

# Review of Gerrard-Carlaw South TOC Noise and Vibration Considerations



Ontario Line Technical Advisor

*Toronto, Ontario*

December 2022

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## Sign-Off Sheet

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# 1 Introduction

Stantec Consulting Ltd., as part of Ontario Line Technical Advisor (OLTA), has reviewed the massing drawings for the proposed Gerrard-Carlaw South transit-oriented community (TOC). The drawings and associated impacts have been considered with respect to the following:

- Compliance with provincial regulations from a land use planning perspective
- Recommendations made in the publicly released environmental impact assessment report (EIAR) for the Ontario Line (OL)

The purpose of this report is:

- A) to determine if noise and vibration impacts of the Ontario Line (OL) on the proposed future TOC comply with the provincial limits from a land use planning perspective and to recommend receptor-based mitigation measures and/or upgrades needed in the design at the planning approval stage; and
- B) to review potential OL noise and vibration impacts due to the addition of this TOC (a new point of reception) and to review whether this assessment would meet the same project requirements included in the noise and vibration impact assessment report appended to the EIAR (OLTA, Noise and Vibration Impact Assessment Report, April 2022).

Each of these perspectives on the potential impacts with regards to the TOC are discussed separately in Sections 3 and 4 of this report.

## 2 Documents Considered in Assessment

The following documents and drawings were provided and reviewed for the purposes of this assessment:

- Gerrard-Carlaw TOC Massing Drawings prepared by SvN and dated October 4, 2022 (Attachment A), specifically, the files named as:  
10206938-TD012D1a-LKSRE-GERRARD-2022.10.04-PROGRESS SET and  
10206938-TD012D1b-LKSRE-GERRARD-2022.10.04-PROGRESS SET
- The final Ontario Line Environmental Impact Assessment Report (EIAR)<sup>1</sup>, April 2022
- The final OLTA Noise and Vibration Impact Assessment Report (NVIAR)<sup>2</sup>, April 2022, appended to the EIAR

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<sup>1</sup> Publicly available at [Full Report - Environmental Impact Assessment Report | Metrolinx Engage](#)

<sup>2</sup> Publicly available at [Noise and Vibration Impact Assessment Report \(metrolinxengage.com\)](#)

- The Ministry of Environment, Conservation and Parks (MECP) NPC-300 noise guideline: Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning Publication NPC-300, August 2013
- International Organization for Standardization (ISO), ISO 9613-2. Attenuation of sound during propagation outdoors – Part 2: General method of calculation. Geneva, Switzerland, 2017
- Federal Transit Administration (US FTA), U.S. Department of Transportation, Transit Noise and Vibration Impact Assessment Manual, September 2018

This review is based on the drawings provided at the time of preparing this report and considers the analysis included for the final noise and vibration impact assessment report for OL as of April 2022 (OLTA, NVIAR). The discussion within this report is limited to the information available at the time of preparing this report.

### 3 Impact of Ontario Line Project on the Gerrard-Carlaw South TOC

The Gerrard-Carlaw South TOC is a proposed new land development that will be adjacent to the proposed OL Infrastructure. It comprises Dickens block, Carlaw block, Thackeray block, and Badgerow block. Of these blocks, Dickens, Carlaw and Thackeray are predominantly residential and are assessed in this report. Badgerow block is commercial and is not assessed.

This section of the report will discuss the potential noise and vibration impacts that the OL project may have on the proposed TOC development and the TOC's compliance with the applicable provincial limits from a land use planning perspective.

OL tracks and other Joint Corridor tracks, which include tracks for both GO and VIA trains, are at the grade level and are exposed to the proposed TOC at this location. No stationary noise sources at Gerrard Station are identified that could potentially impact the Gerrard-Carlaw South TOC at this time. Therefore, this review is focused only airborne-noise from train passbys and train idling at the station, and vibration impact from train passbys.

#### 3.1 Noise Criteria for TOC

The Ministry of Environment, Conservation and Parks (MECP) NPC-300 noise guideline (Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning Publication NPC-300, August 2013) is considered as the appropriate guideline for this discussion.

As per NPC-300, the Gerrard-Carlaw South TOC is required to meet the indoor sound level limits for transportation noise and the daytime outdoor sound level limit for designated Outdoor Living Areas (OLAs). These limits are shown in Table 3-1.

**Table 3-1. Sound Level Limits for Transportation Noise (Rail) <sup>1</sup>**

Type of Space	Leq,16hr (dBA) 07:00 – 23:00	Leq,8hr (dBA) 23:00 – 07:00	Notes
Living/dining <sup>2</sup>	40	40	Indoor noise limit
Sleeping quarters <sup>2</sup>	40	35	Indoor noise limit
Outdoor living area <sup>3</sup>	55	n/a	Outdoor noise limit Applies to common outdoor living areas associated with high-rise multi-unit buildings. Does not apply to balconies and elevated terraces less than 4m deep that are not enclosed.
Living/dining/sleeping <sup>4</sup>	60	55	Outdoor “design limit” above which building components to achieve indoor limit must be specified

Table notes:

1. Road traffic limits are excluded as this assessment is focused on rail noise impact only
2. NPC-300 Table C-2
3. NPC-300 Table C-1
4. NPC-300 Section 7.2.3

Section 7.2.3 of the MECP NPC-300 recommends that rail noise control measures be included if the nighttime sound level outside the bedroom or living/dining room windows exceeds 55 dBA or the daytime sound level outside the bedroom or living/dining area windows exceeds 60 dBA. Building components including windows, walls and doors, where applicable, need to be designed so that the indoor sound levels comply with the sound level limits (Table 3-1). Therefore, acoustical performance of the building components (windows, doors and walls) will be evaluated when predicted outdoor sound levels exceed the limit. The 60/55 dBA day/night “design limit” from NPC-300 has been adopted for the Gerrard-Carlaw South TOC noise impact assessment at Plane of Window (POW) receptor locations.

Although the limit for OLAs is 55 dBA, predicted noise levels between 55 dBA and 60 dBA may be acceptable if the future occupants are made aware of the potential noise problems through appropriate warning clauses (Type A).

In addition, MECP NPC-300 specifies that the exterior walls of the first row of dwellings next to railway tracks are to be built to a minimum of brick veneer or masonry equivalent construction, from the foundation to the rafters when the rail traffic  $L_{eq(24-hour)}$ , estimated at a location of a nighttime receptor, is greater than 60 dBA, and when the first row of dwellings is within 100 metres (m) of the tracks.

## 3.2 Analysis of TOC Noise Levels

The main transportation noise sources impacting the proposed Gerrard-Carlaw South TOC are rail noise from the existing GO/VIA rail corridor and the future OL alignment, and road noise from Gerrard St East and Carlaw Ave. The current assessment includes rail noise impact from the OL trains (i.e., train passbys and idling trains at Gerrard Station) and from the existing GO/VIA rail traffic to determine the overall noise levels at the TOC façades. This report does not consider road noise since the focus of this assessment is to evaluate the potential impact between the OL Project and the TOC. However, Gerrard Street East and Carlaw Avenue road traffic noise should be included in the future land use planning assessments for the Gerrard-Carlaw South TOC.

Noise impacts from these rail sources were predicted using the CADNA/A noise model, which implements the ISO 9613-2 standard and US FTA algorithm for rail noise. The modelling uses the following assumptions:

- Simplified massing of TOC building with smooth façades (sound reflective).
- Simplified massing of the Gerrard Station building.
- A composite ground absorption factor in the range of 0.2-0.7 is considered for the Project ( $G = 0.20$  representing hard paving and  $G = 0.7$  for the corridor, parks and other adjacent areas).
- Grading included for the elevated rail corridor and areas immediately adjacent to the rail corridor, with TOC grading simplified to match the "low point" elevation shown in elevation drawings.
- Crash walls (CWs) modelled as currently designed, with south CW (Dickens block) modelled to 6.15 m above local rail height and north CW (Badgerow block) modelled to 4.85 m above local rail height.
- Optimized noise barriers as designed by Hatch (Hatch, November 2021; April 2022) are included in the model.
- Train volumes for the Ontario Line as indicated in EIAR are included in the noise model.
- Train volumes for the Joint Corridor (GO/VIA and Freight) as indicated in EIAR Appendix Q (AECOM Noise and Vibration Operations Report: Ontario Line - Lakeshore East Joint Corridor, AECOM, 2021).

Train volumes considered in this review are summarized in Appendix B.

The worst-impacted facades and locations were chosen for receptors in the noise model. Plane of Window (POW) receptors were then modelled for Levels 4 and 8 on Dickens block and Carlaw block, and on Level 8 for Thackeray block for the representative windows. For each block, one OLA receptor was modelled for the outdoor amenity area (Level 7 for Carlaw and Dickens, and Level 12 for Thackeray), at a height of 1.5 m above the floor level.

A total of fourteen (14) representative POW receptors on building facades and three (3) OLA receptor were chosen for this assessment. Receptor locations are indicated in Appendix A on the October 4, 2022 drawing set. Table 3-2 and Table 3-3 provide results for the modelled receptors.

**Table 3-2. Dickens Block: Rail Noise Assessment Results**

Receptor ID	Assessed Receptor Location Description (Drawing ID, Location, Level, Section Lines <sup>1</sup> )	Noise Criteria (dBA)		Noise Impact with Joint Corridor			
				Predicted Outdoor Noise Levels (dBA)		Exceedance (dB)	
		Day (Leq <sub>16hr</sub> )	Night (Leq <sub>8hr</sub> )	Day (Leq <sub>16hr</sub> )	Night (Leq <sub>8hr</sub> )	Day	Night
R01	DKS_POW_L4_SE_S, Podium, Level 4, aB to aC / a1	60	55	65	60	5	5
R02	DKS_POW_L4_NW_S, Podium, Level 4, aB / a2 to a3	60	55	71	66	11	11
R03	DKS_POW_L4_NW_N, Podium, Level 4, aK / a14	60	55	71	66	11	11
R04	DKS_POW_L4_NE_N, Podium, Level 4, aM / a13	60	55	64	59	4	4
R05 <sup>2</sup>	DKS_OLA_L7, Exterior Amenity, Level 7, aK / a6 to a7	55	N/A	63	N/A	8	N/A
R06	DKS_POW_L8_SW_S, South Tower, Level 8, aB to aC / a4 to a5	60	55	70	65	10	10
R07	DKS_POW_L8_NW_S, South Tower, Level 8, aC to aD / a5 to a6	60	55	70	65	10	10
R08	DKS_POW_L8_SW_N, North Tower, Level 8, aH to aI / a12 to a13	60	55	71	66	11	11
R09	DKS_POW_L8_NW_N, North Tower, Level 8, aI to aJ / a13 to a14	60	55	71	66	11	11

Table notes:

1. Section lines from drawings 312T204D1a, 312T209D1a, and 312T223D1a.
2. Receptor is an Outdoor Living Area (OLA).



Table 3-3. Carlaw Block, Thackeray Block: Rail Noise Assessment Results

Receptor ID	Assessed Receptor Location Description (Drawing ID, Location, Level, Section Lines <sup>1</sup> )	Noise Criteria (dBA)		Noise Impact with Joint Corridor			
				Predicted Outdoor Noise Levels (dBA)		Exceedance (dB)	
		Day (Leq <sub>16hr</sub> )	Night (Leq <sub>8hr</sub> )	Day (Leq <sub>16hr</sub> )	Night (Leq <sub>8hr</sub> )	Day	Night
R10	CLW_POW_L4_SW, Podium, Level 4, M / 16 to 17	60	55	68	63	8	8
R11	CLW_POW_L4_NW, Podium, Level 4, M to L / 18	60	55	68	63	8	8
R12 <sup>2</sup>	CLW_OLA_L7, Exterior Amenity, Level 7, N' / 11'	55	N/A	61	N/A	6	N/A
R13	CLW_POW_L8_NW, Tower, Level 8, M to L / 16 to 17	60	55	69	65	9	10
R14	CLW_POW_L8_SW, Tower, Level 8, L to N' / 17 to 18	60	55	69	64	9	9
R15	THK_POW_L8_SW, Podium, Level 8, M / 4 to 5	60	55	61	56	1	1
R16	THK_POW_L8_NW, Podium, Level 8, L / 5	60	55	61	57	1	2
R17 <sup>2</sup>	THK_OLA_L12, Exterior Amenity, Level 12, K' / 2 to 3	55	N/A	63	N/A	8	N/A

Table notes:

1. Section lines from drawings 312T205D1b and 312T208D1b, 312T209D1b, and 312T212D1b.
2. Receptor is an Outdoor Living Area (OLA).

### 3.3 Discussion of Noise Results and Mitigations Related to TOC

The predicted noise levels from the rail noise sources show that sound levels at POW and OLA receptors are expected to exceed the "design noise limits" provided in Table 3-1 (day/night limits of 60/55 dBA for POW and daytime noise limit of 55 dBA for OLAs).

Combined rail noise (OL and other trains) at the POW receptors exceeded by:

- 10-11 dB on the façades facing the rail corridor, and 4-5 dB on other facades with some shielding from the TOC building(s) for Dickens block;
- 8-9 dB on façades facing the rail corridor for Carlaw block; and
- 1 dB on facades facing the rail corridor for Thackeray block that got some shielding from other TOC building(s).

Combined rail noise (OL and other trains) at the OLA receptors exceeded by:

- 6-8 dB during daytime for all TOC buildings.

As per the guideline (MECP NPC-300), the acoustical performances of building components (windows, doors and walls) are to be designed to achieve the indoor noise limit of 40/35 dBA (day/night). This design consideration is required for all facades facing the rail corridor with direct line of sight (no shielding). For the facades facing the rail corridor that are shielded or partially shielded by other TOC buildings require experience lower sound levels.

Based on the predicted outdoor sound levels on the TOC facades, preliminary window glazing requirements were estimated to meet the indoor limits. As per the NPC-300 guideline, it is also required that the exterior walls of the TOC to be built to a minimum of brick veneer or masonry equivalent construction. Therefore, a brick veneer wall was considered for exterior to estimate the minimum Sound Transmission Class (STC) rating requirements for the windows and doors.

