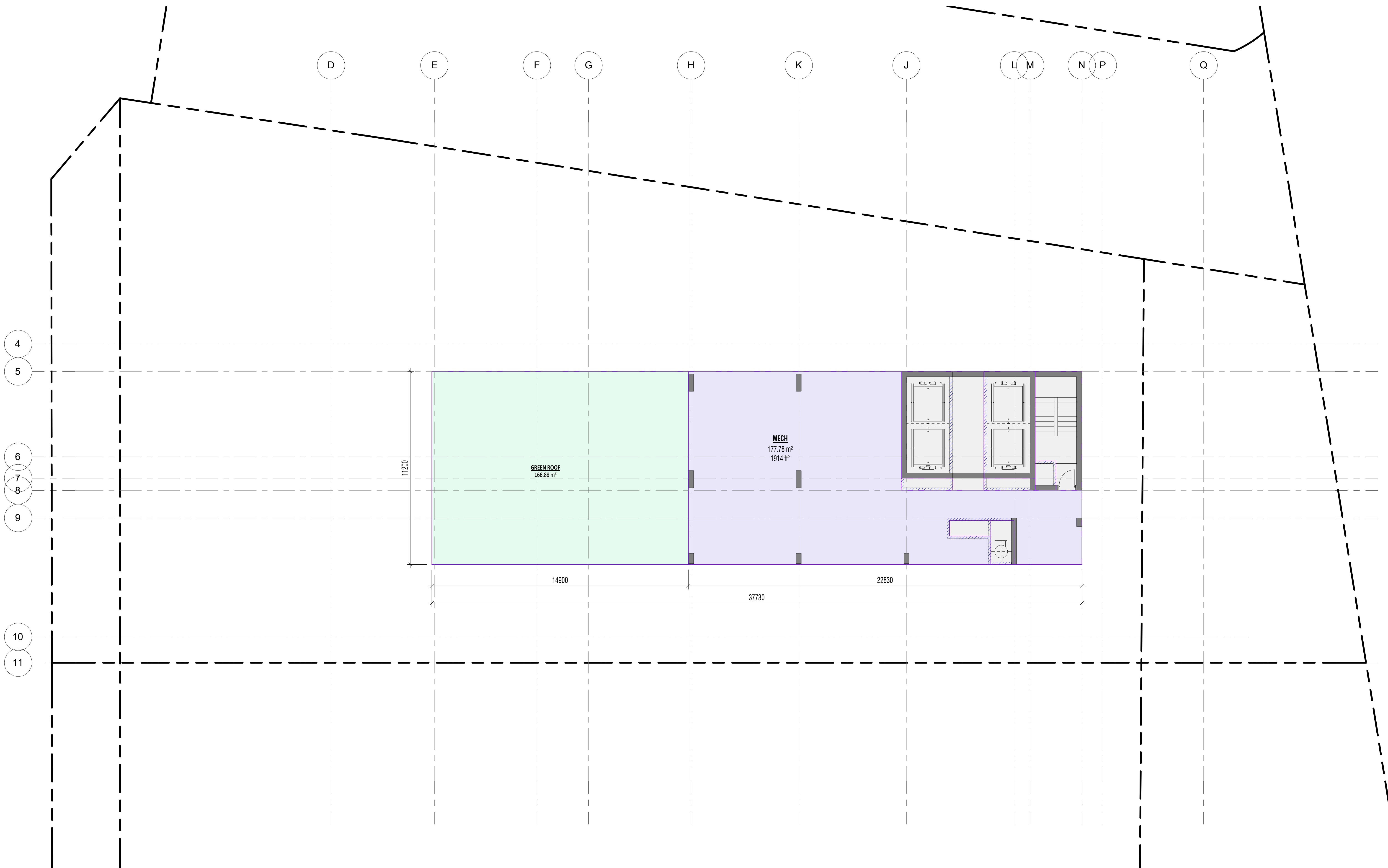
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**LEVEL 43
 FLOOR PLAN**

A208



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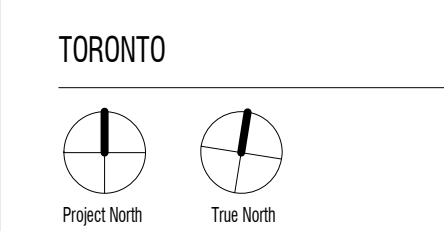
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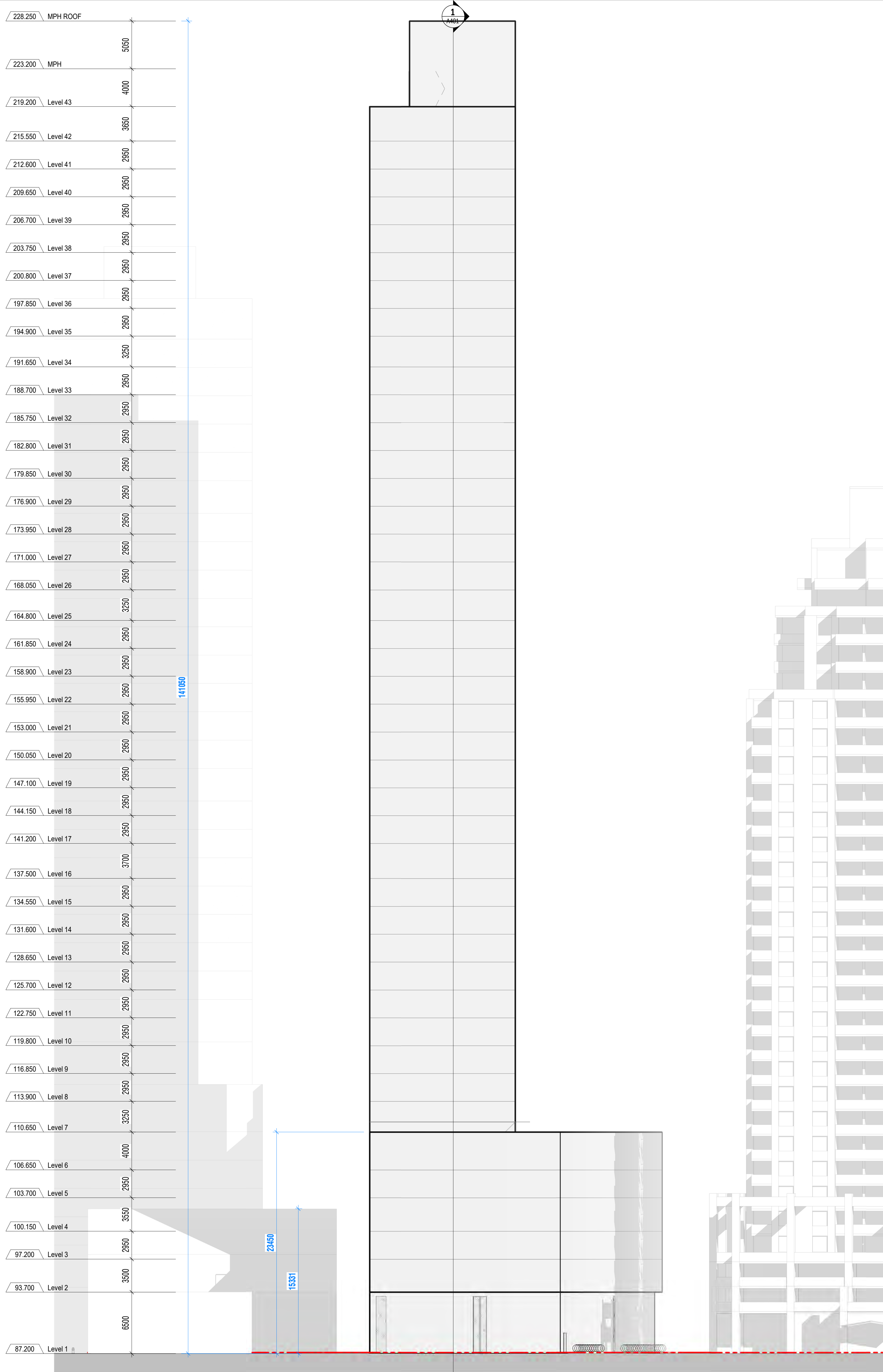
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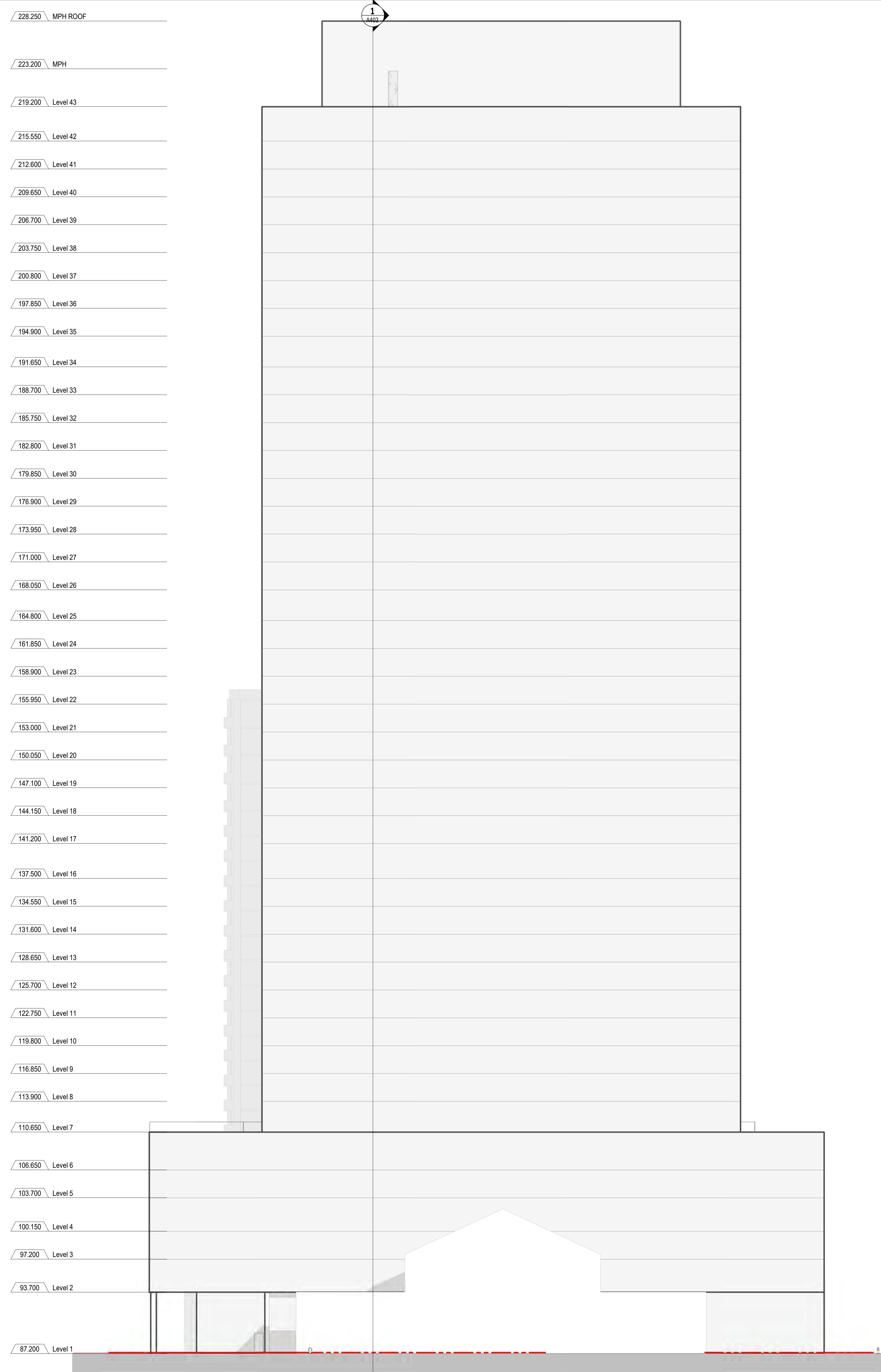


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MPH
MEZZANINE
FLOOR PLAN
A208a



1 EAST ELEVATION
A103 A301 1 : 200



2 SOUTH ELEVATION
A103 A301 1 : 200

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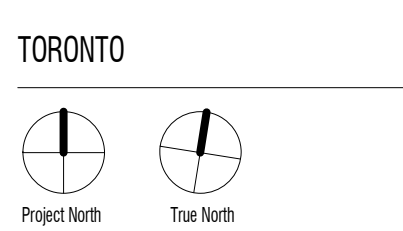
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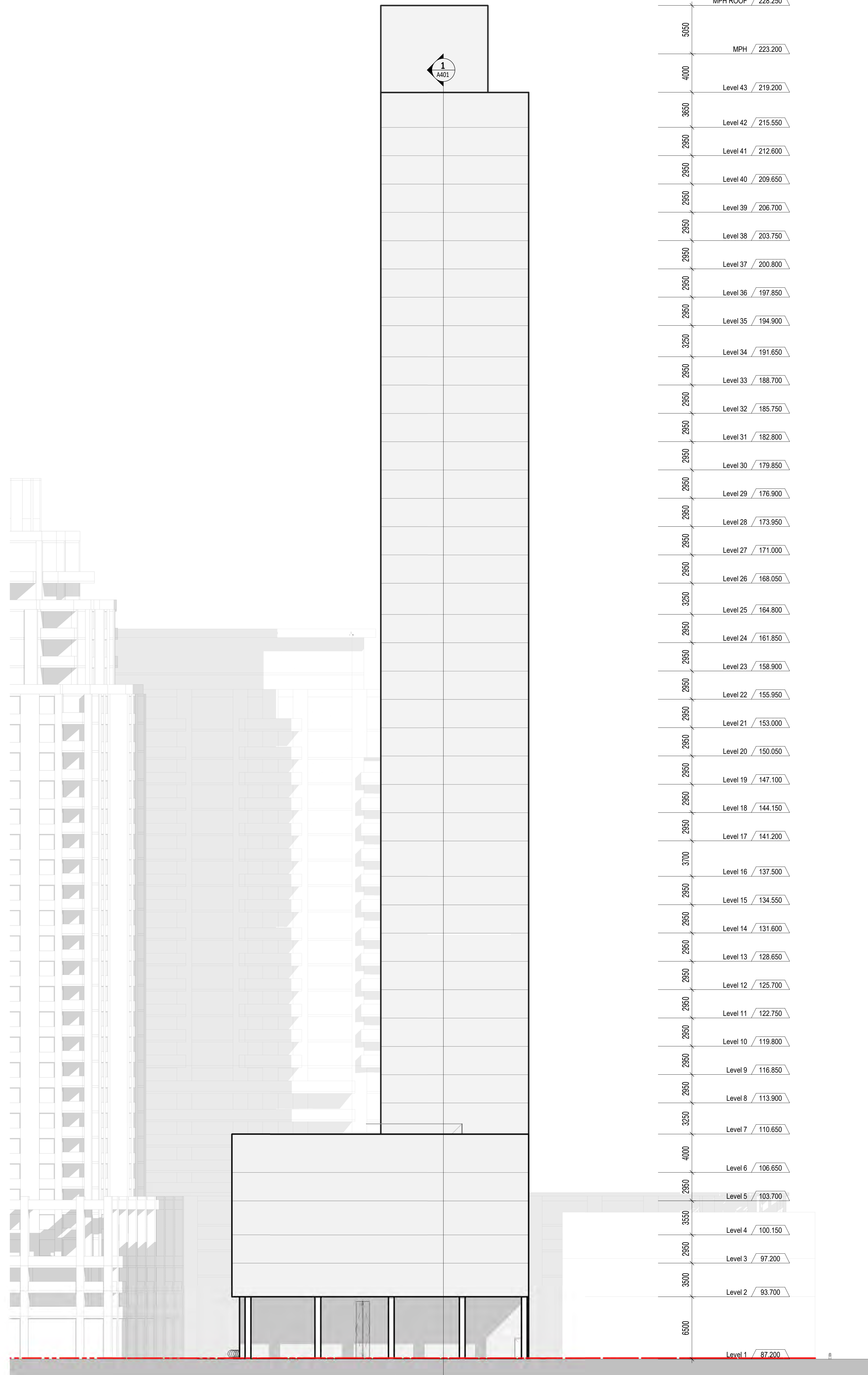
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ELEVATION - EAST - SOUTH

A301



1 WEST ELEVATION
A103 A302 1 : 200



2 NORTH ELEVATION
A103 A302 1 : 200

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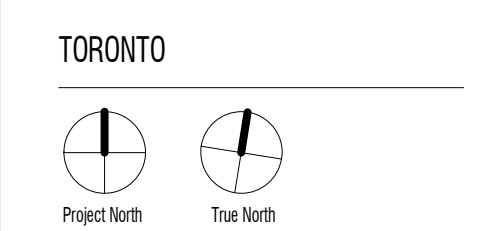
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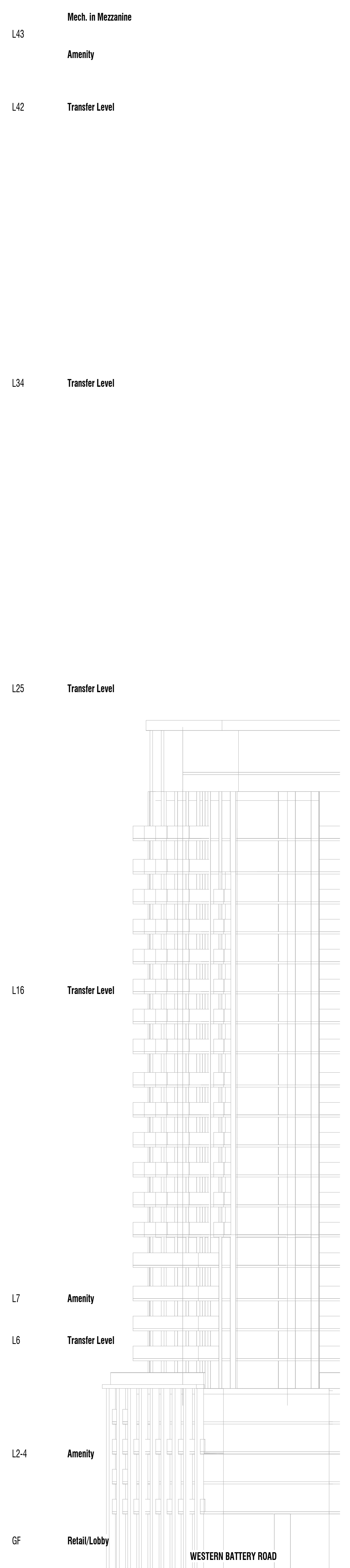
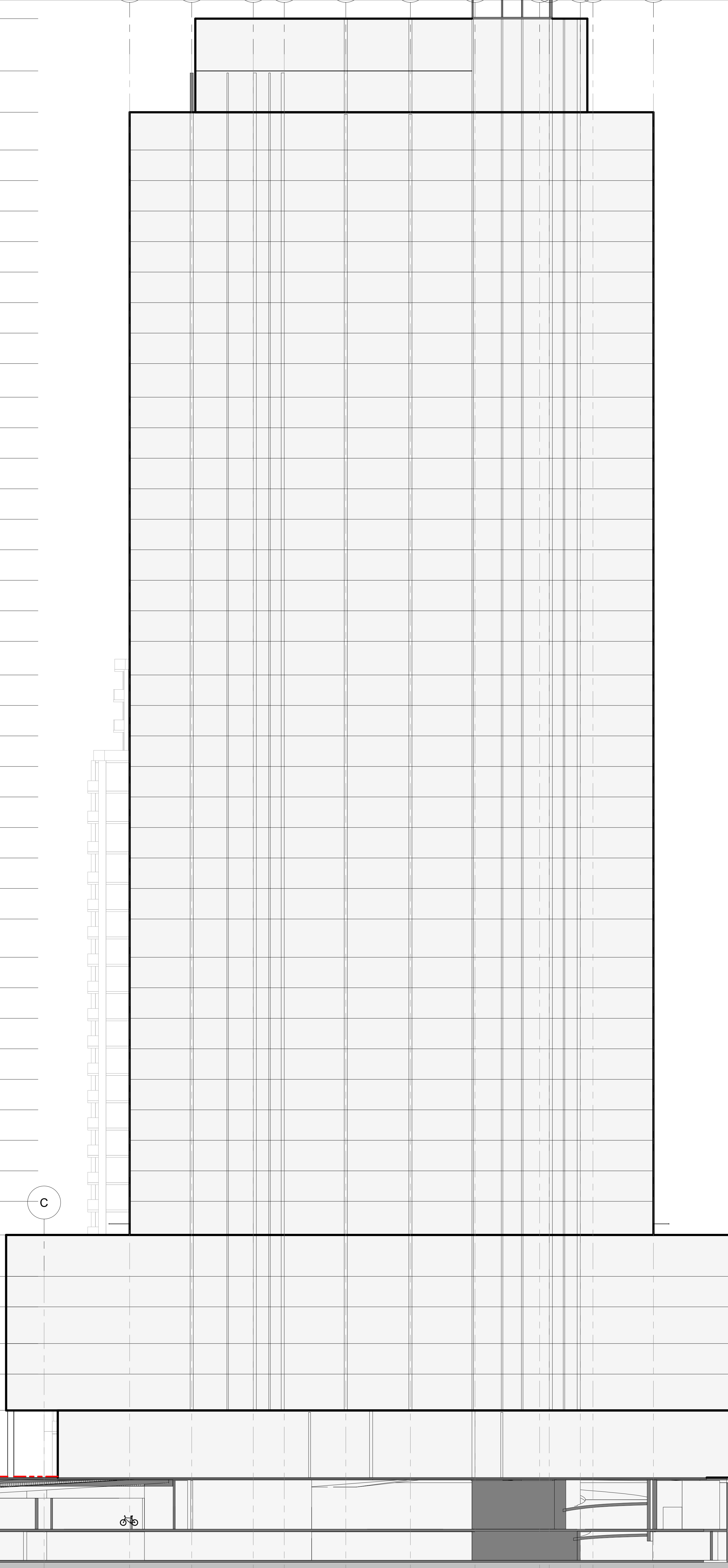


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ELEVATION - WEST - NORTH

A302

228.250	MPH ROOF	9850
219.200	Level 43	3650
215.550	Level 42	2650
212.600	Level 41	2650
209.650	Level 40	2650
206.700	Level 39	2650
203.750	Level 38	2650
200.800	Level 37	2650
197.850	Level 36	2650
194.900	Level 35	2650
191.650	Level 34	3250
188.700	Level 33	2650
185.750	Level 32	2650
182.800	Level 31	2650
179.850	Level 30	2650
176.900	Level 29	2650
173.950	Level 28	2650
171.000	Level 27	2650
168.050	Level 26	2650
164.800	Level 25	3250
161.850	Level 24	2650
158.900	Level 23	2650
155.950	Level 22	2650
153.000	Level 21	2650
150.050	Level 20	2650
147.100	Level 19	2650
144.150	Level 18	2650
141.200	Level 17	2650
137.500	Level 16	3700
134.550	Level 15	2650
131.600	Level 14	2650
128.650	Level 13	2650
125.700	Level 12	2650
122.750	Level 11	2650
119.800	Level 10	2650
116.850	Level 9	2650
113.900	Level 8	2650
110.650	Level 7	3250
106.650	Level 6	4000
103.700	Level 5	2650
100.150	Level 4	3250
97.200	Level 3	2650
93.700	Level 2	3500
87.200	Level 1	6500
82.200	P1	5000
79.200	P2	3000



- L43 Mech. in Mezzanine
- Amenity
- L42 Transfer Level
- L34 Transfer Level
- L25 Transfer Level
- L16 Transfer Level
- L7 Amenity
- L6 Transfer Level
- L2-4 Amenity
- GF Retail/Lobby