Based on the outdoor noise modelling results and the brick veneer or masonry equivalent construction required for the exterior wall, the STC rating for glazing will be higher than building code standard ratings. For example, at the worst-case locations that exceed the design limit by 10-11 dB, the following ratings for windows may be required to achieve the 40/35 dBA (day/night) indoor limit:

- For 50% wall and 50% window construction (assuming inoperable windows), STC-39.
- For 100% glazing (assuming inoperable windows), STC-41.

An example of a window construction to achieve STC-39 is a sealed window frame with ¼" laminated interior glass, ½" air gap and ¼" standard exterior glass, or similar. A better configuration with thicker glass and/or air gap is required for STC-41. Additionally, 2 m parapet walls are required for the common amenity areas on all assessed blocks to mitigate sound levels during daytime use (see Attachment A annotated drawing sets). The 2 m parapet walls are recommended to bring sound levels down to 58 dBA for Dickens block, 57 dBA for Carlaw block,

and 56 dBA for Thackeray block. These noise levels are acceptable for these OLAs with an appropriate noise warning clause.

The following noise warning clauses may be required, depending on the sound level after noise mitigation, to include in the agreements of Offers of Purchase and Sale, lease/rental agreements and condominium declarations:

- TYPE A: “Purchasers/tenants are advised that sound levels due to increasing road, rail and/or air traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the MECP.”
- TYPE B: “Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road, rail and/or 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 MECP.”
- TYPE C: “This dwelling unit has been designed with the provision for adding central air conditioning at the occupant’s discretion. Installation of central air conditioning by the occupant in low and medium density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the MECP.”
- TYPE D: “This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the MECP.”

### 3.4 Vibration Criteria for TOC

The Gerrard-Carlaw South TOC is a new land development that would be adjacent to the OL Project. To assess vibration impacts from the rail transportation sources to the Gerrard-Carlaw South TOC, the guidelines described in the US FTA Manual (2018) are considered for rail vibration impact assessment:

**Table 3-4. Applied Criteria for Operational Vibration Assessment**

Type of Receptor	Ground-borne Vibration (GBV) - Limit <sup>1</sup>	Ground-borne Noise (GBN) - Limit <sup>1</sup>
Residence	0.1 mm/s (72 VdB)	35 dBA
Institutional/Commercial (Office)	0.14 mm/s (75 VdB)	40 dBA

Table note:

<sup>1</sup> VdB is reference to 1 micro-in/s; velocity is in RMS; dBA is reference to 20 micro-Pa.

### 3.5 Vibration Impact of OL on TOC Buildings

The assessment was conducted in accordance with the US FTA Manual (2018) with the adjustment factors and assumptions as summarized in Table 3-5. For the assessment of operational vibration, the analysis methodology described in the US FTA Manual has been used along with assumptions and mitigation recommendations included in the NVIAR (OLTA, April 2022) for the train operations. This assessment assumes inefficient soil propagation due to separation of the TOC buildings from the track support with retaining wall.

**Table 3-5. Rail Vibration Model Inputs and Assumptions**

	Source/Path Factor	Parameters and Assumptions
Train Definition	Train Type	LRT
	Train Speed <sup>1</sup>	80 km/h
	Stiff Suspension	No
	Resilient Wheels	No
	Worn Wheels	No
Rail Definition	Rail Type	Continuous Welded Rail
	Worn or Corrugated Track	No
	Special Trackwork	No
Path Definition	Efficient Propagation in Soil	No
	Propagation in Rock Layer	No
	Coupling Loss	Yes
GBN Conversion	Dominant Frequency	Low (< 30 Hz)

Table note:

1. The maximum OL train speed is considered assuming before and after revenue service operation. This is considered the worst-case (conservative) operation scenario based on the pre- and post-hour service deployment in which the train may not stop at the station.

Rail operational activities are not expected to generate vibration levels exceeding the Ground-Borne Vibration (GBV) and Ground-Borne Noise (GBN) limits at the residential and office spaces of the Gerrard-Carlaw South TOC without any vibration mitigation measures as described in the NVIAR (OLTA, April 2022) on the track.

Assessment of potential GBV and GBN at residential floors (Level 1 and Level 3) and office floor (Level 1) for Gerrard-Carlaw South TOC is based on the information provided (see Section 2). Predicted GBV and GBN at the nearest TOC receptors are summarized in Table 3-6. The analysis predicts that indoor GBV and GBN meet the criteria in Table 3-4.

Table 3-6. Rail Vibration Assessment Results (Dickens Block)

Assessment Position	GBV Criteria (mm/sec)	GBN Criteria (dBA, ref. 20 µ-Pa)	Predicted Indoor GBV (mm/sec)	Predicted Indoor GBN (dBA, ref. 20 µ-Pa)
Level 1 – Residence	0.1	35	0.050	16
Level 3 – Residence	0.1	35	0.028	11
Level 1 – Office	0.14	40	0.040	14

### 3.6 Noise and Vibration Mitigation for Gerrard-Carlaw South TOC

OLTA has completed a review of the potential noise and vibration impacts from the OL project on the Gerrard-Carlaw South TOC, and our findings are summarized below.

- The Gerrard-Carlaw South TOC is expected to experience higher sound level than the MECP limit of 60/55 dBA (daytime/nighttime) at the bedroom or living/dining room façade/windows (outside) from rail impacts alone. As a result, building components (windows and wall) were evaluated to demonstrate how the indoor noise limit of 40/35 dBA (daytime/nighttime) can be achieved:
  - Due to proximity to the Joint Corridor and high sound levels on the building façade, the exterior walls of the TOC should be constructed of brick veneer, masonry, or equivalent construction as per the guidelines.
  - Based on the outdoor façade noise levels and the expected exterior wall construction (brick veneer or masonry equivalent construction), STC as high as STC-39 to STC-41 may be required for inoperable windows along façades facing the rail corridor, depending on the percentage of wall area that is glazed. The façades that experience lower noise levels (e.g., facades with some shielding from adjacent TOC buildings) require lower STCs than these.
- The sound levels at the outdoor amenities are expected to exceed the MECP limit of 55 dBA for OLAs during daytime. The exceedance is due to the combined Joint Corridor rail traffic rather than OL traffic alone. Parapet walls of 2 m high are required for the common amenity areas to mitigate sound levels to below 60 dBA, which is allowed with a warning clause.
- Noise warning clauses may be required for the units that experience high sound levels and they should be included in the agreements of Offers of Purchase and Sale, lease/rental agreements.
- This assessment does not consider road traffic noise, rather it focussed on rail noise and assumes that road noise is less significant than noise impacts from rail. However, OLTA acknowledges that the NPC-300 guideline does combine both rail and road noise in the assessment. Combined rail noise and road noise should be considered when a detailed acoustic assessment of the site is conducted in the future, as part of the detailed design of the Project.

5. Predicted GBV and GBN levels are expected to meet the criteria at the Gerrard-Carlaw South TOC. No additional mitigation is required.

This assessment of TOC land use planning rail noise impacts is provided as a preliminary consideration of impacts and expected design and mitigation requirements. OLTA expects that the TOC shall retain their own acoustic consultant to complete a noise and vibration impact study for the TOC as part of permit application, and should consider all impacts (including road) on the TOC.

## 4 Impact of Gerrard-Carlaw South TOC as an Additional Receptor on EIAR Requirements

The Gerrard-Carlaw South TOC has the potential, as an additional receptor, to impact the requirements as outlined in the Noise and Vibration Impact Assessment Report (OLTA, April 2022). However, this assessment does not seek to modify these requirements. Instead, it reviews whether this assessment would meet the same requirements appended to the EIAR (OLTA, Noise and Vibration Impact Assessment Report, April 2022).

The proposed Gerrard-Carlaw South TOC is at a similar setback distance from the OL Project for the other nearby receptors (i.e., existing residential receptors) assessed in the EIAR NVIAR (OLTA, April 2022). The Gerrard-Carlaw South TOC does not introduce a new receptor type with more stringent noise limits than existing dwellings. Therefore, the proposed TOC or its location is not expected to impact the requirements outlined in the NVIAR. The OL is expected to comply with its operational noise and vibration criteria with the introduction of the proposed Gerrard-Carlaw South TOC.

Construction of the Gerrard-Carlaw South TOC is expected to occur after the completion of Gerrard Station and the Ontario Line. Therefore, the potential noise and vibration impacts during construction of OL elements is not a concern and not reviewed in this report.

## 5 Closing

Stantec, as part of OLTA, has reviewed the massing drawings for the Gerrard-Carlaw South TOC. The drawings and associated impacts have been considered with respect to compliance with provincial regulations from a land use planning perspective as well as with respect to the recommendations made in the publicly released EIAR for the OL Project.

# Appendix A. Gerrard-Carlaw South TOC Design Documents

# ONTARIO LINE

## INTEGRATED TRANSIT ORIENTED COMMUNITY

### DICKENS BLOCK

DRAWING NUMBER	DRAWING NAME
312T000D1a	COVER
312T001D1a	CONTEXT MASSING
312T003D1a	PROJECT STATISTICS
312T005	ROOF SITE PLAN
312T101D1a	BELOW GRADE LEVEL B2
312T102D1a	BELOW GRADE LEVEL B1
312T200D1a	10 DICKENS - LEVEL 01
312T201D1a	LEVEL 01 MEZZ
312T202D1a	LEVEL 02
312T204D1a	LEVEL 03-04
312T207D1a	LEVEL 05
312T208D1a	LEVEL 06
312T209D1a	LEVEL 07
312T223D1a	LEVEL 08-30 TYPICAL TOWER
312T224D1a	LEVEL 31
312T225D1a	LEVEL 32-39 TYPICAL TOWER
312T226D1a	LEVEL 33 / NORTH TOWER MECH ROOF
312T227D1a	LEVEL 40
312T228D1a	LEVEL 42 / SOUTH TOWER MECH ROOF
312T501D1a	SECTIONS

SHEET No. 312T000D1a.E: BIM 360://10206938\_OLTA\_Planning/10206938-TD012D1a-LKSRE-GERRARD.rvt



DRAFT

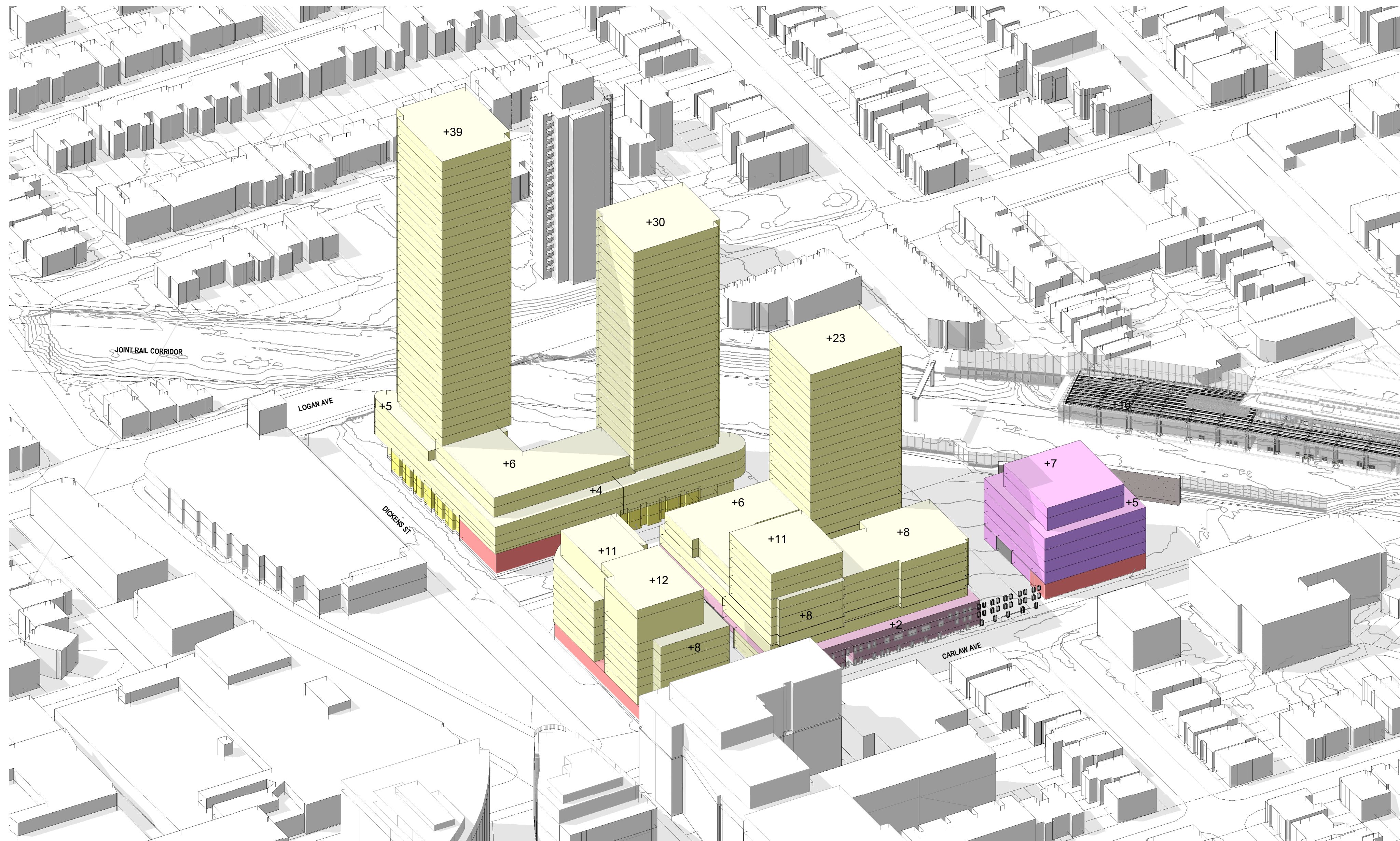
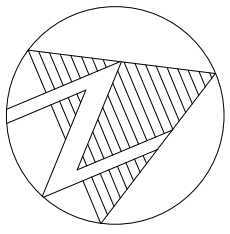
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STATION AREAS BY OTHERS ARE SHOWN FOR REFERENCE AND ARE NOT  
PART OF THIS APPLICATION