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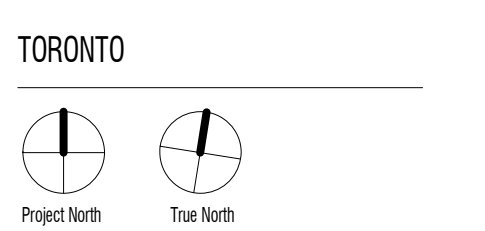
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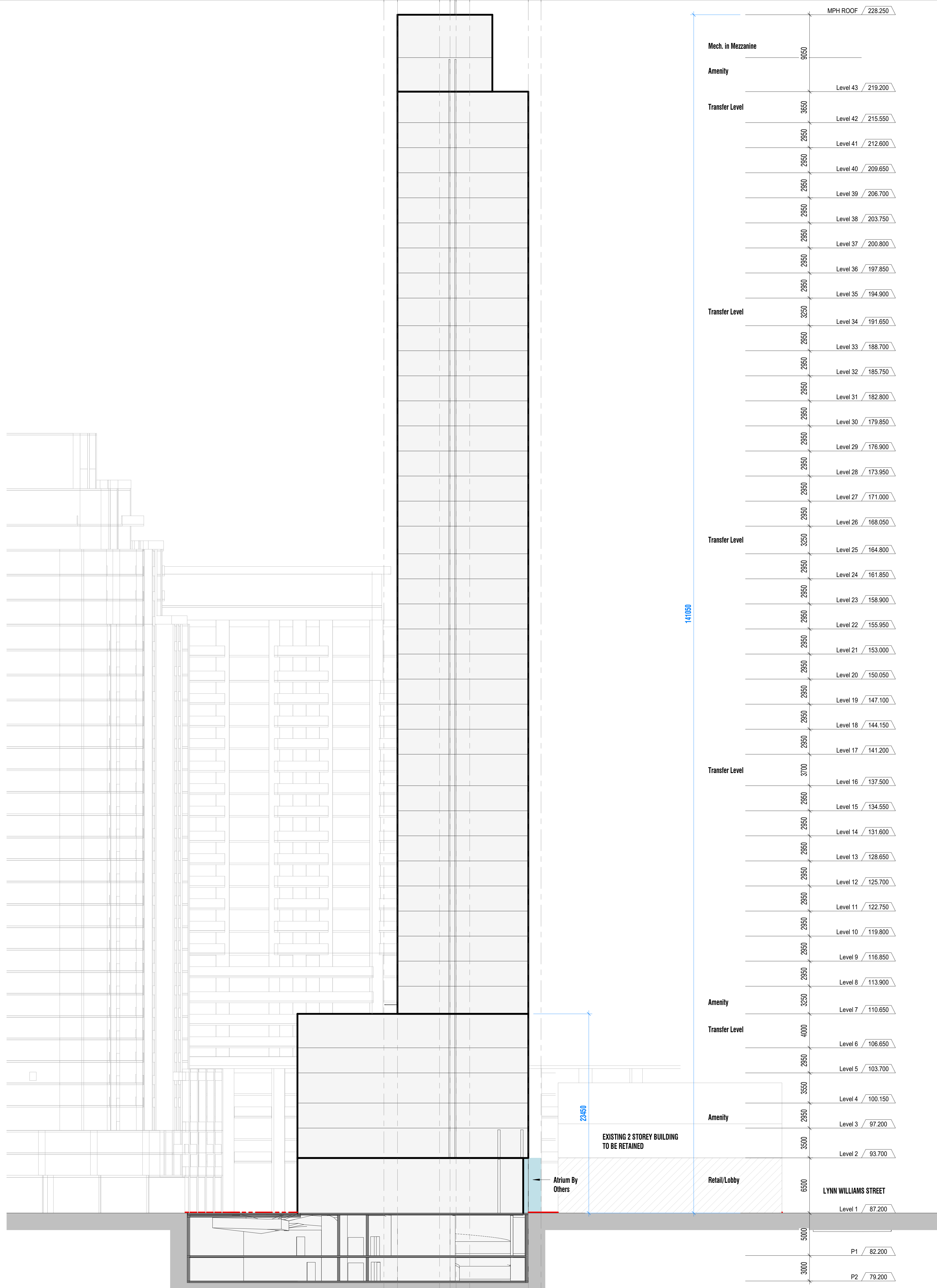
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SITE SECTION

A401



141050

23450

	MPH ROOF	228.250
Mech. in Mezzanine		9050
Amenity	Level 43	219.200
Transfer Level	Level 42	215.550
	Level 41	212.800
	Level 40	209.650
	Level 39	206.700
	Level 38	203.750
	Level 37	200.800
	Level 36	197.850
	Level 35	194.900
Transfer Level	Level 34	191.650
	Level 33	188.700
	Level 32	185.750
	Level 31	182.800
	Level 30	179.850
	Level 29	176.900
	Level 28	173.950
	Level 27	171.000
	Level 26	168.050
Transfer Level	Level 25	164.800
	Level 24	161.850
	Level 23	158.900
	Level 22	155.950
	Level 21	153.000
	Level 20	150.050
	Level 19	147.100
	Level 18	144.150
	Level 17	141.200
Transfer Level	Level 16	137.500
	Level 15	134.550
	Level 14	131.600
	Level 13	128.650
	Level 12	125.700
	Level 11	122.750
	Level 10	119.800
	Level 9	116.850
	Level 8	113.900
Amenity	Level 7	110.850
Transfer Level	Level 6	106.850
	Level 5	103.700
	Level 4	100.150
Amenity	Level 3	97.200
	Level 2	93.700
	Level 1	87.200
	P1	82.200
	P2	79.200

EXISTING 2 STOREY BUILDING TO BE RETAINED

Atrium By Others

Retail/Lobby

LYNN WILLIAMS STREET

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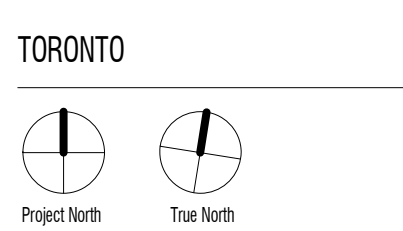
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1 2023 05 10 Issued For Concept Approval



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TORONTO, ON, CANADA M6J 2Y9
416 915 1791