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Drawing Number  
312T000D1a





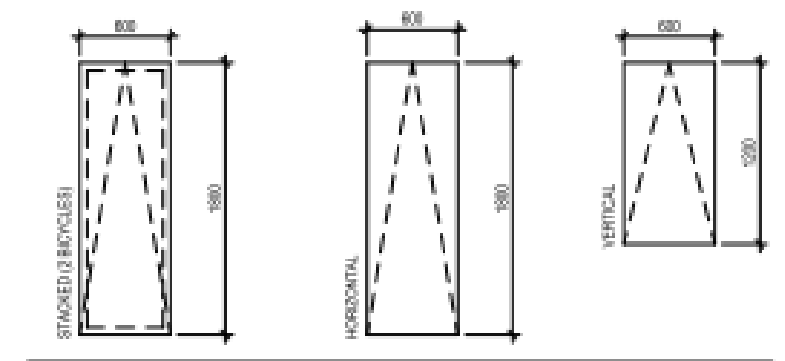
FOR INTERNAL REVIEW ONLY

SHEET No. 312T001D1a E: BIM 360/10206938\_OLTA\_Planning/10206938-TD012D1a-LKSRE-GERRARD.rvt

ISSUANCE		 NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	 ONTARIO LINE TECHNICAL ADVISOR	DESIGNED <u>M. CHOW</u> DRAWN <u>N. SHEWCHUCK, M. DUPIN</u> CHECKED <u>M. CHOW</u> APPROVED <u>A. GAUS</u>	ONTARIO LINE TITLE TOC LAKESHORE EAST   GERRARD SOUTH CONTEXT MASSING	Plot Date: 2022-10-03 3:54:49 PM  Infrastructure Ontario SCALE      DRAWING NUMBER 312T001D1a
DRAFT						

SHEET No. 312T002D1a E: BIM 360/10206938\_OLTA\_Planning/10206938-TD012D1a-LKSRE-GERRARD.rvt

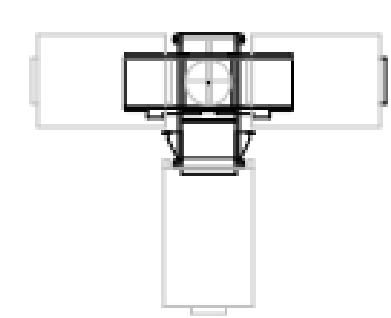
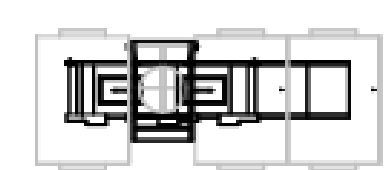
1B	ONE BEDROOM SUITE
2B	TWO BEDROOM SUITE
3B	THREE BEDROOM SUITE
AHU	AIR HANDLING UNIT
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
BC	BUILDING CODE
BLDG	BUILDING
BOH	BACK OF HOUSE SERVICE AREA
CACF	CENTRAL ALARM AND CONTROL FACILITY
DED	DEDUCTION
DIM	DIMENSION
DWG	DRAWING
EA	EXHAUST AIR
ECR	ELEVATOR CONTROL ROOM
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMR	ELEVATOR MACHINE ROOM
ESC	ESCALATOR
FLUE	FLUE VENT SHAFT
GCA	GROSS CONSTRUCTION AREA
GFA	GROSS FLOOR AREA
ITOC	INTEGRATED TRANSIT ORIENTED COMMUNITY
LT	LONG TERM
M	METRE
MAIL	RESIDENTIAL MAIL ROOM
MECH	MECHANICAL
MECH PH	MECHANICAL PENTHOUSE
NON-RES WASTE	NON-RESIDENTIAL WASTE ROOM
NTS	NOT TO SCALE
OAI	OUTSIDE AIR INTAKE
OBC	ONTARIO BUILDING CODE
OL	ONTARIO LINE
RCD	REFERENCE CONCEPT DESIGN
ROOF MECH	ROOF AREA FOR MECHANICAL EQUIPMENT
ROW	RIGHT OF WAY
RSA	RESIDENTIAL SALEABLE AREA
SPS	STAIR PRESSURIZATION SHAFT
ST	SHORT TERM
STUDIO	STUDIO SUITE
SWM ROOF	PERMEABLE ROOF FOR STORM WATER MANAGEMENT
TELECOM	TELECOMMUNICATIONS ROOM
TGS	TORONTO GREEN STANDARD
TOFR	TOP OF FINISHED ROOF
TOS	TOP OF SLAB
TYP	TYPICAL



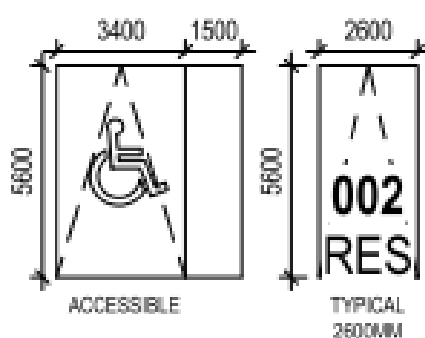
BICYCLE PARKING



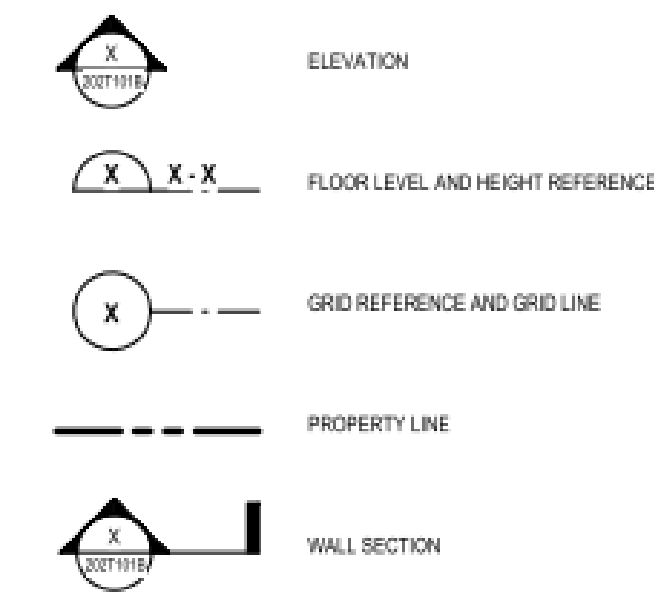
GARBAGE AND RECYCLING CHUTE



GARBAGE AND RECYCLING TRI-SORTER



PARKING



- TREE
- TREE IN GRATE
- TREES IN PLANTER
- PLANTERS WITH LOW VEGETATION
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- 250MM BOLLARD
- PEDESTRIAN LOLLIPOP SIGN
- PEDESTRIAN LIGHT
- WAYFINDING TOTEM
- LARGE LITTER RECEPTACLE
- WASTE SORTER RECEPTACLE
- TRANSIT STATION ENTRANCE
- ITOC ENTRANCE
- TRANSIT STATION SECONDARY ENTRANCE
- ITOC SECONDARY ENTRANCE
- VEHICULAR ENTRANCE
- BIKE RING
- INVERTED U-RING
- BIKE RACKS (8 BIKES)
- BIKE RACKS (16 BIKES)
- STACKED RACK (8 BIKES)
- BIKE SHARE STATION

- BIKE REPAIR STATION
- TTC SHELTER
- SEATING AREA
- TACTILE SIDEWALK PLATE
- VENT GRATE
- PEDESTRIAN CROSSING (AT SIGNALIZED INTERSECTIONS)
- PEDESTRIAN CROSSING (AT NON-SIGNALIZED INTERSECTIONS)
- ROAD SIGNAGE
- CURB RAMP
- WHEELS-TRANS PUDO
- 2 PERSON BENCH
- 4 PERSON BENCH

- TRANSIT STATION BY OTHERS
- GRAVEL ROOF
- PERMEABLE ROOF PAVERS
- GREEN ROOF/ AMENITY GREEN ROOF
- OL PAVING
- SIDEWALK PAVING
- ROAD
- GRASS
- EXISTING LANDSCAPING
- FURNISHING ZONE PAVING
- LANEWAY
- PLANTERS

ISSUANCE

DRAFT



DESIGNED Designer  
 DRAWN Author  
 CHECKED Checker  
 APPROVED Approver

ONTARIO LINE

TITLE

NOTES AND LEGEND

Plot Date: 2022-10-03 4:30:17 PM

SCALE: DRAWING NUMBER 312T002D1a

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PROJECT STATISTICS

MUNICIPAL ADDRESS: DICKENS BLOCK (10 DICKENS ST)  
BUILDING HEIGHT: 203.48m (39 STOREYS)

BUILDING STATISTICS

Table with 3 columns: AREAS, %, m². Rows include SITE AREA (EXISTING), GCA ABOVE GRADE, GFA TOTAL, FSI, etc.

UNIT DISTRIBUTION AND AMENITY AREAS

Table with 4 columns: UNIT TYPE, AREA m², REQUIRED, PROPOSED. Rows include STUDIO, 1B, 2B, 3B, AMENITY AREAS.

GREEN ROOF

Table with 2 columns: ROOF AREAS, m². Rows include TOTAL ROOF AREA, RESIDENTIAL PRIVATE TERRACES, etc.

Table with 3 columns: TGS TIER 4 V3, REQUIRED %, PROPOSED %. Rows include GREEN ROOF.

PARKING

Table with 4 columns: VEHICLE PARKING, RATIO, REQUIRED, PROPOSED. Rows include RESIDENTIAL STUDIO, RETAIL, VEHICLE PARKING TOTAL.

BICYCLE PARKING

Table with 4 columns: BICYCLE PARKING TGS TIER 3 V4, RATIO, REQUIRED, PROPOSED. Rows include RESIDENTIAL LONG TERM, BICYCLE PARKING TOTAL.

OCCUPANT LOADS

Table with 2 columns: OCCUPANT LOAD, PEOPLE. Rows include OCCUPANT LOAD RESIDENTIAL, OCCUPANT LOAD RETAIL, TOTALS.

LOADING AND WASTE COLLECTION

Table with 3 columns: LOADING AREAS, REQUIRED, PROPOSED. Rows include TYPE C RESIDENTIAL, TYPE G RESIDENTIAL, etc.

Table with 3 columns: WASTE COLLECTION AREAS, REQUIRED m², PROPOSED m². Rows include RESIDENTIAL WASTE ROOM, TOTAL WASTE COLLECTION AREA.

FLOOR AREAS (ITOC)

Large table with 12 columns: LEVEL, GCA, GFA DED, NRES GFA, RES GFA, RSA, 0B, 1B, 2B, 3B, UNITS. Rows list levels from B4 to 49 and a TOTALS row.

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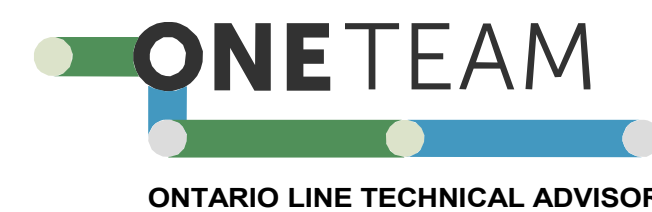
FOR INTERNAL REVIEW ONLY

ISSUANCE

DRAFT



NOT FOR ESTIMATING OR BIDDING  
NOT FOR CONSTRUCTION



ONTARIO LINE TECHNICAL ADVISOR

DESIGNED M. CHOW  
DRAWN N. SHEWCHUCK, M. DUPIN  
CHECKED M. CHOW  
APPROVED A. GAUS

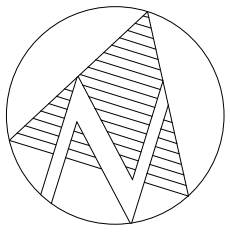
ONTARIO LINE

TITLE  
TOC  
LAKESHORE EAST | GERRARD  
PROJECT STATISTICS

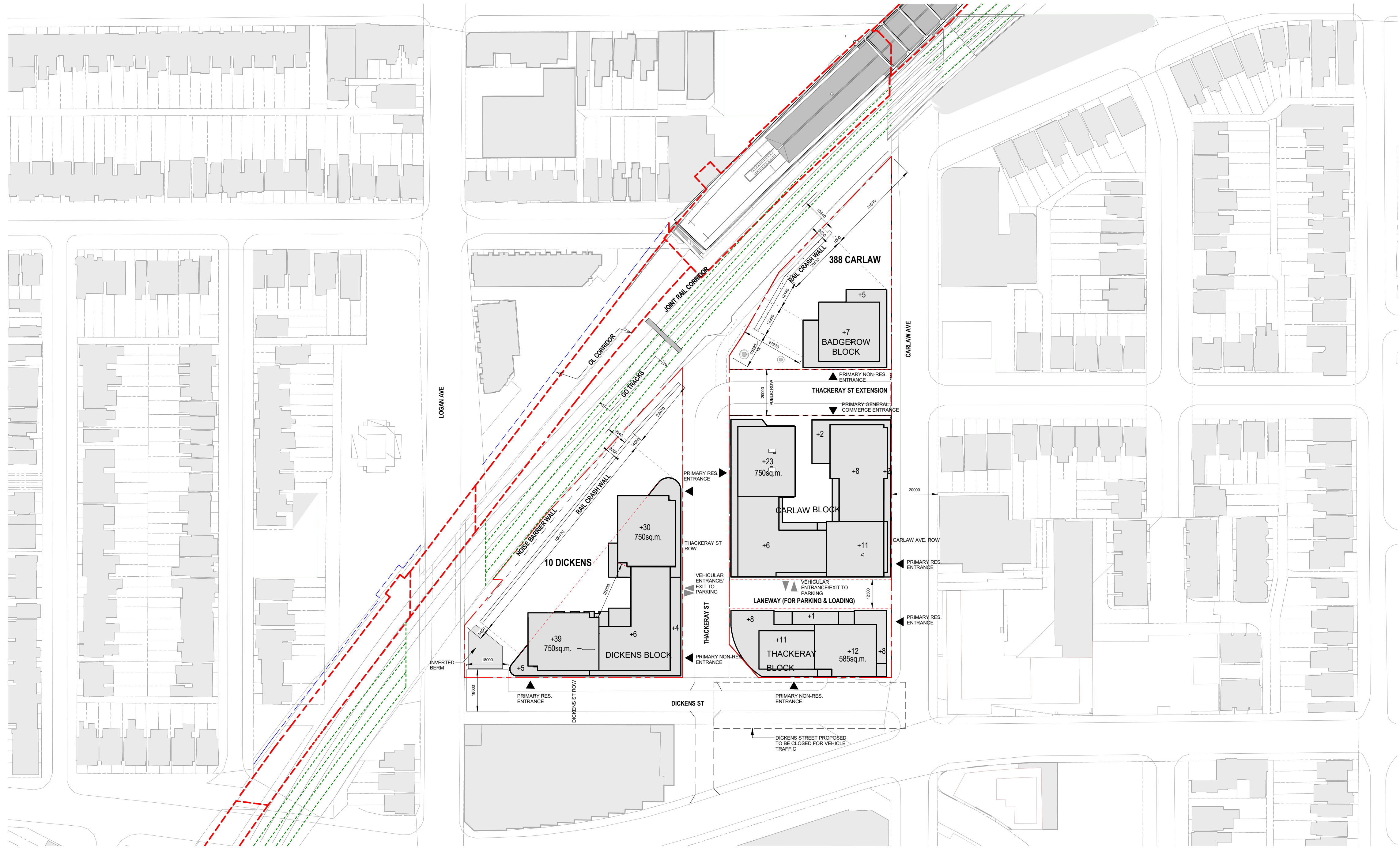
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SCALE  
DRAWING NUMBER  
312T003D1a