86 LYNN WILLIAMS STREET

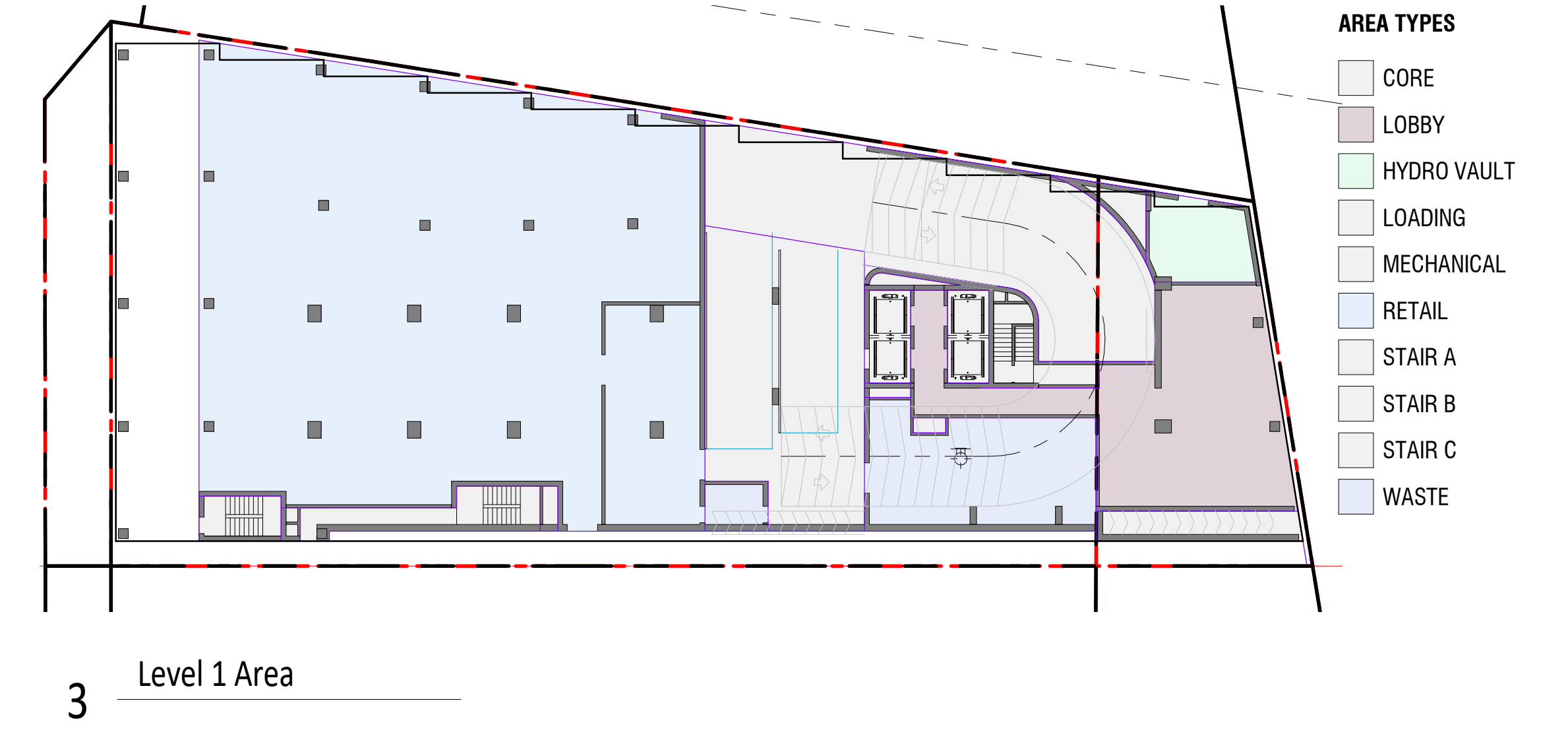
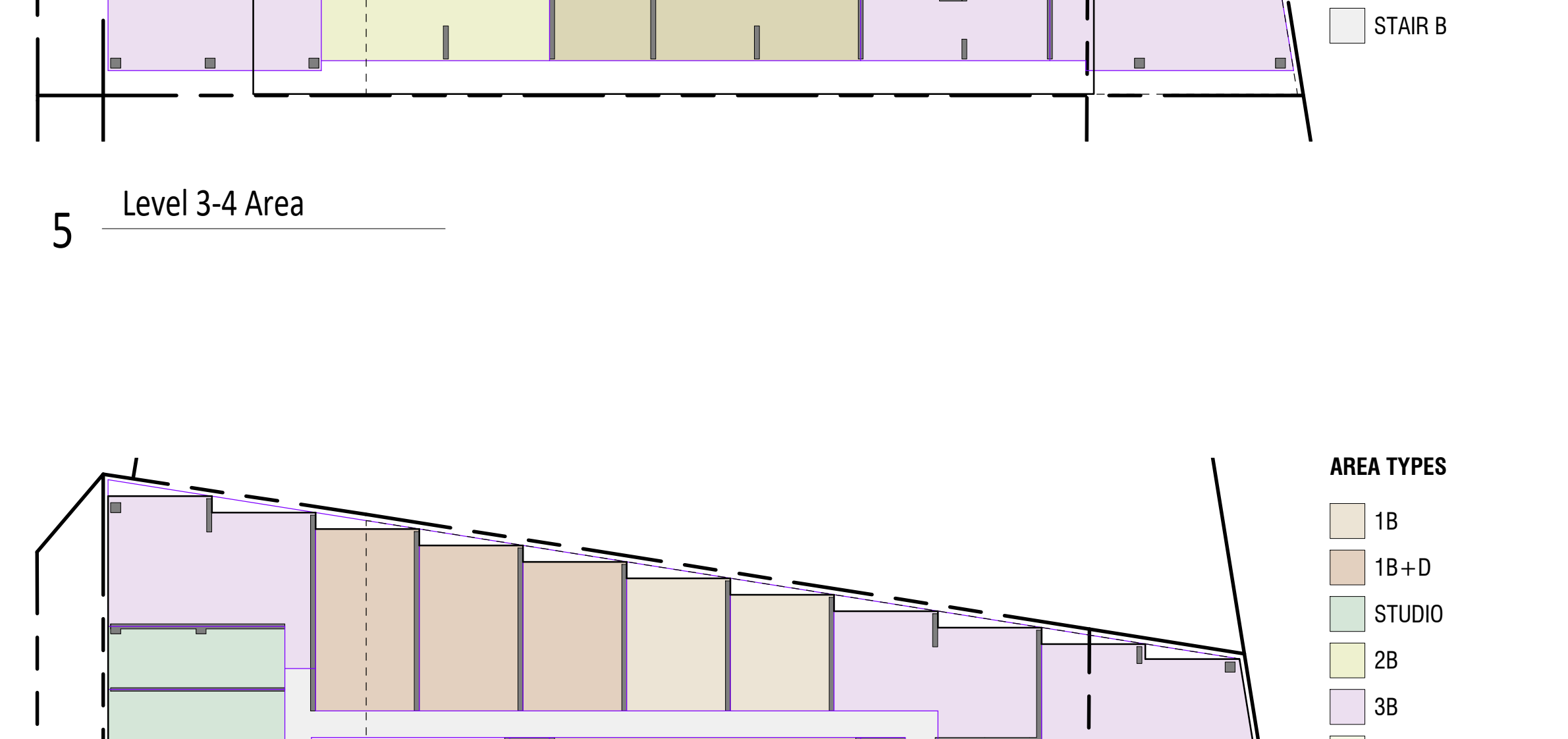
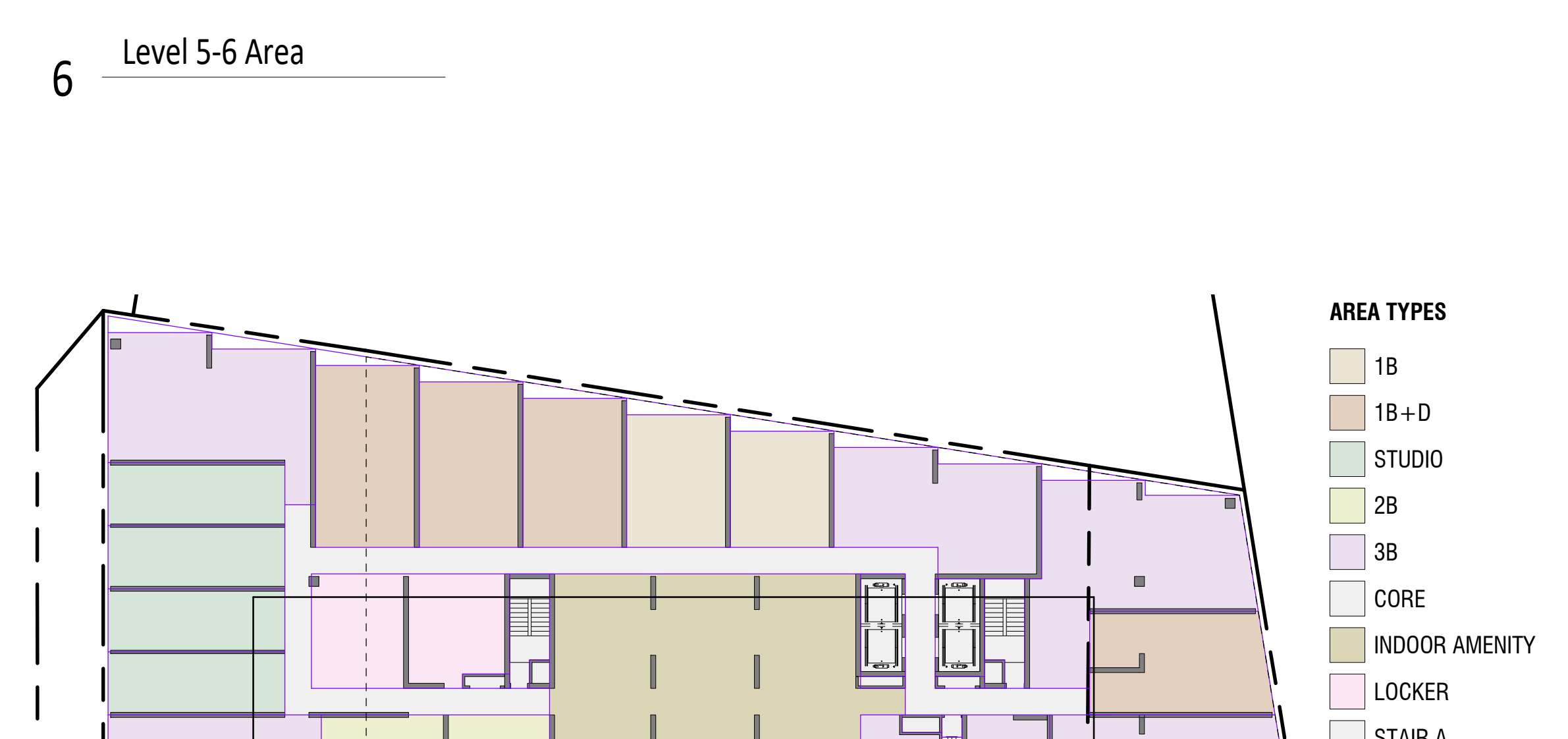
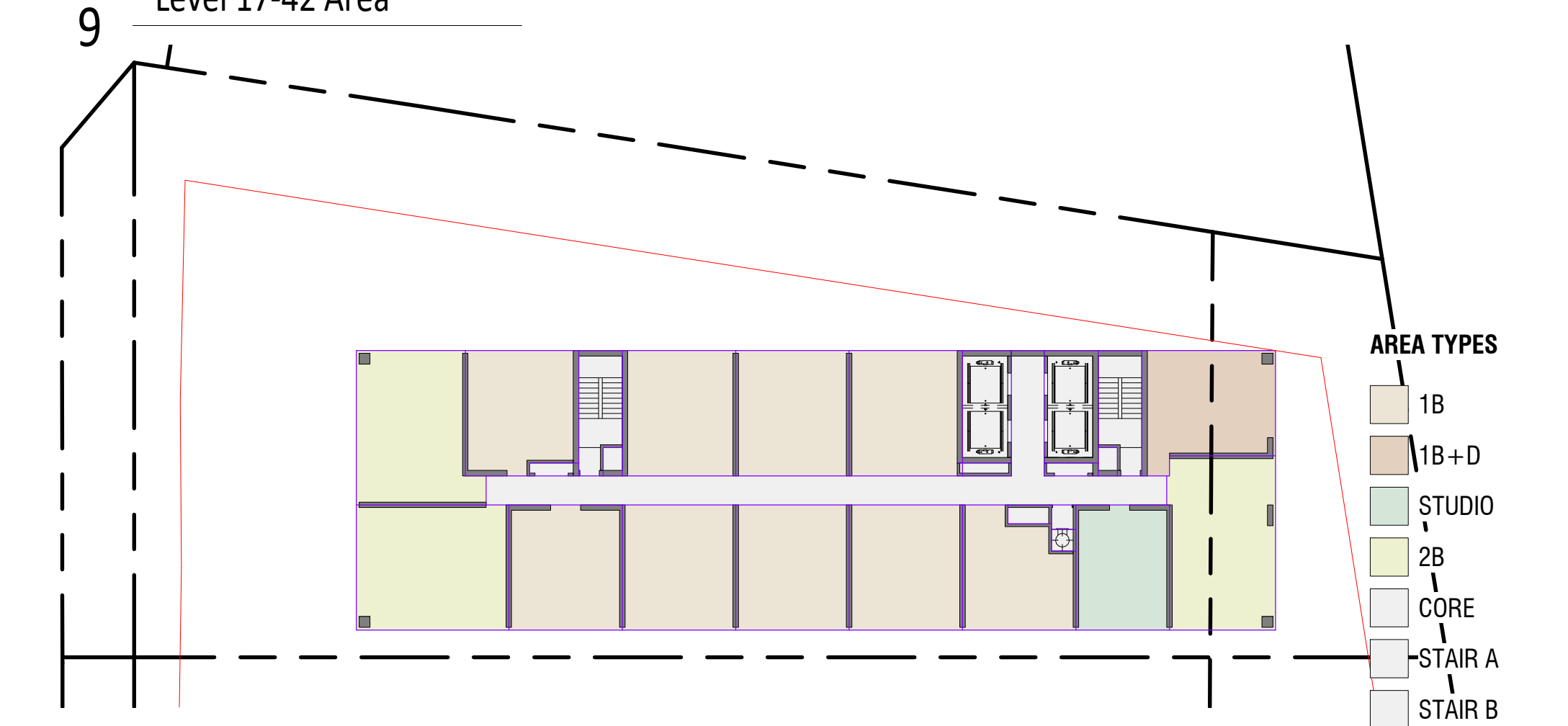
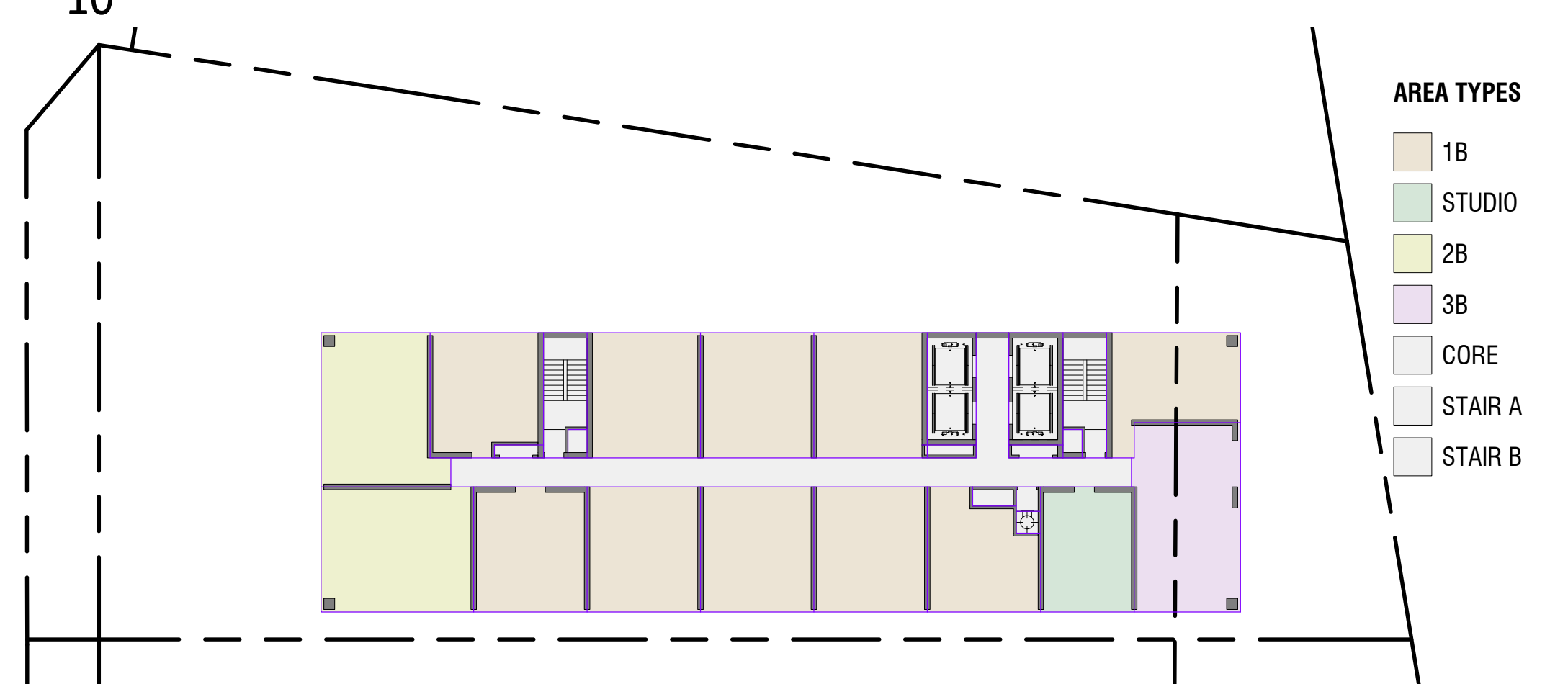
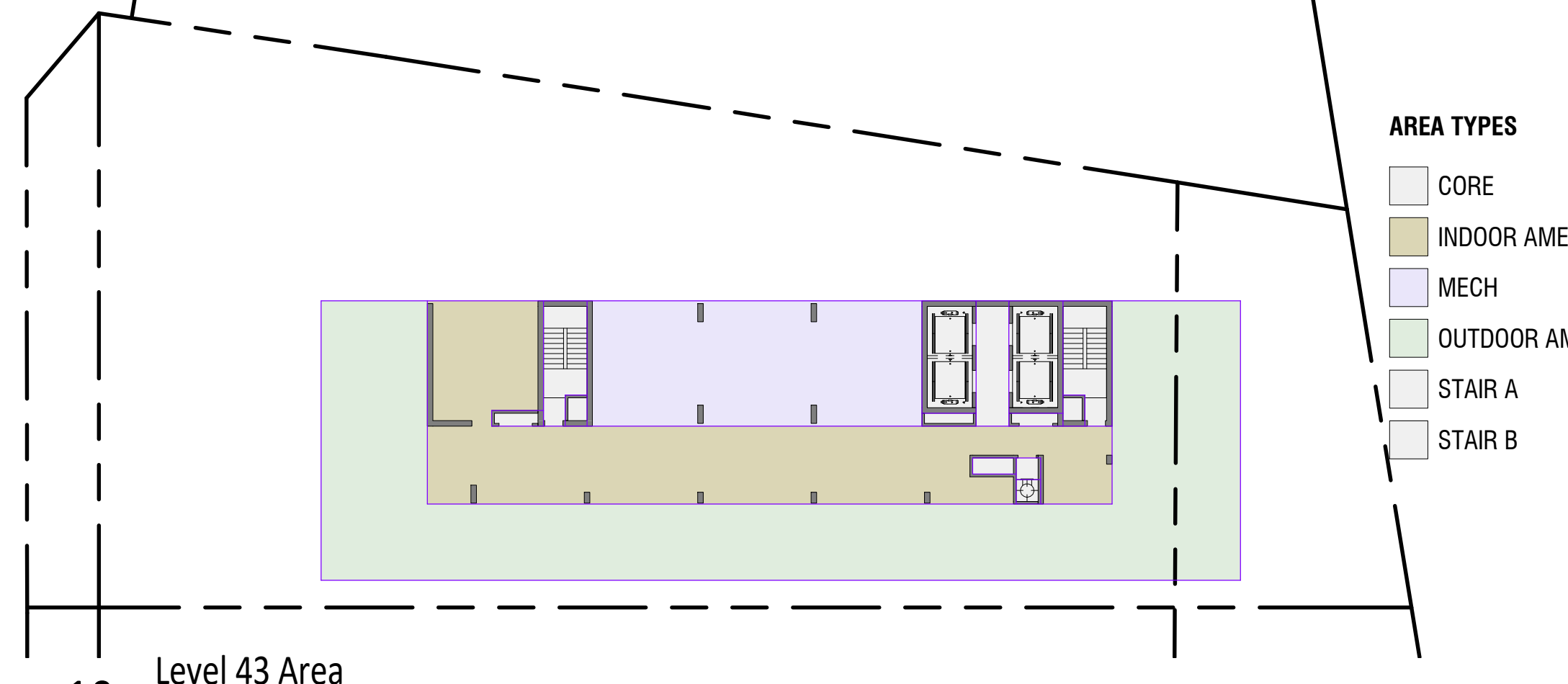
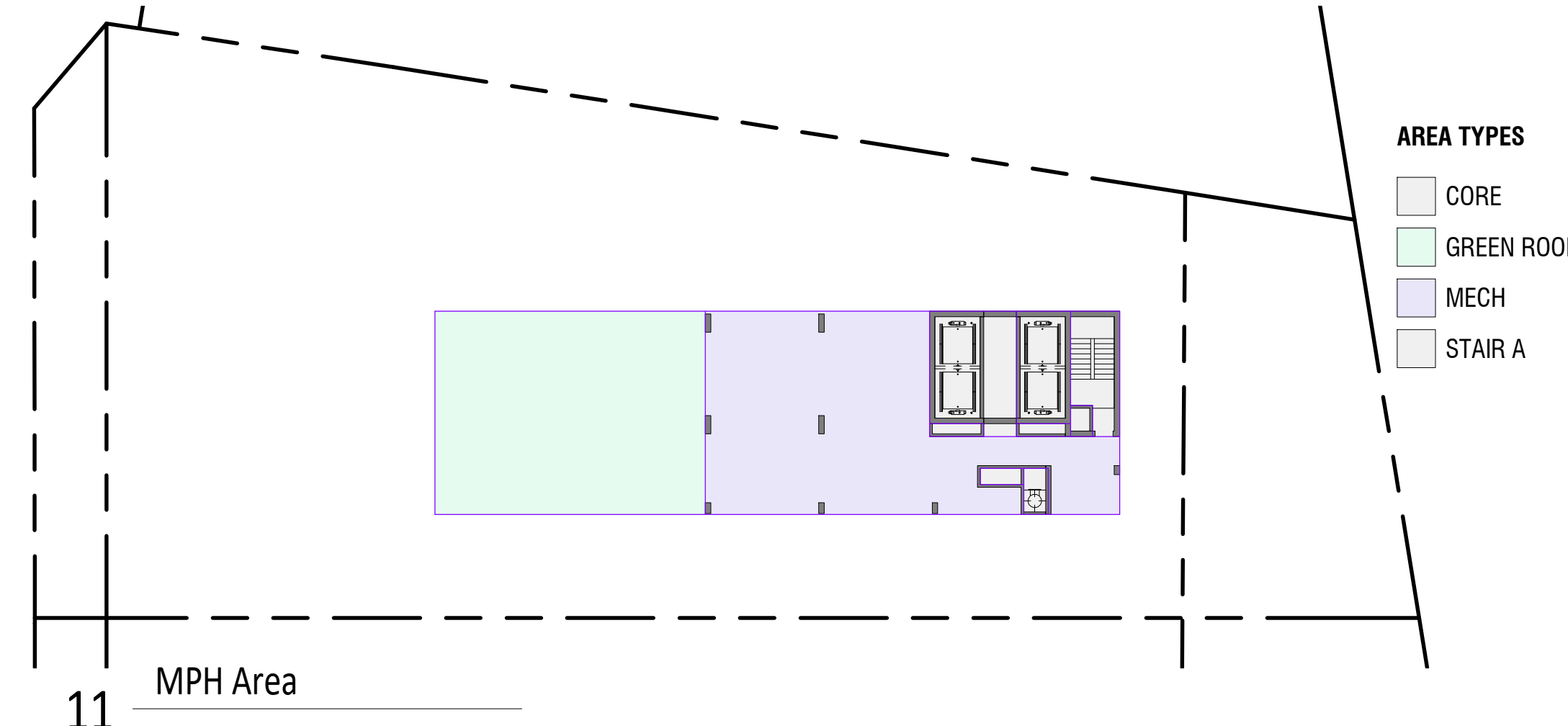