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SHEET No. 312T005 FILE: BIM 360://10206938\_OL.TA\_Planning/10206938-TD1012D1a-LKSR-GERRARD.rvt

ISSUANCE	SITE PLAN CORRESPONDS TO EARLY ENGAGEMENT CONCEPT PRESENTED TO CoT ON DEC 07, 2021
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DRAFT

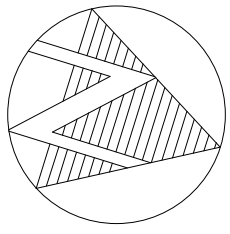
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NOT FOR CONSTRUCTION

**ONETEAM**  
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	_____
DRAWN	_____
CHECKED	_____
APPROVED	_____

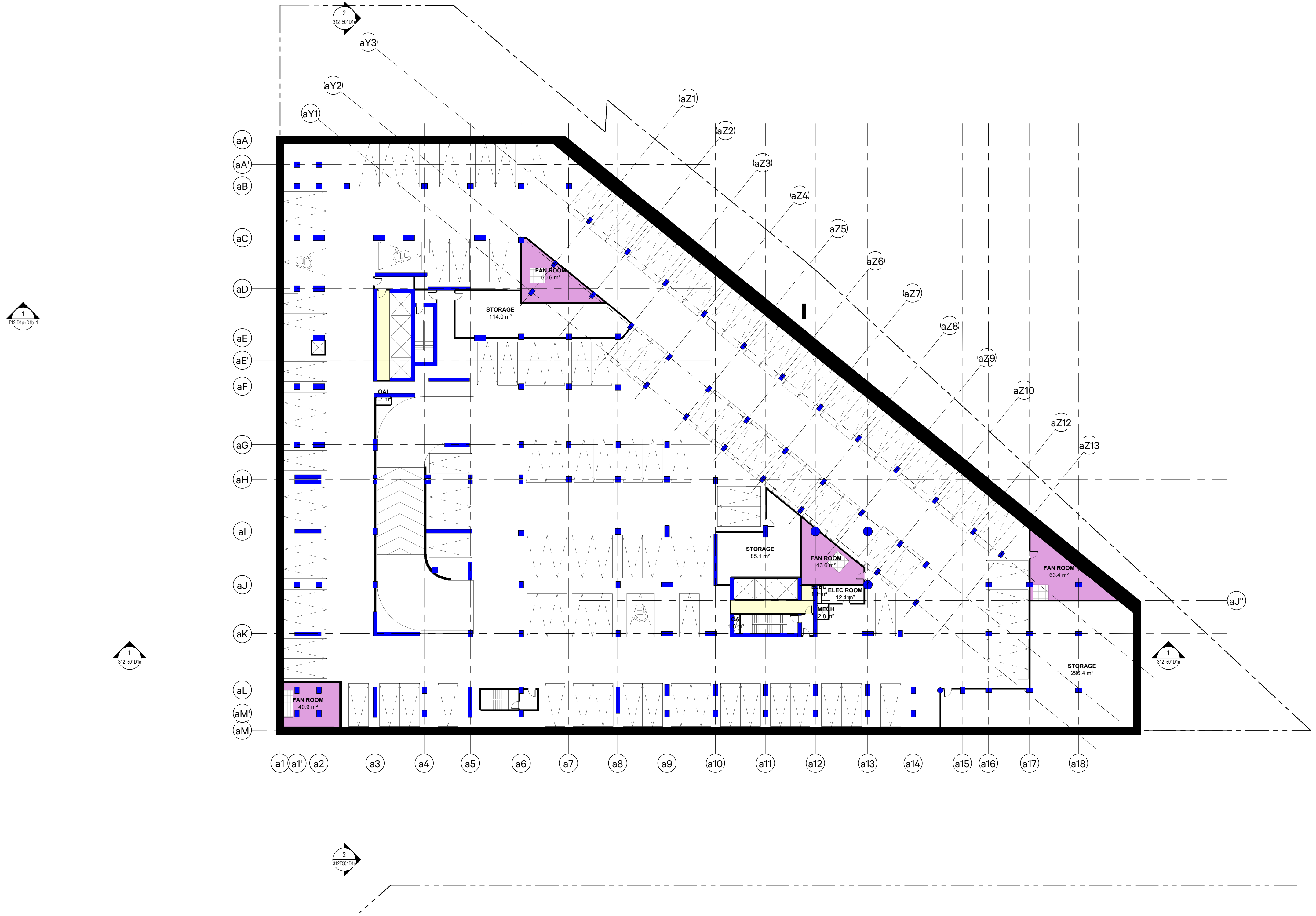
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TITLE  
TOC  
LAKESHORE EAST | GERRARD SOUTH  
ROOF SITE PLAN

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**METROLINX**  
Infrastructure Ontario  
SCALE 1 : 1000 DRAWING NUMBER 312T005



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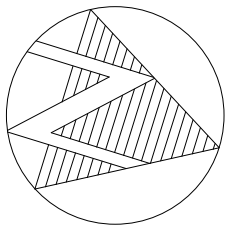
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NOT FOR ESTIMATING OR BIDDING  
NOT FOR CONSTRUCTION

**ONETEAM**  
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	M. CHOW
DRAWN	N. SHEWCHUCK, M. DUPIN
CHECKED	M. CHOW
APPROVED	A. GAUS

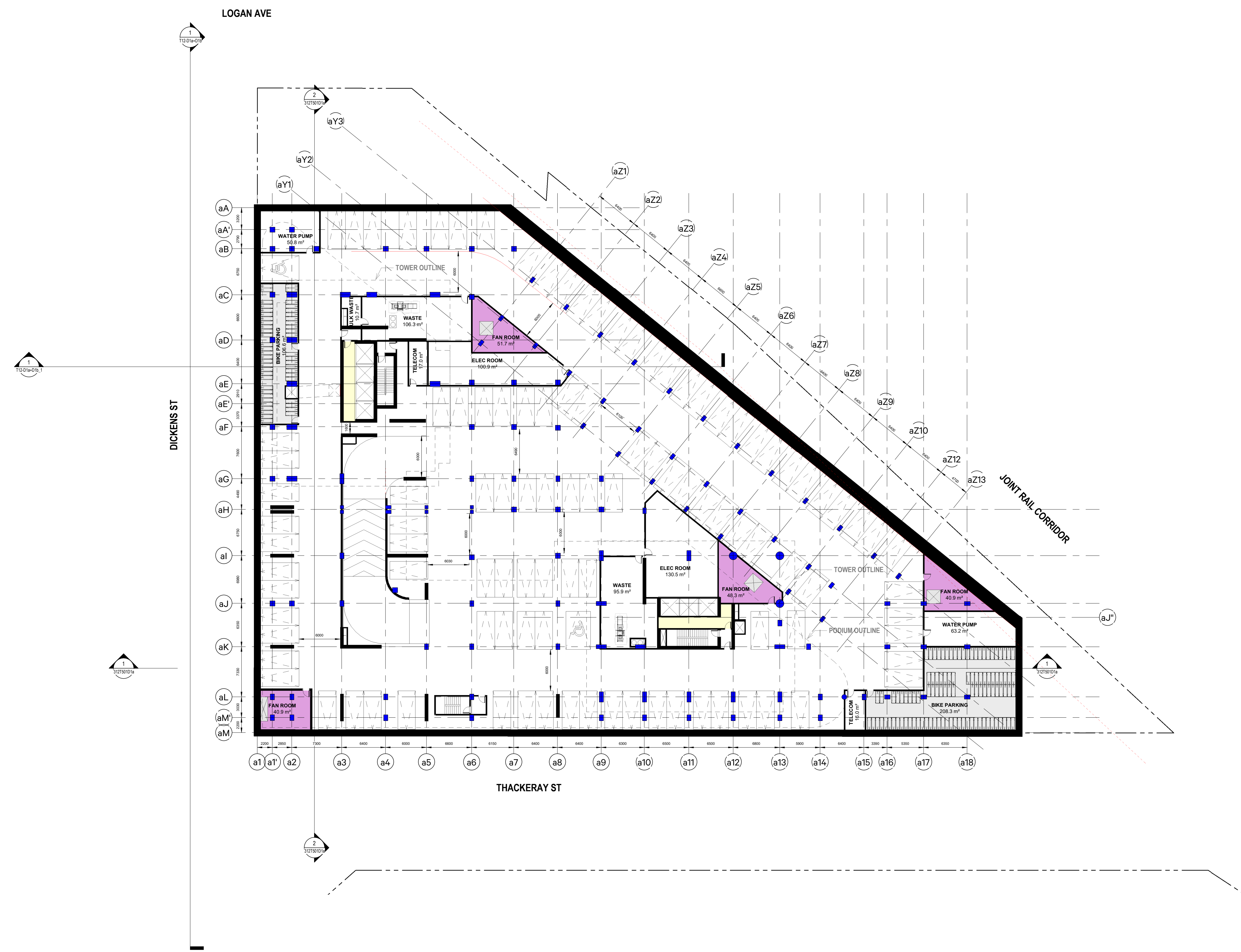
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ITOC  
LAKESHORE EAST | GERRARD  
BELOW GRADE LEVEL B2

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Infrastructure Ontario  
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DRAWING NUMBER 312T101D1a



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SHEET No. 312T102D1a.E: BIM 360://10206938\_OL.TA\_Planning/10206938-TD1012D1a-LKSR-GERRARD.rvt



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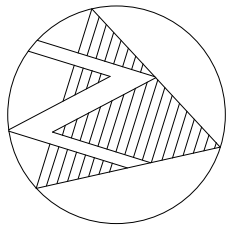
**ONETEAM**  
 ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	M. CHOW
DRAWN	N. SHEWCHUK, M. DUPIN
CHECKED	M. CHOW
APPROVED	A. GAUS

DESIGNED	M. CHOW
DRAWN	N. SHEWCHUK, M. DUPIN
CHECKED	M. CHOW
APPROVED	A. GAUS

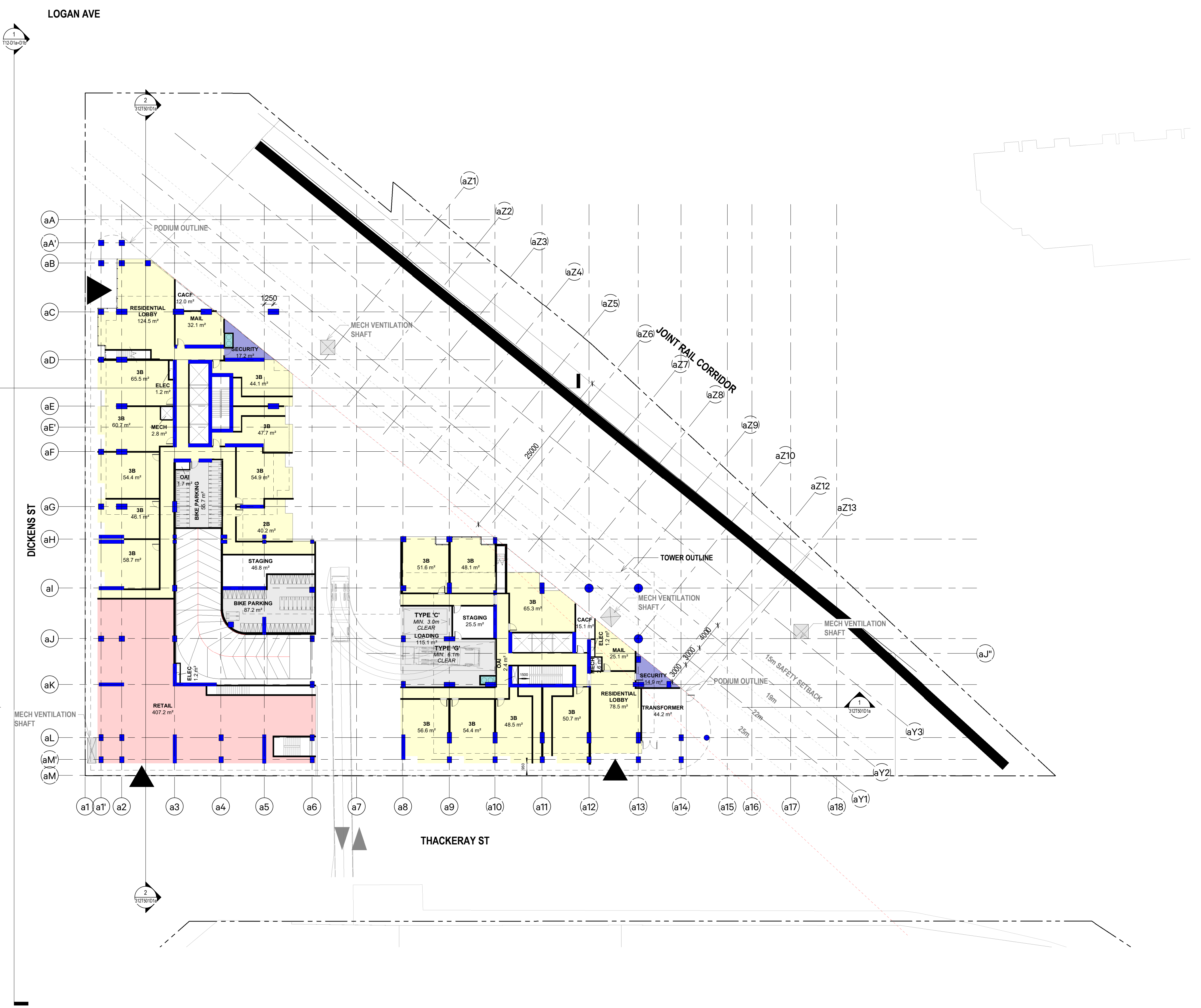
ONTARIO LINE  
 ITOC  
 LAKESHORE EAST | GERRARD  
 BELOW GRADE LEVEL B1