SCALE 1:200
PROJECT NO. 201903
ISSUE DATE May 10, 2023

SITE SECTION

A402

2.2 FLOOR AREA									
Level	GCA/Level (m²)	Total GCA (m²)	GFA Deductions (m²)	Total GFA (m²)	Residential GFA (m²)	Retail GFA (m²)	Leasable (m²)	Indoor Amenity (m²)	Outdoor Amenity (m²)
BELOW-GRADE									
P2	2,731	2,731	2,708	22	22	0	0	0	0
P1	2,691	2,691	2,670	21	21	0	0	0	0
	5,422	5,422	5,378	43	43	0	0	0	0
ABOVE-GRADE									
Level 1	1,594	1,594	640	953	169	785	785	0	0
Level 2	1,758	1,691	432	1,214	1,214	0	1,051	282	0
Level 3-4	1,712	3,425	718	2,707	2,707	0	2,275	564	0
Level 5-6	1,740	3,480	154	3,326	3,326	0	2,567	0	0
Level 7	924	1,069	208	717	717	0	498	127	851
Level 8-16	780	7,020	683	6,337	6,337	0	5,647	0	0
Level 17-42	780	20,280	2,038	18,243	18,243	0	16,312	0	0
Level 43	423	423	409	14	14	0	0	198	357
MPH	256	256	256	0	0	0	0	0	0
	9,966	39,237	5,536	33,512	32,727	785	29,134	1,171	1,208



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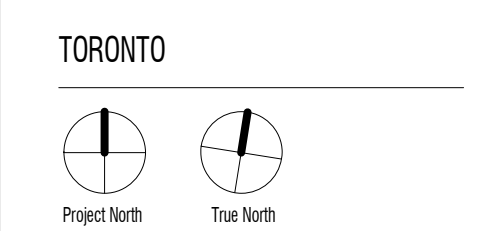
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- The Architectural Drawings are to be read in conjunction with all other Contract Documents including the Project Manual and the Structural, Mechanical and Electrical Drawings. In cases of difference between the Consultant's documents with respect to the quantity, sizes or scope of work, the greater shall apply.
- Positions of proposed or finished Mechanical or Electrical devices, fittings and fixtures are indicated on the Architectural Drawings. Locations shown on the Architectural Drawings shall govern over Mechanical and Electrical Drawings. Mechanical and Electrical items not clearly located will be located as directed by the Architect.
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 Toronto, ON, Canada M6J 2Y9
 416 915 1791

86 LYNN WILLIAMS STREET



SCALE 1:300
 PROJECT NO. 201903
 ISSUE DATE May 10, 2023

ZBA AREA PLANS

A1001



Appendix C Traffic Data and Calculations

Compatibility & Mitigation Study Air Quality, Dust, Odour, Noise & Vibration

86 & 70 Lynn Williams Street

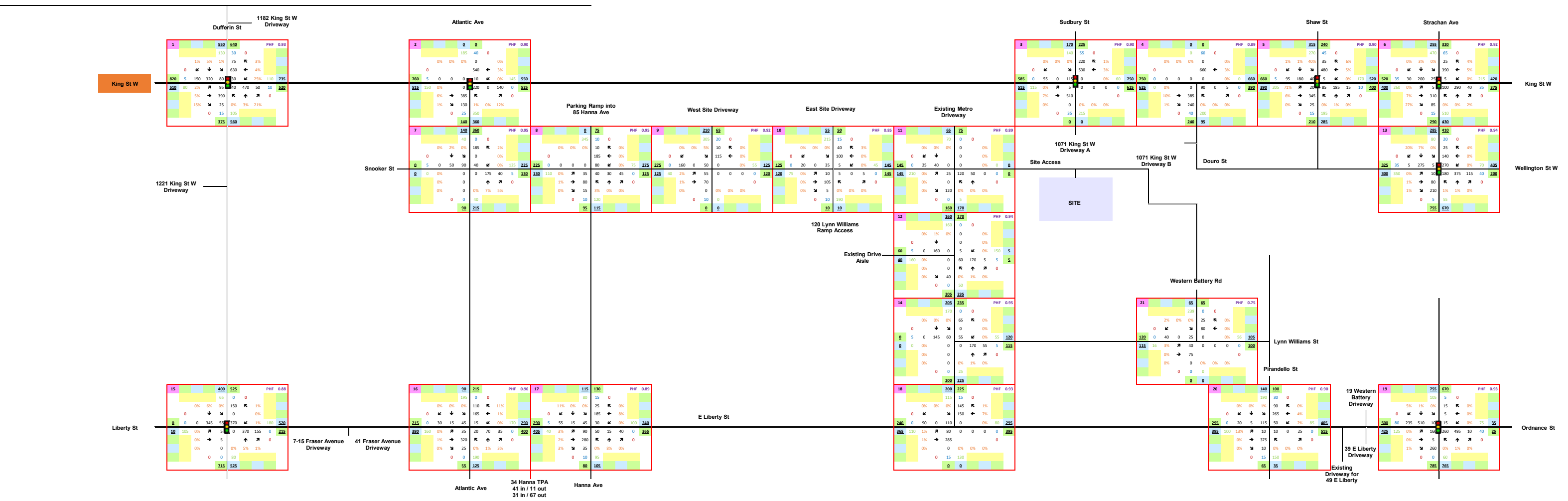
Shiplake Ltd.

SLR Project No.: 241.030929.00001

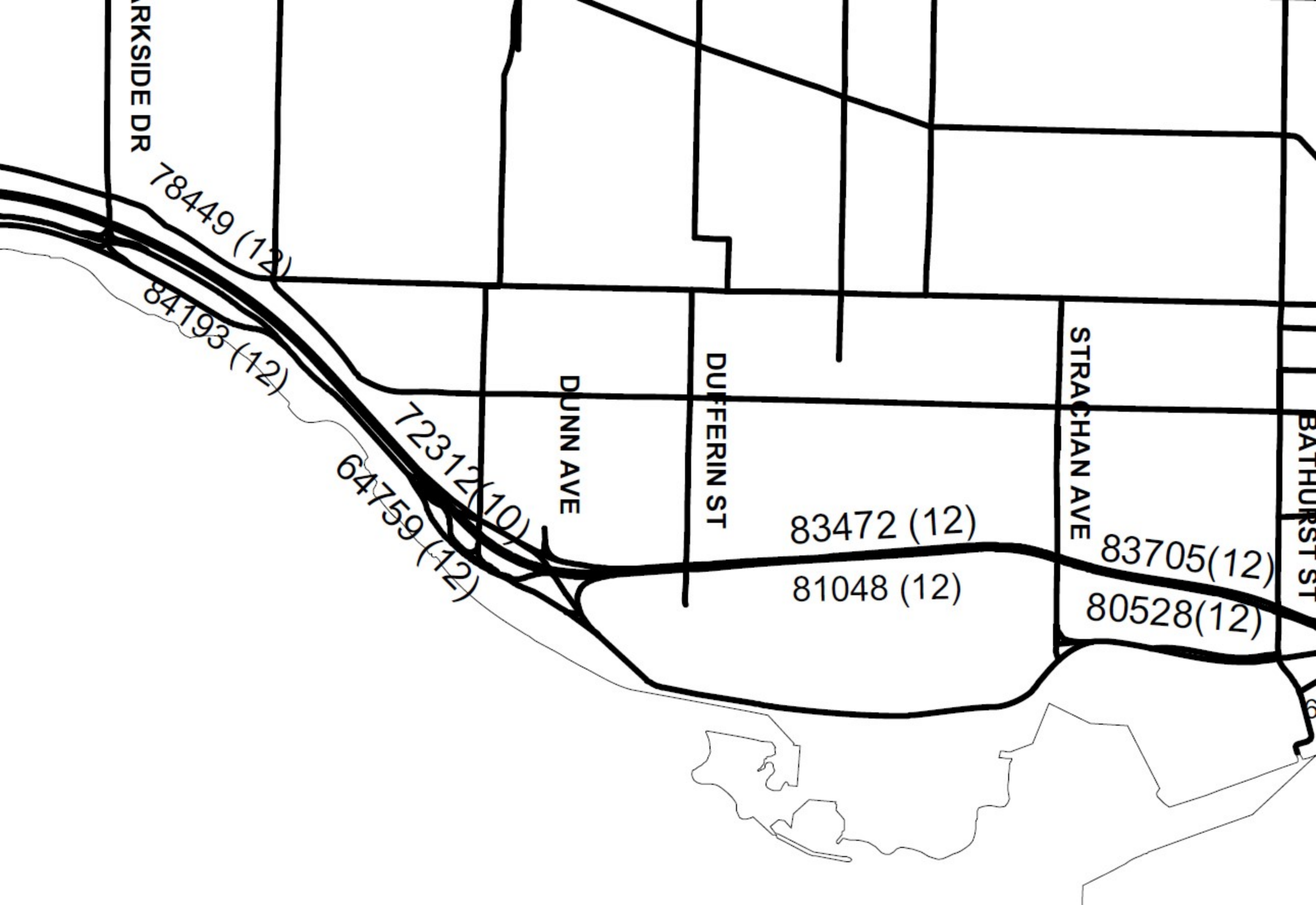
October 4, 2023

8 FIGURE: ROUNDED BALANCED EXISTING
 11 TIME PERIOD: Weekday PM
 14 PROJECT No: 7036-25
 17
 20
 DATE: March 25, 2022 12:37:23 PM

YORKVILLE AVE
 BELLAIR ST
 SITE TRAFFIC
 IN 772
 OUT 665
 2WAY 1485
 NETWORK TRAFFIC
 IN 2480
 OUT 2780
 2WAY 5270



100
 0 25
 0 -75



PARKSIDE DR

78449 (12)

84193 (12)

64759 (12)

72312 (10)

DUNN AVE

DUFFERIN ST

83472 (12)

81048 (12)

STRACHAN AVE

83705 (12)

80528 (12)

BATHURST ST

ORNAMENT - Sound Power Emissions & Source Heights

Ontario Road Noise Analysis Method for Environment and Transportation

Road Segment ID	Roadway Name	Link Description	Speed (kph)	Period (h)	Total Traffic Volumes	Auto %	Med %	Hvy %	Auto	Med	Heavy	Road Gradient (%)	Cadna/A Ground Absorption G	PWL (dBA)	Source Height, s (m)
GardinerE_avg	Gardiner Expy - Eastbound	Daytime Impacts	90	16	99957	90.0%	5.0%	5.0%	89961	4998	4998	0	0.00	96.9	1.5
GardinerE_avg	Gardiner Expy - Eastbound	Nighttime Impacts	90	8	17639	90.0%	5.0%	5.0%	15875	882	882	0	0.00	92.4	1.5
GardinerW_avg	Gardiner Expy - Westbound	Daytime Impacts	90	16	102946	90.0%	5.0%	5.0%	92652	5147	5147	0	0.00	97.0	1.5
GardinerW_avg	Gardiner Expy - Westbound	Nighttime Impacts	90	8	18167	90.0%	5.0%	5.0%	16350	908	908	0	0.00	92.5	1.5
lynnwill_avg	Lynn Williams Street	Daytime Impacts	50	16	2765	99.1%	0.5%	0.4%	2740	13	12	0	0.00	70.8	0.8
lynnwill_avg	Lynn Williams Street	Nighttime Impacts	50	8	307	99.1%	0.5%	0.4%	304	1	1	0	0.00	64.2	0.8
liberty_avg	East Liberty Street	Daytime Impacts	50	16	8119	98.3%	0.9%	0.8%	7981	74	64	0	0.00	76.3	0.9
liberty_avg	East Liberty Street	Nighttime Impacts	50	8	902	98.3%	0.9%	0.8%	887	8	7	0	0.00	69.8	0.9

Dear Galen:

Re: Train Traffic Data – CN Weston Subdivision near Strachan Avenue in Toronto, ON

The following is provided in response to Galen's 2017/07/12 request for information regarding rail traffic in the vicinity of Strachan Ave in Toronto at approximately Mile 1.90 on CN's Weston Subdivision.

Typical daily traffic volumes are recorded below. However, traffic volumes may fluctuate due to overall economic conditions, varying traffic demands, weather conditions, track maintenance programs, statutory holidays and traffic detours that when required may be heavy although temporary. For the purpose of noise and vibration reports, train volumes must be escalated by 2.5% per annum for a 10-year period.

Typical daily traffic volumes at this site location are as follows:

*Maximum train speed is given in Miles per Hour

	0700-2300			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	15	4
Way Freight	0	25	15	4
Passenger	5	10	75	2

	2300-0700			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	15	4
Way Freight	0	25	15	4
Passenger	0	10	75	2

The volumes recorded reflect westbound and eastbound freight and passenger operations on CN's Weston Subdivision.

Except where anti-whistling bylaws are in effect, engine-warning whistles and bells are normally sounded at all at-grade crossings. There are zero at-grade crossing in the immediate vicinity of the study area. Anti-whistling bylaws are in effect at this crossing. Please note that engine warning whistles may be sounded in cases of emergency, as a safety and or warning precaution at station locations and pedestrian crossings and occasionally for operating requirements.

With respect to equipment restrictions, the gross weight of the heaviest permissible car is 286,000 lbs.

The Triple mainline track is considered to be continuously welded rail throughout the study area. The presence of 19 switches located between Mile 1.90 and 0.92 may exacerbate the noise and vibration caused by train movements.

The Canadian National Railway continues to be strongly opposed to locating developments near railway facilities and rights-of-way due to potential safety and environmental conflicts. Development adjacent to the Railway Right-of-Way is not appropriate without sound impact mitigation measures to reduce the incompatibility. For confirmation of the applicable rail noise, vibration and safety standards, Nadia El Dabee, Canadian National Railway Properties at 514-399-7627 should be contacted directly.

I trust the above information will satisfy your current request.

Sincerely,



Michael Vallins P.Eng
Manager of Public Works
public_works_gld@cn.ca

From: [Harrison Rong](#)
To: [Jason Dorssers](#)
Cc: [Marcus Li](#)
Subject: RE: 80 Lynn Williams, Toronto - Rail Data Request
Date: March 24, 2022 11:34:41 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

You don't often get email from harrison.rong@metrolinx.com. [Learn why this is important](#)

Good morning Jason,

As discussed, please see the revised breakdown:

It's anticipated that GO rail service on this Subdivision will be comprised of diesel and electric 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 1055 trains. The planned detailed trip breakdown is listed below:

Oakville Subdivision

	1 Diesel Locomotive	2 Diesel Locomotives	1 Electric Locomotive	2 Electric Locomotives		1 Diesel Locomotive	2 Diesel Locomotives	1 Electric Locomotive	2 Electric Locomotives
Day (0700-2300)	66	26	112	42	Night (2300-0700)	11	4	24	8

Weston Subdivision

	1 Diesel Locomotive	2 Diesel Locomotives	1 Electric Locomotive	2 Electric Locomotives		1 Diesel Locomotive	2 Diesel Locomotives	1 Electric Locomotive	2 Electric Locomotives
Day (0700-2300)	92	36	172	24	Night (2300-0700)	22	2	36	0

Galt Subdivision

	1 Diesel Locomotive	2 Diesel Locomotives		1 Diesel Locomotive	2 Diesel Locomotives
Day (0700-2300)	38	0	Night (2300-0700)	6	0

UP Express (Weston Subdivision to Union Station)

	1 Electric Locomotive		1 Electric Locomotive
Day (0700-2300)	256	Night (2300-0700)	72

UP Express (Union Station to Oakville Subdivision)

	1 Electric Locomotive
Night (2300-0700)	6

The current track design speed near the subject lands is 60 mph (97 km/h).

Best regards,
Harrison

From: Rail Data Requests
Sent: March 24, 2022 9:21 AM
To: Jason Dorssers <jdorssers@slrconsulting.com>
Cc: Marcus Li <mli@slrconsulting.com>
Subject: RE: 80 Lynn Williams, Toronto - Rail Data Request

Good morning Jason,

Apologies for the confusion, those subdivisions you mentioned below are correct. The USRC subdivision starts at the point where the Weston/Galt Subdivision merges with the Oakville Subdivision (roughly around Fort York).

Best regards,
Harrison

From: Jason Dorssers <jdorssers@slrconsulting.com>
Sent: March 23, 2022 3:36 PM
To: Rail Data Requests <RailDataRequests@metrolinx.com>
Cc: Marcus Li <mli@slrconsulting.com>
Subject: RE: 80 Lynn Williams, Toronto - Rail Data Request

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Hi Harrison,

Can you please clarify what subdivision the USRC is associated with?

Under the RAC atlas available online, the Subdivision to the north of my project is called Weston/Galt. The subdivision to the south is Oakville.

Thank you,
Jason



Jason Dorssers, B.Eng.

Acoustics Consultant

D +1 226 706 8080 Ext. 229

O +1 226 706 8080

C 519-362-0958

E jdorssers@slrconsulting.com

SLR Consulting (Canada) Ltd
100 Stone Road West, Suite 201, Guelph, ON N1G 5L3



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From: Rail Data Requests <RailDataRequests@metrolinx.com>

Sent: January 11, 2022 1:18 PM

To: Jason Dorssers <jdorssers@slrconsulting.com>

Cc: Aaron Haniff <ahaniff@slrconsulting.com>

Subject: RE: 80 Lynn Williams, Toronto - Rail Data Request

Good afternoon Jason,

Metrolinx would like to inform SLR Consulting that there is a minor update to the rail traffic volumes to reflect current Metrolinx operating practices.

In addition to the Lakeshore West Train volumes provided on June 18, 2021, it should be noted that Metrolinx currently operates equipment trips (non-revenue trips) for UP Express at this location. UP Express trains will be electrified and comprised of up to three (3) passenger cars. The planned detailed trip breakdown is listed below:

UP Express

	1 Electric Locomotive
Night (2300-0700)	6

Metrolinx requests that SLR Consulting include the updated rail traffic volumes in their reports (it not published). If the report is published, SLR Consulting can provide an addendum letter to RailDataRequests@metrolinx.com noting the updated rail traffic volumes and the letter will be forwarded to the relevant Third Parties Project Review Stakeholder for their consideration.

Best regards,

Harrison Rong

Project Coordinator, Third Party Projects Review

Metrolinx

20 Bay Street | Suite 600 | Toronto | Ontario | M5J 2W3



From: Rail Data Requests

Sent: June 18, 2021 2:59 PM

To: Jason Dorssers <jdorssers@slrconsulting.com>

Cc: Aaron Haniff <ahaniff@slrconsulting.com>

Subject: RE: 80 Lynn Williams, Toronto - Rail Data Request

Hi Jason

Further to your request dated June 16, 2021, the subject lands (80 Lynn Williams, Toronto) are located within 300 metres of the Metrolinx Oakville Subdivision (which carries Lakeshore West GO rail service) and West Limits Union Station Rail Corridor (USRC).

It's anticipated that GO rail service on this Subdivision will be comprised of diesel and electric 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 1022 trains. The planned detailed trip breakdown is listed below:

Oakville Subdivision

	1 Diesel Locomotive	2 Diesel Locomotives	1 Electric Locomotive	2 Electric Locomotives		1 Diesel Locomotive	2 Diesel Locomotives	1 Electric Locomotive	2 Electric Locomotives
Day (0700-2300)	66	26	112	42	Night (2300-0700)	11	4	24	8

The current track design speed near the subject lands is 60 mph (97 km/h).