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**METROLINX**  
 Infrastructure Ontario  
 SCALE 1 : 300  
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ISSUANCE	

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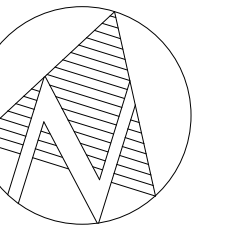
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NOT FOR ESTIMATING OR BIDDING  
NOT FOR CONSTRUCTION

**ONETEAM**  
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	M. CHOW
DRAWN	N. SHEWCHUCK, M. DUPIN
CHECKED	M. CHOW
APPROVED	A. GAUS

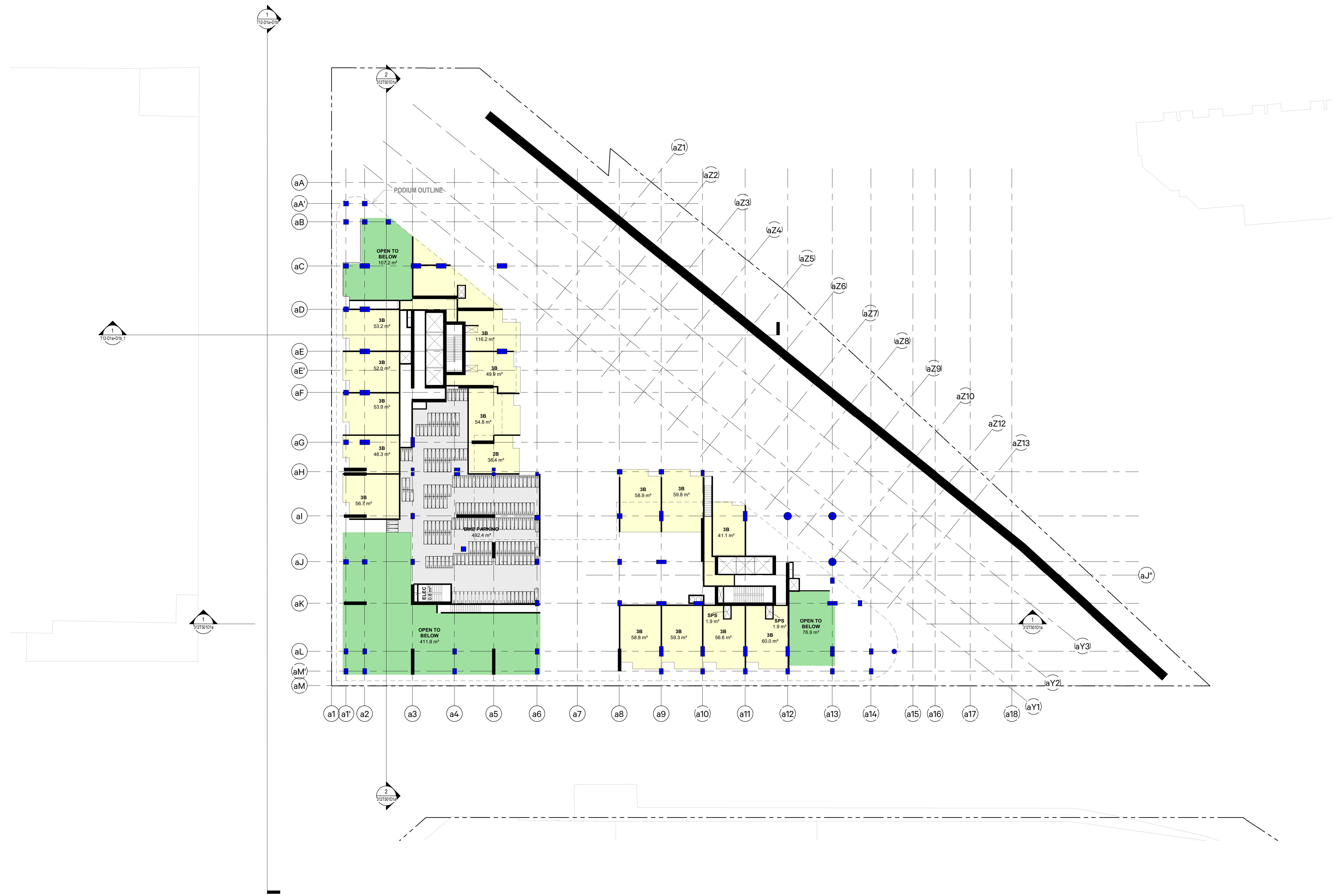
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TITLE  
TOC  
LAKESHORE EAST | GERRARD SOUTH  
10 DICKENS - LEVEL 01

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Infrastructure Ontario  
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DRAWING NUMBER 312T200D1a



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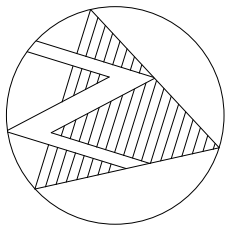
**ONETEAM**  
 ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

ONTARIO LINE  
 ITOC  
 LAKESHORE EAST | GERRARD  
 LEVEL 01 MEZZ

Plot Date: 2022-10-03 4:01:22 PM  
**METROLINX**  
 Infrastructure Ontario  
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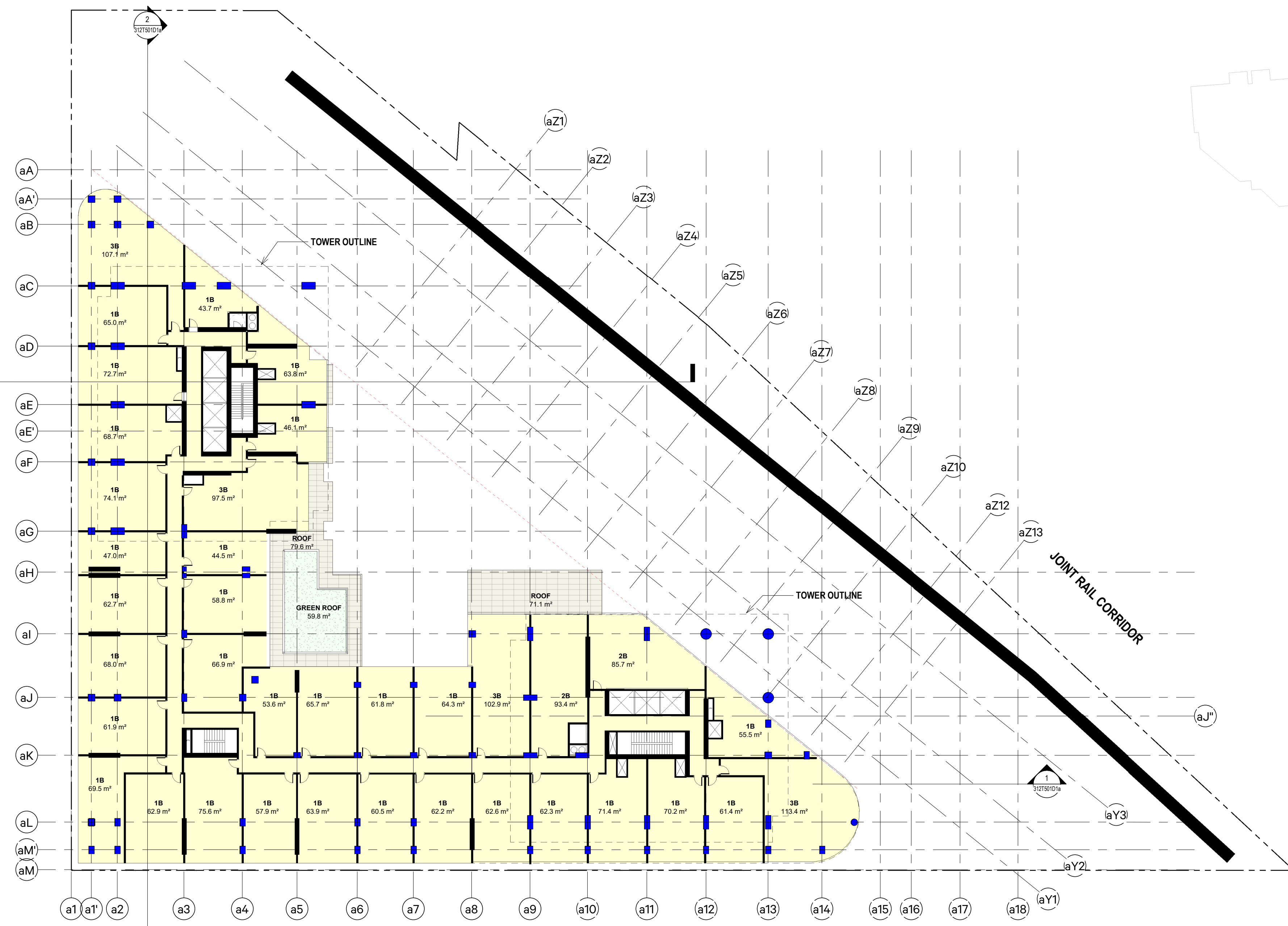


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LOGAN AVE

DICKENS ST

THACKERAY ST



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ISSUANCE

DRAFT



NOT FOR ESTIMATING OR BIDDING  
NOT FOR CONSTRUCTION



ONTARIO LINE TECHNICAL ADVISOR

DESIGNED M. CHOW  
 DRAWN N. SHEWCHUCK, M. DUPIN  
 CHECKED M. CHOW  
 APPROVED A. GAUS

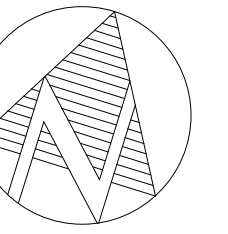
ONTARIO LINE

TITLE  
 ITOC  
 LAKESHORE EAST | GERRARD  
 LEVEL 02

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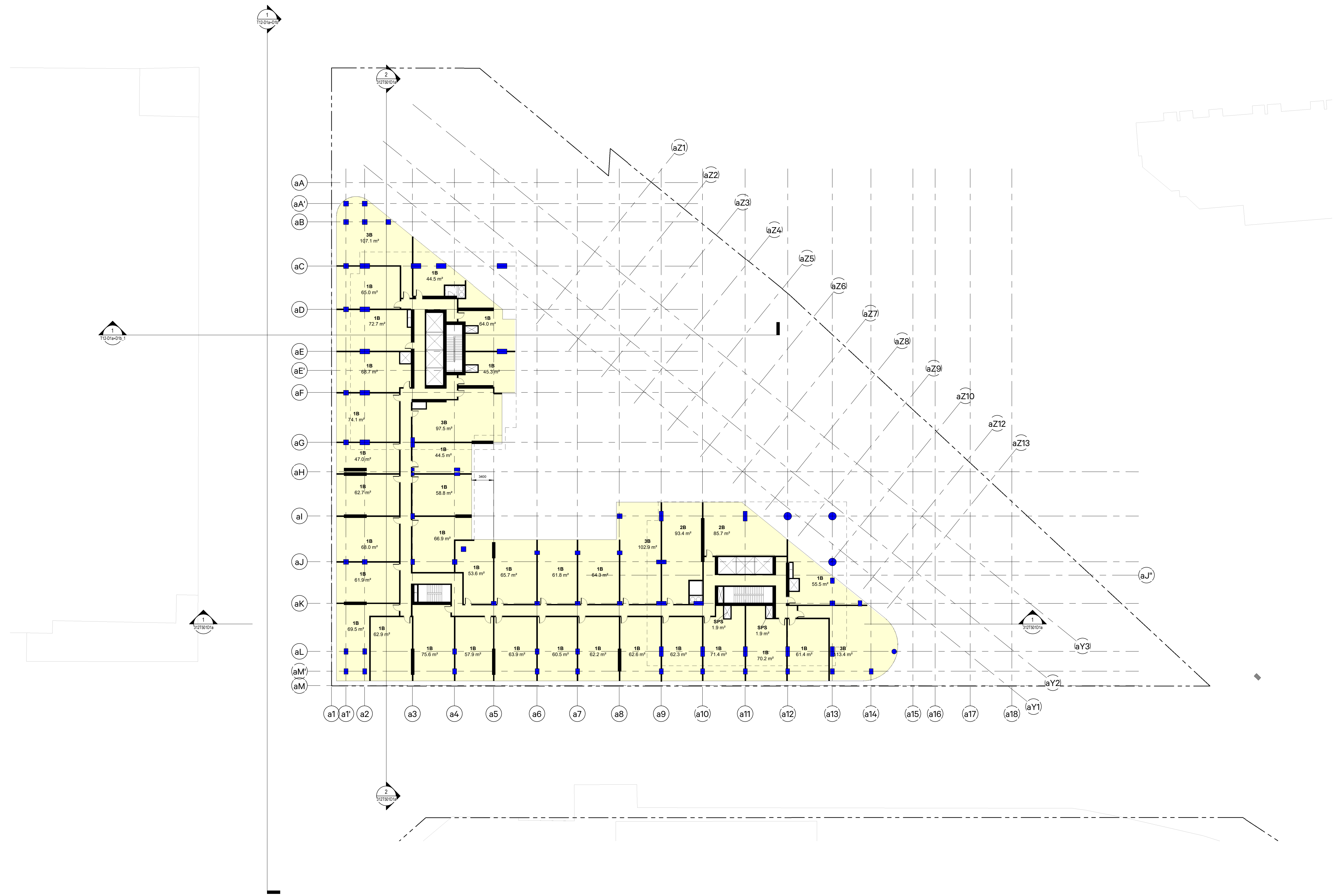