USRC

	1 Diesel Locomotive	2 Diesel Locomotives	1 Electric Locomotive	2 Electric Locomotives		1 Diesel Locomotive	2 Diesel Locomotives	1 Electric Locomotive	2 Electric Locomotives
Day (0700-2300)	196	62	284	66	Night (2300-0700)	39	6	68	8

The current track design speed near the subject lands is 45 mph (72 km/h).

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

With respect to future electrified rail service, Metrolinx is committed to finding the most sustainable solution for electrifying the GO rail network and we are currently working towards the next phase.

Options have been studied as part of the Transit Project Assessment Process (TPAP) for the GO Expansion program, currently in the procurement phase. The successful proponent team will be responsible for selecting and delivering the right trains and infrastructure to unlock the benefits of GO Expansion. The contract is in a multi-year procurement process and teams are currently completing the bids that will close in 2021. GO Expansion construction will get underway in 2022.

However, we can advise that train noise is dominated by the powertrain at lower speeds and by the wheel- track interaction at higher speeds. Hence, the noise level and spectrum of electric trains is expected to be very similar at higher speeds, if not identical, to those of equivalent diesel trains.


Given the above considerations, it would be prudent at this time, for the purposes of acoustical analyses for development in proximity to Metrolinx corridors, to assume that the acoustical characteristics of electrified and diesel trains are equivalent. In light of the aforementioned information, acoustical models should employ diesel train parameters as the basis for analyses. We anticipate that additional information regarding specific operational parameters for electrified trains will become available in the future once the proponent team is selected.

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.

Regards,

Lyndsy You, B.Eng.
Project Manager
Third Party Projects Review, Capital Projects Group
Metrolinx| 30 Wellington St. W | Toronto, Ontario| M5J 2N8
C: 416.399.8284


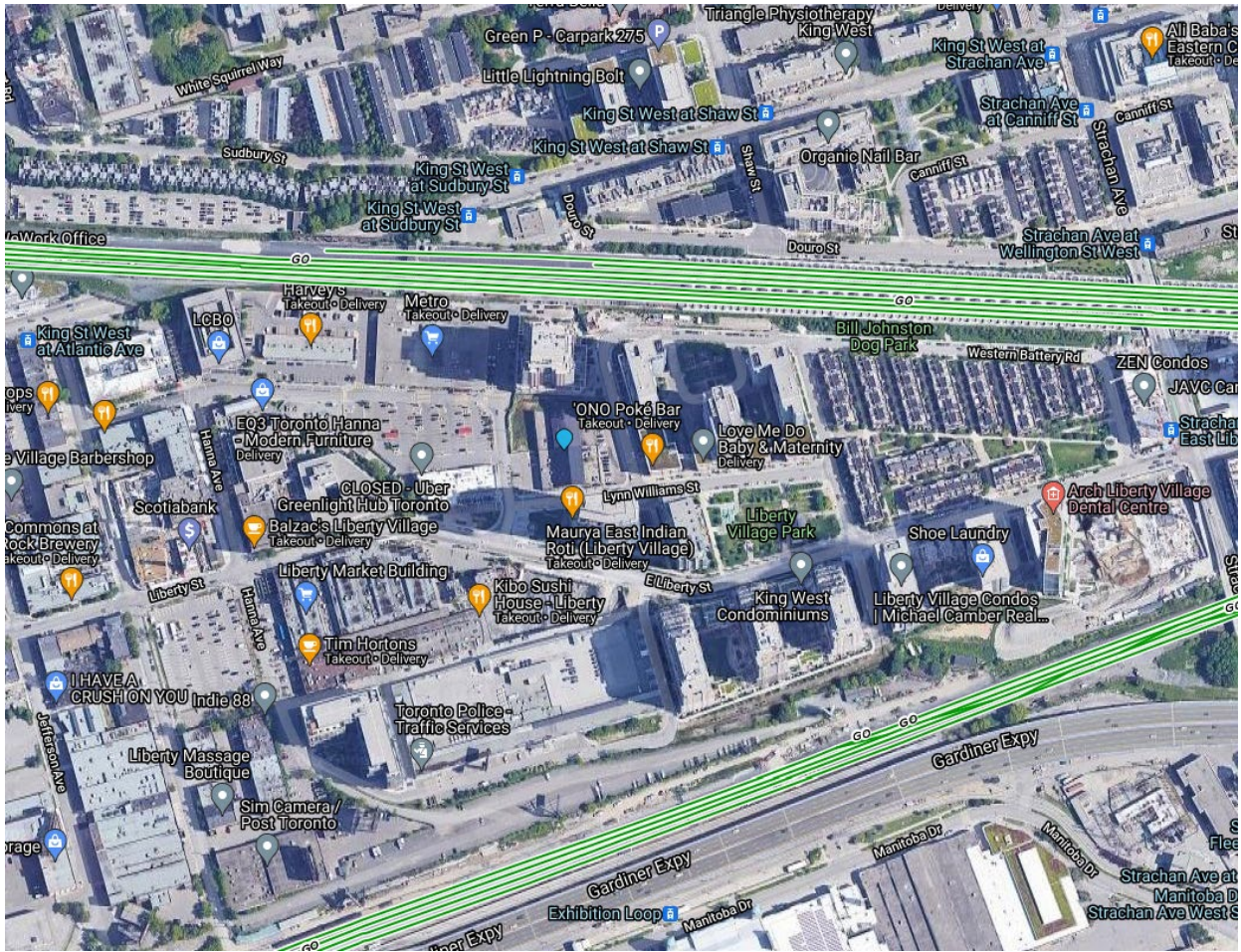
From: Jason Dorssers <jdorssers@slrconsulting.com>
Sent: June 16, 2021 11:40 AM
To: Rail Data Requests <RailDataRequests@metrolinx.com>
Cc: Aaron Haniff <ahaniff@slrconsulting.com>
Subject: 80 Lynn Williams - Rail Data Request

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Hello,

I am working on a proposed residential development along Lynn Williams Street located at 80 Lynn Williams Street in Toronto. The project is located in close proximity to the Galt and Weston subdivision corridor. The Oakville corridor is located to the south as well.

We require forecasted Metrolinx rail traffic data and any further clarification about the operations on this line to use in our assessment. I have attached an image of the area being developed.



Thank you,
Jason



Jason Dorssers, B.Eng.

Junior Scientist, Acoustics Noise and Vibration

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O +1 226 706 8080

C 519-362-0958

E jdorssers@slrconsulting.com

SLR Consulting (Canada) Ltd
150 Research Lane, Suite 105, Guelph, ON N1G 4T2



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Train Count Data

TRANSMITTAL

To: SLR Consulting
Destinataire : (Canada) Ltd
150 Research Lane,
Suite 105, Guelph ON
N1G 4T2

Project : Oakville- 1.57-Strachan Ave., Toronto ON

Att'n: Jason Dorssers

Routing: jdorssers@slrconsulting.com

From: Michael Vallins
Expéditeur :

Date: 2021/07/06

Cc: Adjacent Development
CN via e-mail

Urgent For Your Use For Review For Your Information Confidential

Re: Train Traffic Data – Oakville- 1.57- Strachan Avenue, Toronto, ON

Please find attached the requested Train Traffic Data; this data does not reflect GO Metrolinx Traffic. The application fee in the amount of **\$500.00** +HST will be invoiced.

Should you have any questions, please do not hesitate to contact the undersigned at permits.gld@cn.ca.

Sincerely,

Michael Vallins P.Eng
Manager, Public Works-Eastern Canada
Permits.gld@cn.ca

Date: 2021/07/06

Project Number: Oakville- 1.57-Strachan Ave., Toronto ON

Dear Jason:

Re: Train Traffic Data – Oakville- 1.57-Strachan Avenue, Toronto ON

The following is provided in response to Jason’s 2021/06/16 request for information regarding rail traffic in the vicinity of Strachan Avenue in Toronto at approximately Mile 1.57 on CN’s Oakville Subdivision.

Typical daily traffic volumes are recorded below. However, traffic volumes may fluctuate due to overall economic conditions, varying traffic demands, weather conditions, track maintenance programs, statutory holidays and traffic detours that when required may be heavy although temporary. For the purpose of noise and vibration reports, train volumes must be escalated by 2.5% per annum for a 10-year period.

Typical daily traffic volumes at this site location are as follows:

***Maximum train speed is given in Miles per Hour**

	0700-2300			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	20	4
Way Freight	0	25	20	4
Passenger	13	10	60	2

	2300-0700			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	20	4
Way Freight	2	25	20	4
Passenger	0	10	60	2

The volumes recorded reflect westbound and eastbound freight and passenger operations on CN’s Oakville Subdivision.

Except where anti-whistling bylaws are in effect, engine-warning whistles and bells are normally sounded at all at-grade crossings. There is no at grade crossing in the immediate vicinity of the study area. Please note that engine warning whistles may be sounded in cases of emergency, as a safety and or warning precaution at station locations and pedestrian crossings and occasionally for operating requirements.

With respect to equipment restrictions, the gross weight of the heaviest permissible car is 286,000 lbs.

The four mainline tracks are considered to be continuously welded rail throughout the study area. The presence of multiple switches between the tracks may exacerbate the noise and vibration caused by train movements.

The Canadian National Railway continues to be strongly opposed to locating developments near railway facilities and rights-of-way due to potential safety and environmental conflicts. Development adjacent to the Railway Right-of-Way is not appropriate without sound impact mitigation measures to reduce the incompatibility. For confirmation of the applicable rail noise, vibration and safety standards, Adjacent Development, Canadian National Railway Properties at Proximity@cn.ca should be contacted directly.

I trust the above information will satisfy your current request.

Sincerely,



Michael Vallins P.Eng
Manager, Public Works-Eastern Canada
Permits.gld@cn.ca



Appendix D BPN-56 Calculations

Compatibility & Mitigation Study Air Quality, Dust, Odour, Noise & Vibration

86 & 70 Lynn Williams Street

Shiplake Ltd.

SLR Project No.: 241.030929.00001

October 4, 2023

BPN 56 Calculation Procedure - Required Glazing STC Rating (Fixed Veneer)

86 & 70 Lynn Williams

Receptor ID	Source Description	Sound Levels		Room / Façade Inputs					Source Inputs		Veneer - Component 1		Glazing - Component 2	
		Façade Sound Level: (dBA)	Required Indoor Sound Level: (dBA)	Glazing as % of Wall Area	Exposed Wall Height (m)	Exposed Wall Length (m)	Room Depth (m)	Room Absorption:	Incident Sound Angle: (deg)	Spectrum type:	Assumed Veneer STC (STC)	Component Category:	Component Category:	Require Glazing STC (STC)
DAYTIME														
2-6 - North	Roadways, Daytime	45	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	2
2-6 - East	Roadways, Daytime	51	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	8
2-6 - South	Roadways, Daytime	58	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	15
2-6 - West	Roadways, Daytime	59	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	16
7-42 - North	Roadways, Daytime	50	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	7
7-42 - East	Roadways, Daytime	63	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	20
7-42 - South	Roadways, Daytime	66	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	23
7-42 - West	Roadways, Daytime	64	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	21
NIGHT-TIME														
2-6 - North	Roadways, Night-time	41	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	-3
2-6 - East	Roadways, Night-time	46	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	3
2-6 - South	Roadways, Night-time	54	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	11
2-6 - West	Roadways, Night-time	54	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	11
7-42 - North	Roadways, Night-time	45	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	2
7-42 - East	Roadways, Night-time	59	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	16
7-42 - South	Roadways, Night-time	61	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	18
7-42 - West	Roadways, Night-time	59	45	50%	2.8	3.0	6.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	16

BPN 56 Calculation Procedure - Required Glazing STC Rating (Fixed Veneer)

86 & 70 Lynn Williams

Receptor ID	Source Description	Sound Levels		Room / Façade Inputs				Source Inputs		Veneer - Component 1		Glazing - Component 2		
		Façade Sound Level: (dBA)	Required Indoor Sound Level: (dBA)	Glazing as % of Wall Area	Exposed Wall Height (m)	Exposed Wall Length (m)	Room Depth (m)	Room Absorption:	Incident Sound Angle: (deg)	Spectrum type:	Assumed Veneer STC	Component Category:	Component Category:	Require Glazing STC
DAYTIME														
2-6 - North	Roadways, Daytime	45	45	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	5
2-6 - East	Roadways, Daytime	51	45	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	11
2-6 - South	Roadways, Daytime	58	45	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	18
2-6 - West	Roadways, Daytime	59	45	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	19
7-42 - North	Roadways, Daytime	50	45	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	10
7-42 - East	Roadways, Daytime	63	45	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	23
7-42 - South	Roadways, Daytime	66	45	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	26
7-42 - West	Roadways, Daytime	64	45	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	24
NIGHT-TIME														
2-6 - North	Roadways, Night-time	41	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	6
2-6 - East	Roadways, Night-time	46	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	11
2-6 - South	Roadways, Night-time	54	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	19
2-6 - West	Roadways, Night-time	54	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	19
7-42 - North	Roadways, Night-time	45	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	10
7-42 - East	Roadways, Night-time	59	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	24
7-42 - South	Roadways, Night-time	61	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	26
7-42 - West	Roadways, Night-time	59	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	D. mixed road traffic, distant aircraft	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	24

BPN 56 Calculation Procedure - Required Glazing STC Rating (Fixed Veneer)

86 & 70 Lynn Williams

Receptor ID	Source Description	Sound Levels		Room / Façade Inputs					Source Inputs		Veneer - Component 1		Glazing - Component 2	
		Façade Sound Level: (dBA)	Required Indoor Sound Level: (dBA)	Glazing as % of Wall Area	Exposed Wall Height (m)	Exposed Wall Length (m)	Room Depth (m)	Room Absorption:	Incident Sound Angle: (deg)	Spectrum type:	Assumed Veneer STC (STC)	Component Category:	Component Category:	Require Glazing STC (STC)
DAYTIME														
2-6 - North	Railway, Loco, Daytime	65	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	29
2-6 - East	Railway, Loco, Daytime	61	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	25
2-6 - South	Railway, Loco, Daytime	54	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	18
2-6 - West	Railway, Loco, Daytime	64	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	28
7-42 - North	Railway, Loco, Daytime	65	40	50%	2.8	3.0	6.0	Intermediate	40 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	31
7-42 - East	Railway, Loco, Daytime	63	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	27
7-42 - South	Railway, Loco, Daytime	58	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	22
7-42 - West	Railway, Loco, Daytime	64	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	28
NIGHT-TIME														
2-6 - North	Railway, Loco, Night-time	61	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	25
2-6 - East	Railway, Loco, Night-time	58	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	22
2-6 - South	Railway, Loco, Night-time	50	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	14
2-6 - West	Railway, Loco, Night-time	61	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	25
7-42 - North	Railway, Loco, Night-time	62	40	50%	2.8	3.0	6.0	Intermediate	40 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	28
7-42 - East	Railway, Loco, Night-time	60	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	24
7-42 - South	Railway, Loco, Night-time	54	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	18
7-42 - West	Railway, Loco, Night-time	60	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	24

BPN 56 Calculation Procedure - Required Glazing STC Rating (Fixed Veneer)

86 & 70 Lynn Williams

Receptor ID	Source Description	Sound Levels		Room / Façade Inputs					Source Inputs		Veneer - Component 1		Glazing - Component 2	
		Façade Sound Level: (dBA)	Required Indoor Sound Level: (dBA)	Glazing as % of Wall Area	Exposed Wall Height (m)	Exposed Wall Length (m)	Room Depth (m)	Room Absorption:	Incident Sound Angle: (deg)	Spectrum type:	Assumed Veneer STC (STC)	Component Category:	Component Category:	Require Glazing STC (STC)
DAYTIME														
2-6 - North	Railway, Loco, Daytime	65	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	33
2-6 - East	Railway, Loco, Daytime	61	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	28
2-6 - South	Railway, Loco, Daytime	54	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	21
2-6 - West	Railway, Loco, Daytime	64	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	31
7-42 - North	Railway, Loco, Daytime	65	40	50%	2.8	3.0	3.0	Intermediate	40 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	35
7-42 - East	Railway, Loco, Daytime	63	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	30
7-42 - South	Railway, Loco, Daytime	58	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	25
7-42 - West	Railway, Loco, Daytime	64	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	31
2-6 - North	Railway, Loco, Night-time	61	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	34
2-6 - East	Railway, Loco, Night-time	58	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	30
2-6 - South	Railway, Loco, Night-time	50	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	22
2-6 - West	Railway, Loco, Night-time	61	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	34
7-42 - North	Railway, Loco, Night-time	62	35	50%	2.8	3.0	3.0	Intermediate	40 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	37
7-42 - East	Railway, Loco, Night-time	60	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	33
7-42 - South	Railway, Loco, Night-time	54	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	26
7-42 - West	Railway, Loco, Night-time	60	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	F. diesel railway locomotive	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	33

BPN 56 Calculation Procedure - Required Glazing STC Rating (Fixed Veneer)

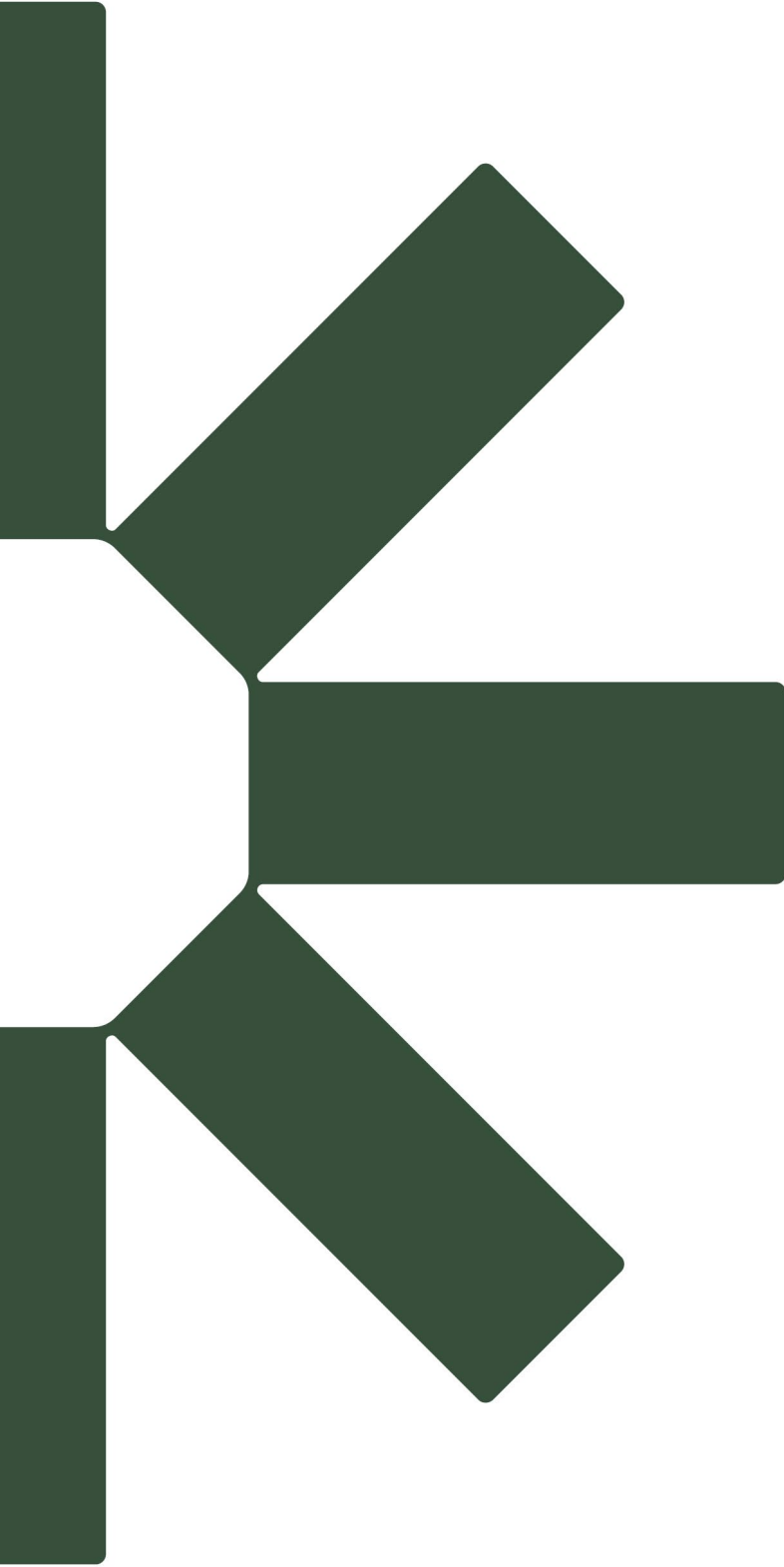
86 & 70 Lynn Williams

Receptor ID	Source Description	Sound Levels		Room / Façade Inputs					Source Inputs		Veneer - Component 1		Glazing - Component 2	
		Façade Sound Level: (dBA)	Required Indoor Sound Level: (dBA)	Glazing as % of Wall Area	Exposed Wall Height (m)	Exposed Wall Length (m)	Room Depth (m)	Room Absorption:	Incident Sound Angle: (deg)	Spectrum type:	Assumed Veneer STC (STC)	Component Category:	Component Category:	Require Glazing STC (STC)
DAYTIME														
2-6 - North	Railway, Cars, Daytime	59	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	18
2-6 - East	Railway, Cars, Daytime	56	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	15
2-6 - South	Railway, Cars, Daytime	49	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	8
2-6 - West	Railway, Cars, Daytime	59	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	18
7-42 - North	Railway, Cars, Daytime	60	40	50%	2.8	3.0	6.0	Intermediate	40 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	21
7-42 - East	Railway, Cars, Daytime	58	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	17
7-42 - South	Railway, Cars, Daytime	54	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	13
7-42 - West	Railway, Cars, Daytime	59	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	18
2-6 - North	Railway, Cars, Night-time	56	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	15
2-6 - East	Railway, Cars, Night-time	52	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	11
2-6 - South	Railway, Cars, Night-time	45	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	4
2-6 - West	Railway, Cars, Night-time	55	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	14
7-42 - North	Railway, Cars, Night-time	56	40	50%	2.8	3.0	6.0	Intermediate	40 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	17
7-42 - East	Railway, Cars, Night-time	54	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	13
7-42 - South	Railway, Cars, Night-time	50	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	9
7-42 - West	Railway, Cars, Night-time	55	40	50%	2.8	3.0	6.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	14

BPN 56 Calculation Procedure - Required Glazing STC Rating (Fixed Veneer)

86 & 70 Lynn Williams

Receptor ID	Source Description	Sound Levels		Room / Façade Inputs					Source Inputs		Veneer - Component 1		Glazing - Component 2	
		Façade Sound Level: (dBA)	Required Indoor Sound Level: (dBA)	Glazing as % of Wall Area	Exposed Wall Height (m)	Exposed Wall Length (m)	Room Depth (m)	Room Absorption:	Incident Sound Angle: (deg)	Spectrum type:	Assumed Veneer STC (STC)	Component Category:	Component Category:	Require Glazing STC (STC)
DAYTIME														
2-6 - North	Railway, Cars, Daytime	59	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	21
2-6 - East	Railway, Cars, Daytime	56	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	18
2-6 - South	Railway, Cars, Daytime	49	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	11
2-6 - West	Railway, Cars, Daytime	59	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	21
7-42 - North	Railway, Cars, Daytime	60	40	50%	2.8	3.0	3.0	Intermediate	40 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	24
7-42 - East	Railway, Cars, Daytime	58	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	20
7-42 - South	Railway, Cars, Daytime	54	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	16
7-42 - West	Railway, Cars, Daytime	59	40	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	21
2-6 - North	Railway, Cars, Night-time	56	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	23
2-6 - East	Railway, Cars, Night-time	52	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	19
2-6 - South	Railway, Cars, Night-time	45	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	12
2-6 - West	Railway, Cars, Night-time	55	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	22
7-42 - North	Railway, Cars, Night-time	56	35	50%	2.8	3.0	3.0	Intermediate	40 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	25
7-42 - East	Railway, Cars, Night-time	54	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	21
7-42 - South	Railway, Cars, Night-time	50	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	17
7-42 - West	Railway, Cars, Night-time	55	35	50%	2.8	3.0	3.0	Intermediate	0 - 90	B. avg aircraft, railway wheel noise	45	D. sealed thick window, or exterior wall, or roof/ceiling	C. sealed thin window, or openable thick window	22



Making Sustainability Happen