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ISSUANCE	

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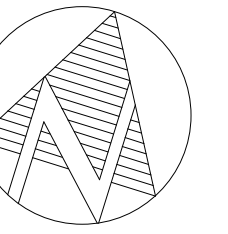
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 NOT FOR ESTIMATING OR BIDDING  
 NOT FOR CONSTRUCTION

**ONETEAM**  
 ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

**ONTARIO LINE**  
 ITOC  
 LAKESHORE EAST | GERRARD  
 LEVEL 03-04

Plot Date: 2022-10-03 4:05:53 PM  
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 Infrastructure Ontario  
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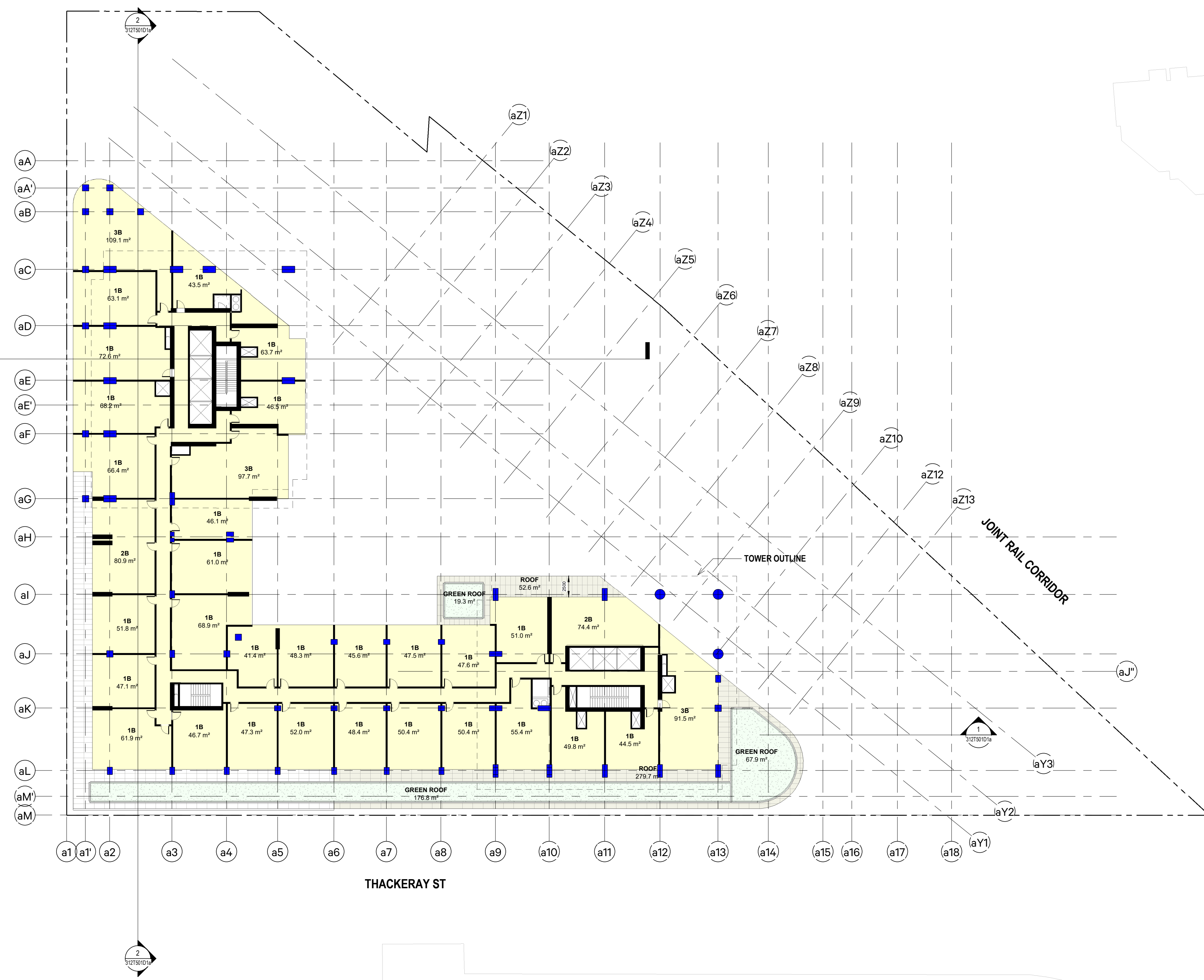


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LOGAN AVE

DICKENS ST

THACKERAY ST



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ISSUANCE

DRAFT



NOT FOR ESTIMATING OR BIDDING  
NOT FOR CONSTRUCTION



ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer  
 DRAWN Author  
 CHECKED Checker  
 APPROVED Approver

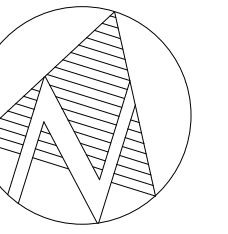
ONTARIO LINE

TITLE  
 ITOC  
 LAKESHORE EAST | GERRARD  
 LEVEL 05

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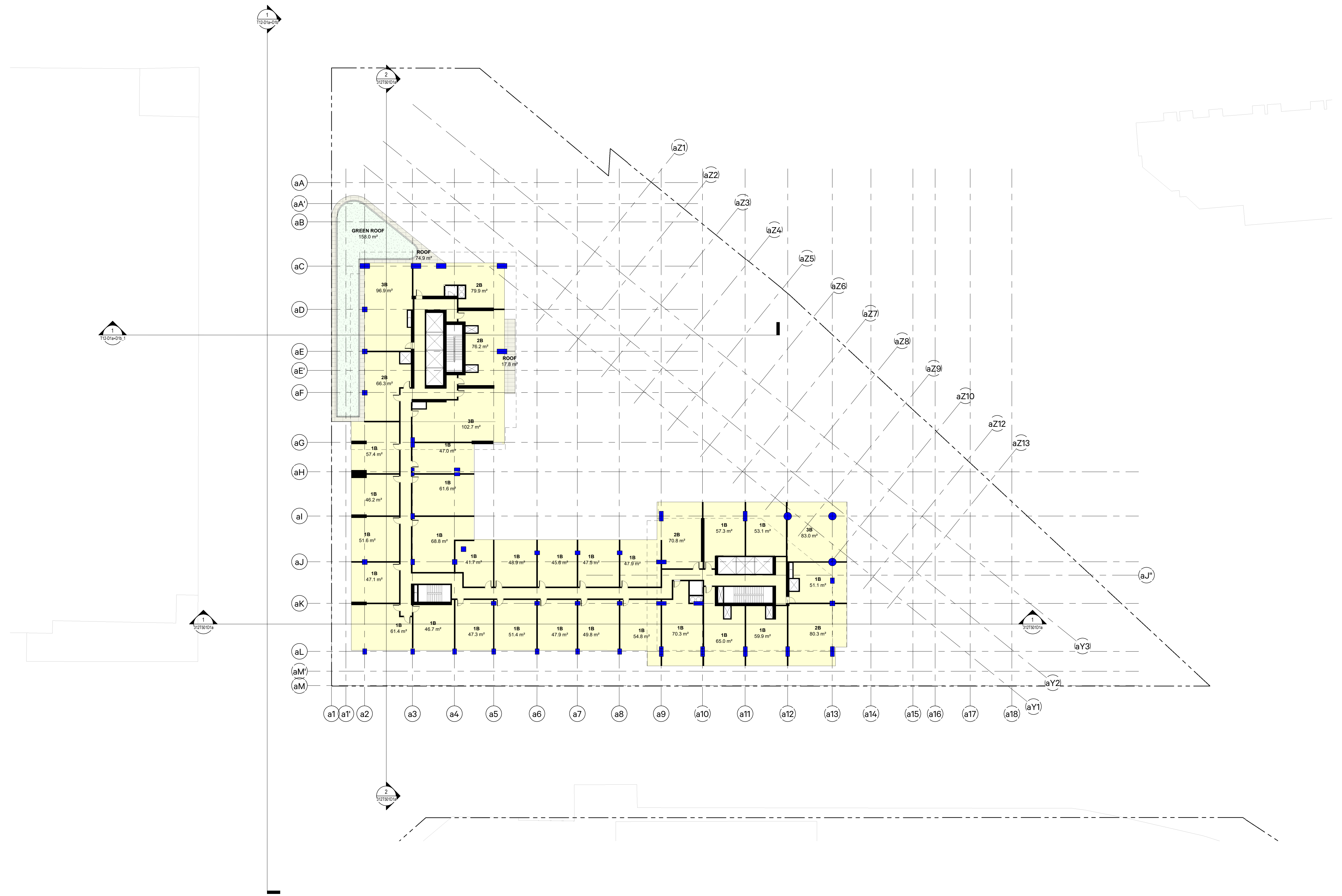


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SHEET No. 312T208D1a.E: BIM 360://10206938\_OL.TA\_Planning/10206938-TD012D1a-LKSRE-GERRARD.rvt



ISSUANCE	

DRAFT

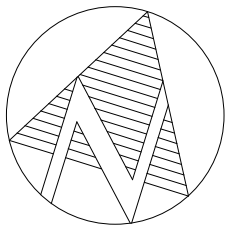
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NOT FOR ESTIMATING OR BIDDING  
NOT FOR CONSTRUCTION

**ONETEAM**  
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

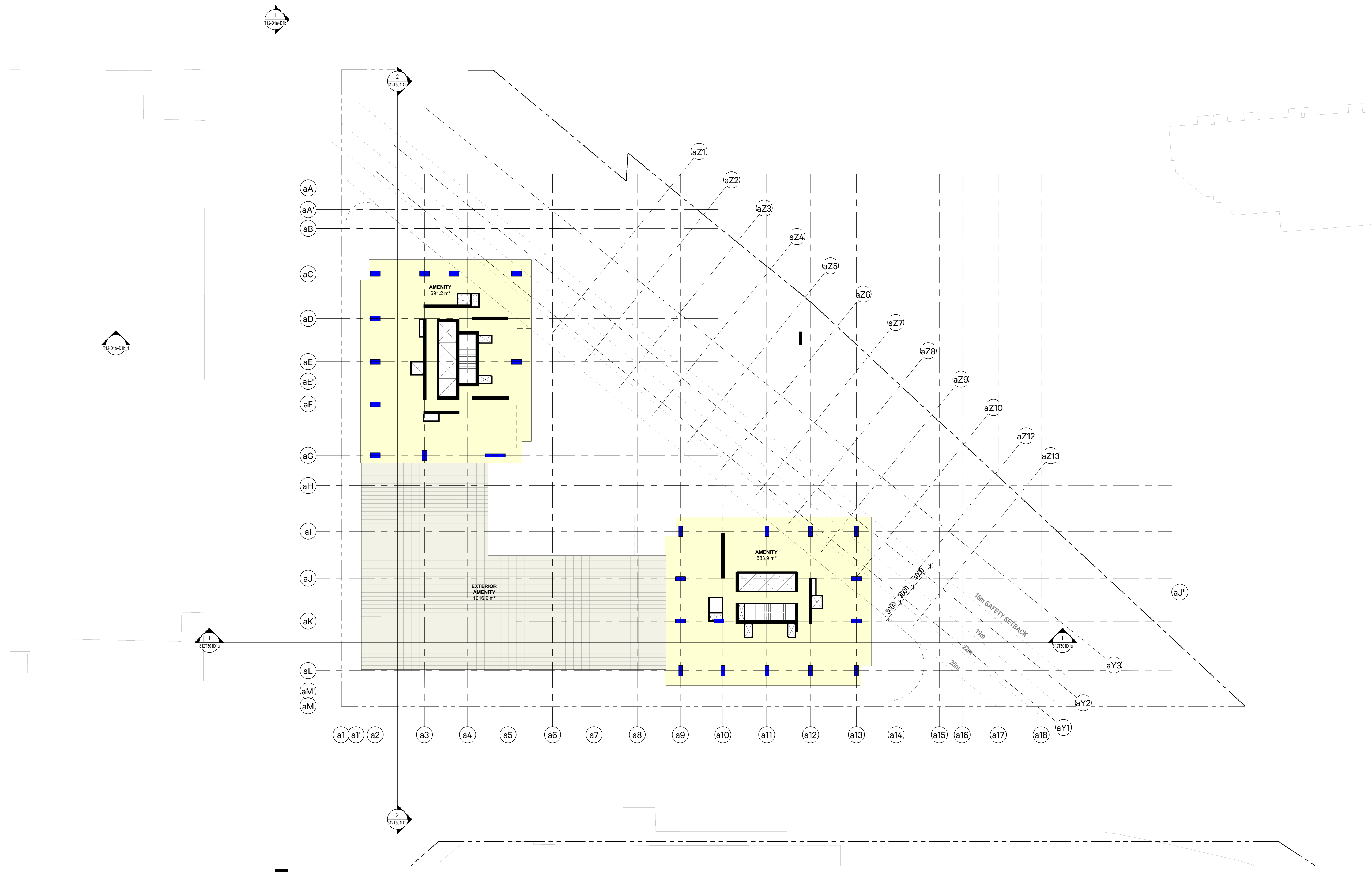
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TITLE  
ITOC  
LAKESHORE EAST | GERRARD  
LEVEL 06

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Infrastructure Ontario  
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ISSUANCE	

DRAFT

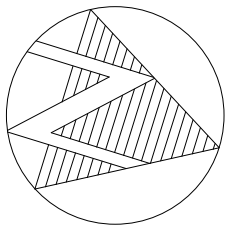
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NOT FOR ESTIMATING OR BIDDING  
NOT FOR CONSTRUCTION

**ONETEAM**  
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

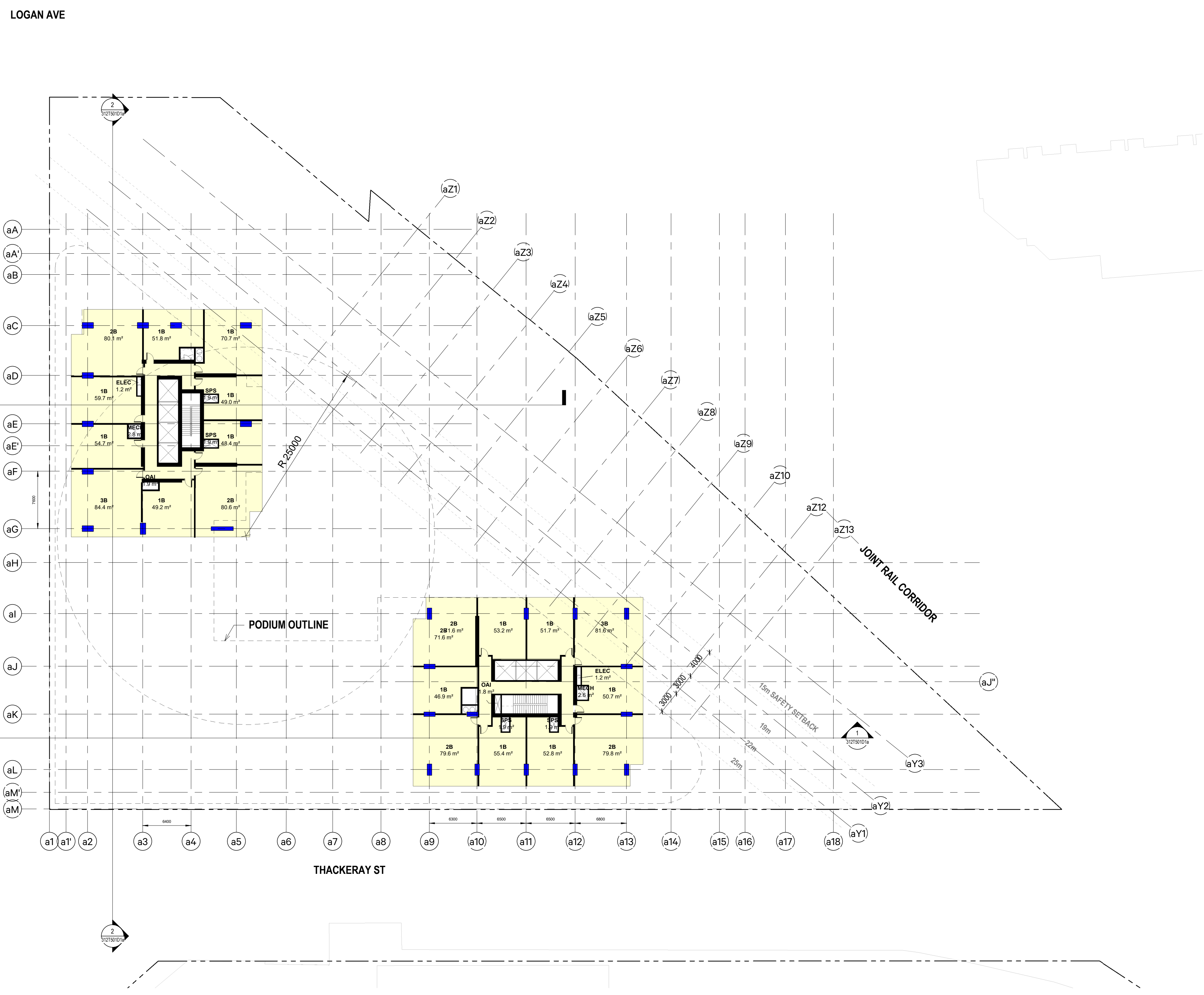
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TITLE  
ITOC  
LAKESHORE EAST | GERRARD  
LEVEL 07

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Infrastructure Ontario  
SCALE 1 : 300  
DRAWING NUMBER 312T209D1a



FOR INTERNAL REVIEW ONLY

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ISSUANCE	

DRAFT

**SvN**  
 NOT FOR ESTIMATING OR BIDDING  
 NOT FOR CONSTRUCTION

**ONETEAM**  
 ONTARIO LINE TECHNICAL ADVISOR

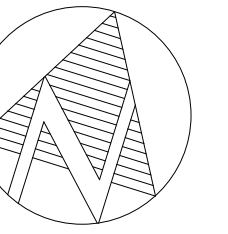
DESIGNED	M. CHOW
DRAWN	N. SHEWCHUCK, M. DUPIN
CHECKED	M. CHOW
APPROVED	A. GAUS

ONTARIO LINE	
TITLE	
ITOC LAKESHORE EAST   GERRARD LEVEL 08-30 TYPICAL TOWER	

Plot Date: 2022-10-03 4:29:14 PM

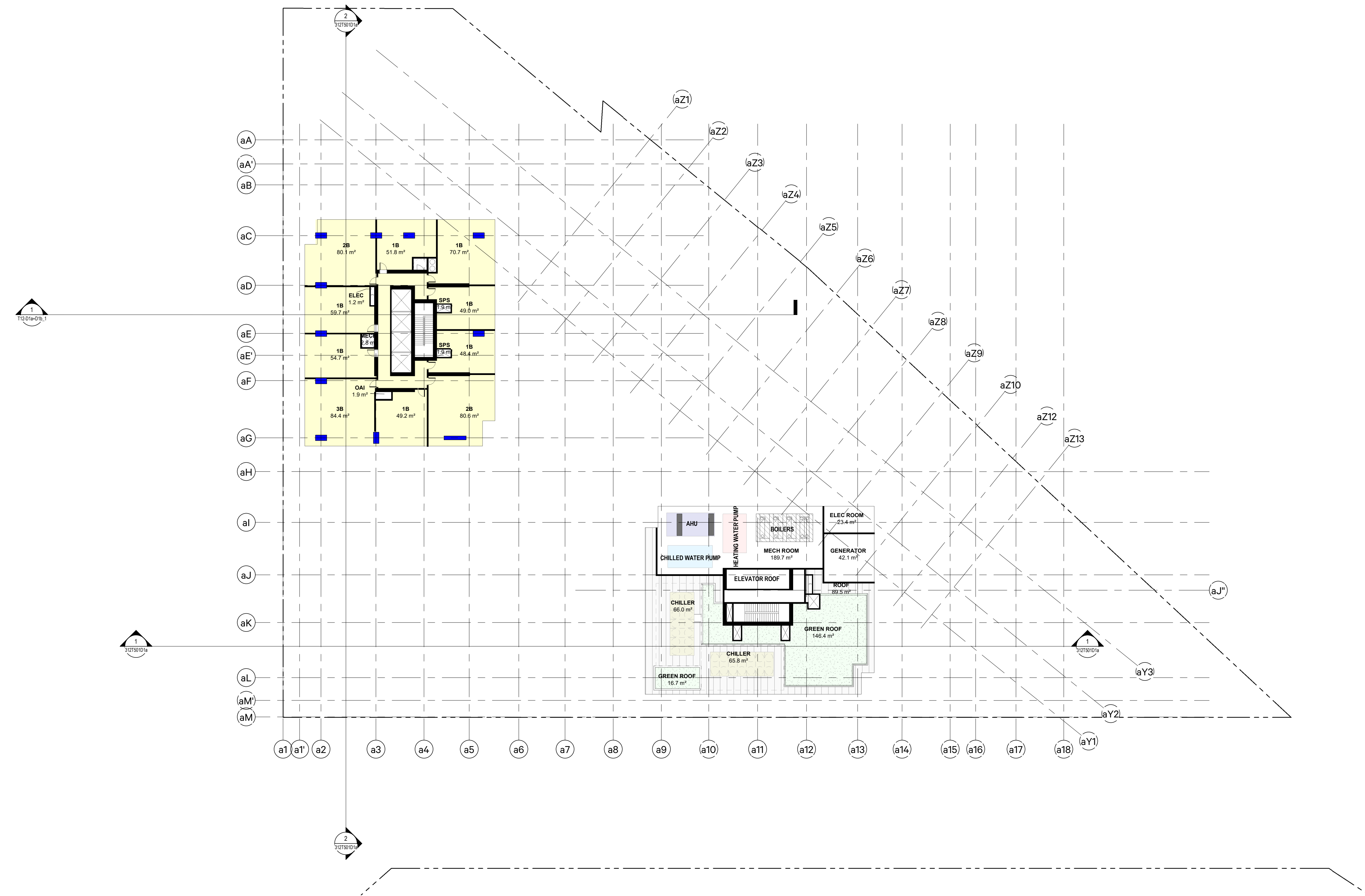
**METROLINX**  
 Infrastructure Ontario

SCALE 1 : 300      DRAWING NUMBER 312T223D1a



FOR INTERNAL REVIEW ONLY

SHEET No. 312T224D1a.E: BIM 360://10206938\_OL.TA\_Planning/10206938-TD012D1a-LKSRE-GERRARD.rvt



ISSUANCE	

DRAFT

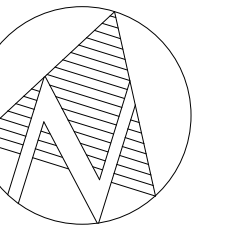
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NOT FOR ESTIMATING OR BIDDING  
NOT FOR CONSTRUCTION

**ONETEAM**  
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

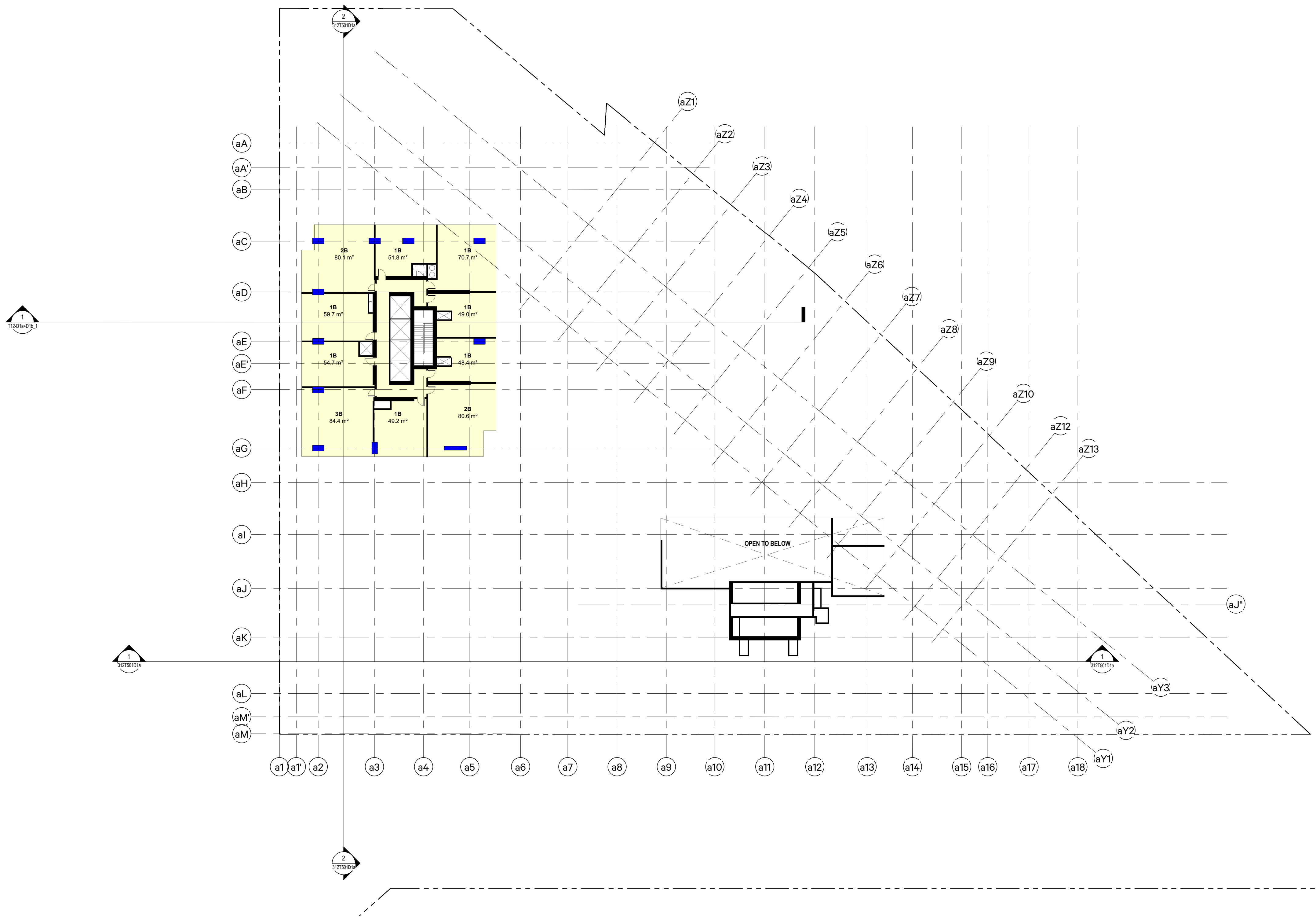
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TITLE  
ITOC  
LAKESHORE EAST | GERRARD  
LEVEL 31

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Infrastructure Ontario  
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DRAWING NUMBER 312T224D1a



FOR INTERNAL REVIEW ONLY

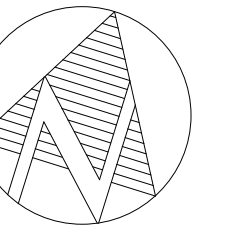
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1 LEVEL 32  
312T225D1a : 300

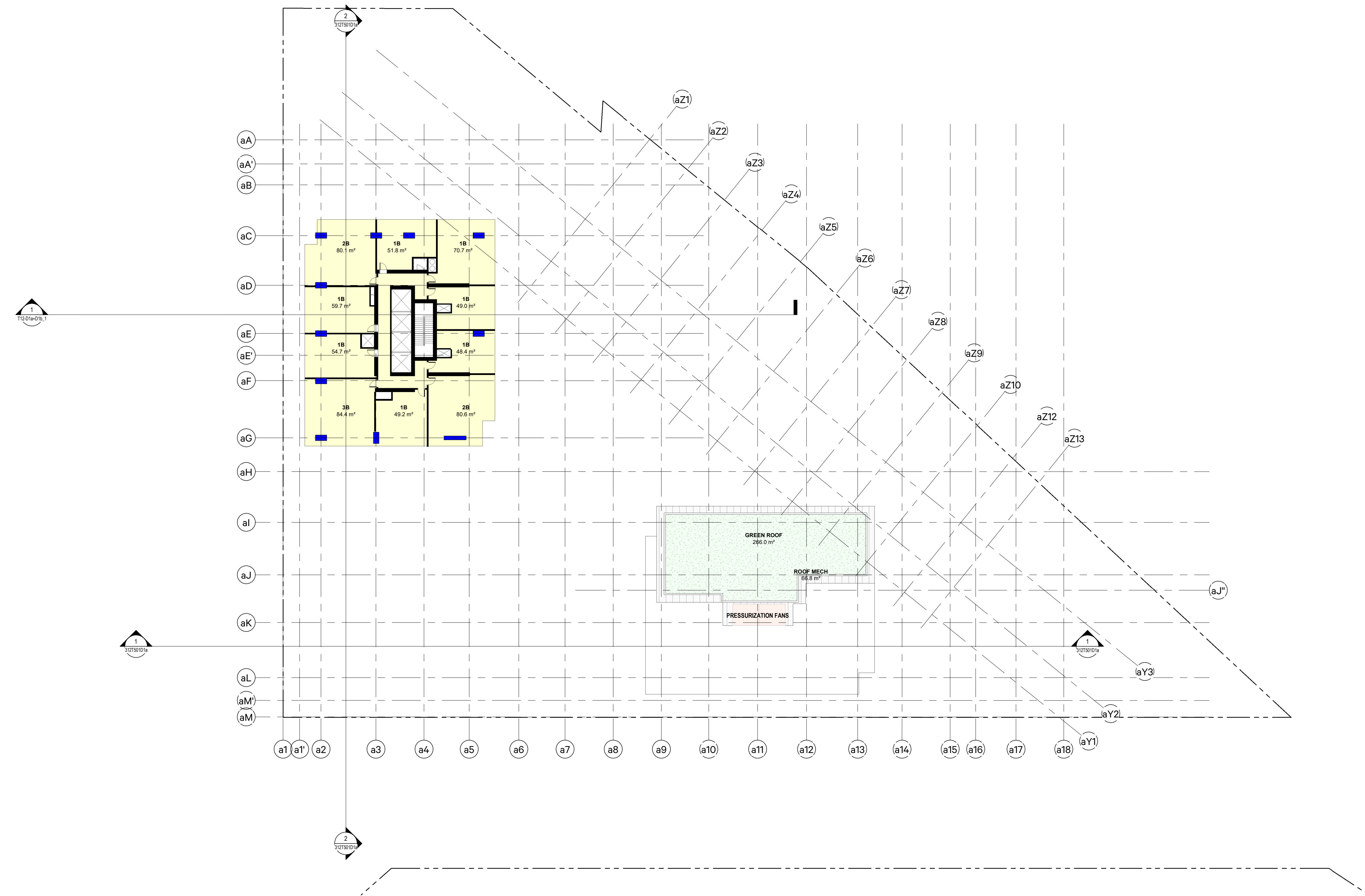
ISSUANCE		DRAFT	 NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	 ONTARIO LINE TECHNICAL ADVISOR	DESIGNED <u>Designer</u> DRAWN <u>Author</u> CHECKED <u>Checker</u> APPROVED <u>Approver</u>	TITLE <b>ONTARIO LINE</b> <b>ITOC</b> <b>LAKESHORE EAST   GERRARD</b> <b>LEVEL 32-39 TYPICAL TOWER</b>	Plot Date: 2022-10-03 4:15:30 PM
							 <b>Infrastructure Ontario</b>





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SHEET No. 312T226D1a.E: BIM 360://10206938\_OL.TA\_Planning/10206938-TD012D1a-LKSRE-GERRARD.rvt



ISSUANCE	

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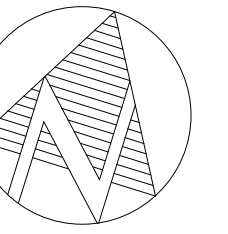
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NOT FOR ESTIMATING OR BIDDING  
NOT FOR CONSTRUCTION

**ONETEAM**  
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

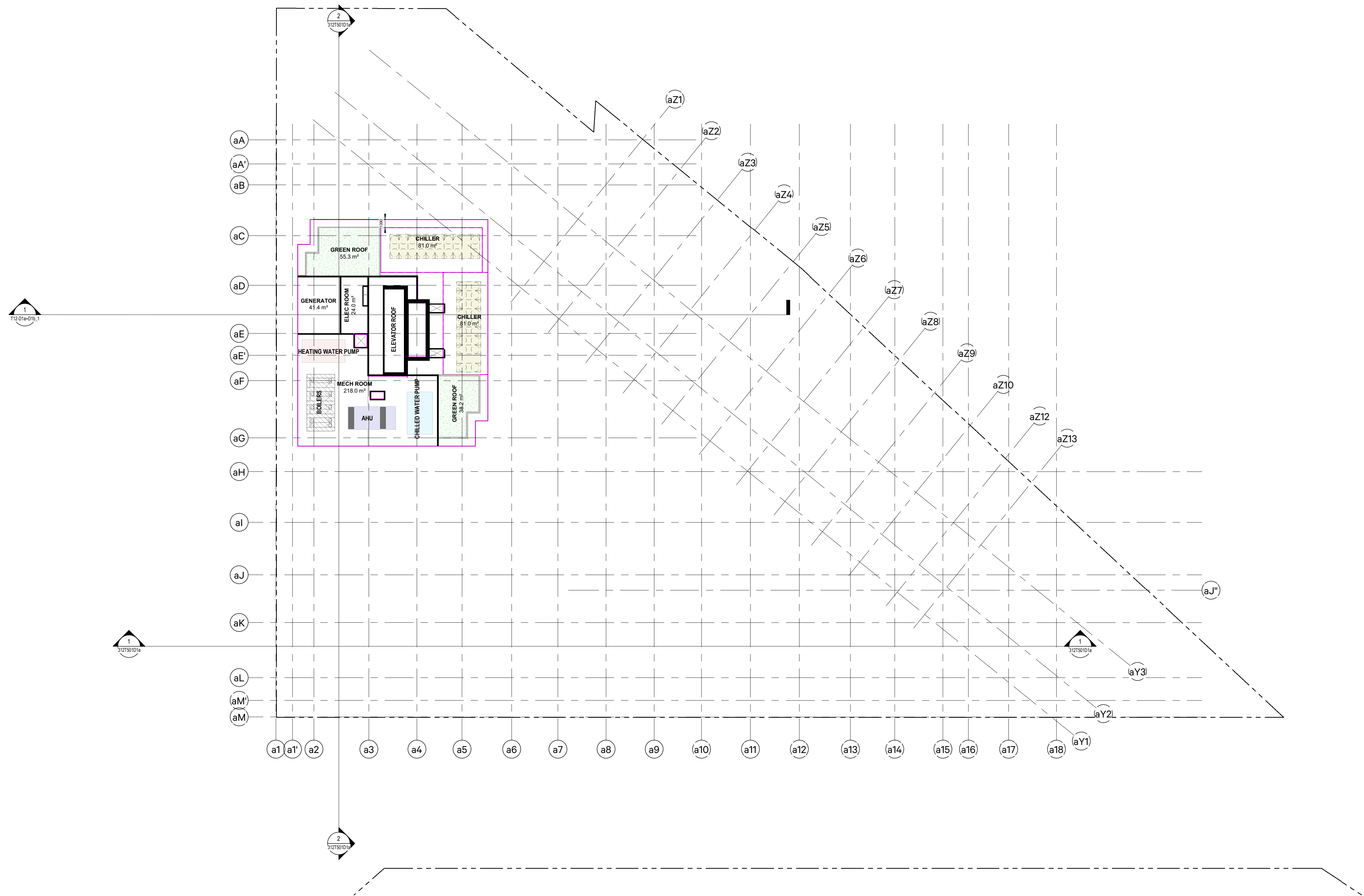
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TITLE  
ITOC  
LAKESHORE EAST | GERRARD  
LEVEL 33 / NORTH TOWER MECH ROOF

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**METROLINX**  
Infrastructure Ontario  
SCALE 1 : 300  
DRAWING NUMBER 312T226D1a



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 NOT FOR CONSTRUCTION

**ONETEAM**  
 ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

ONTARIO LINE

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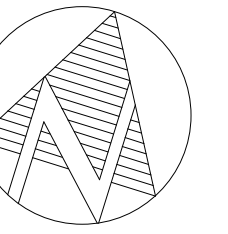
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LEVEL 40

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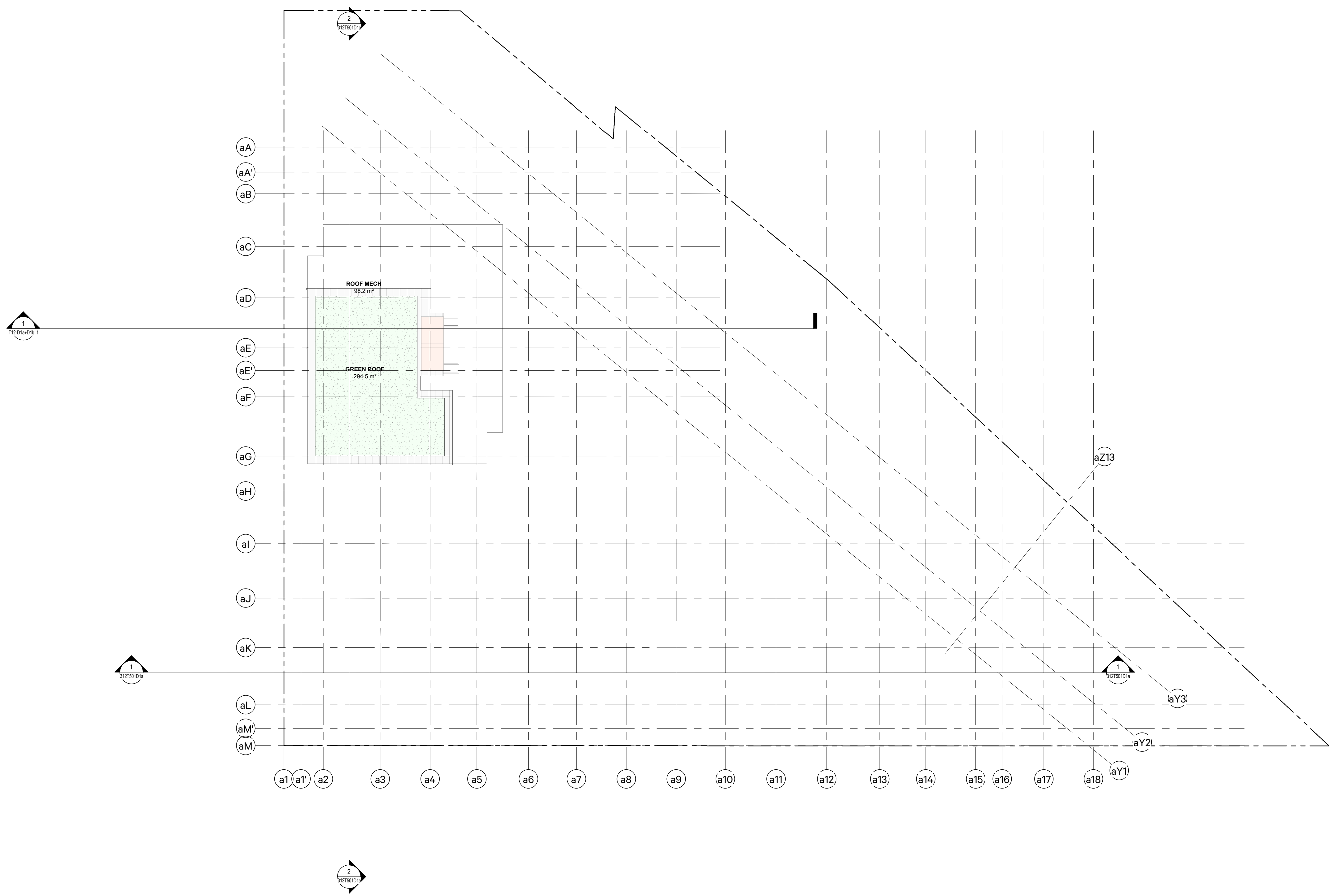
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 Infrastructure Ontario

SCALE 1 : 300      DRAWING NUMBER 312T227D1a



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SHEET No. 312T228D1a E: BIM 360://10206938\_OL\_TA\_Planning/10206938-TD012D1a-LKSRE-GERRARD.rvt



ISSUANCE	

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 NOT FOR CONSTRUCTION

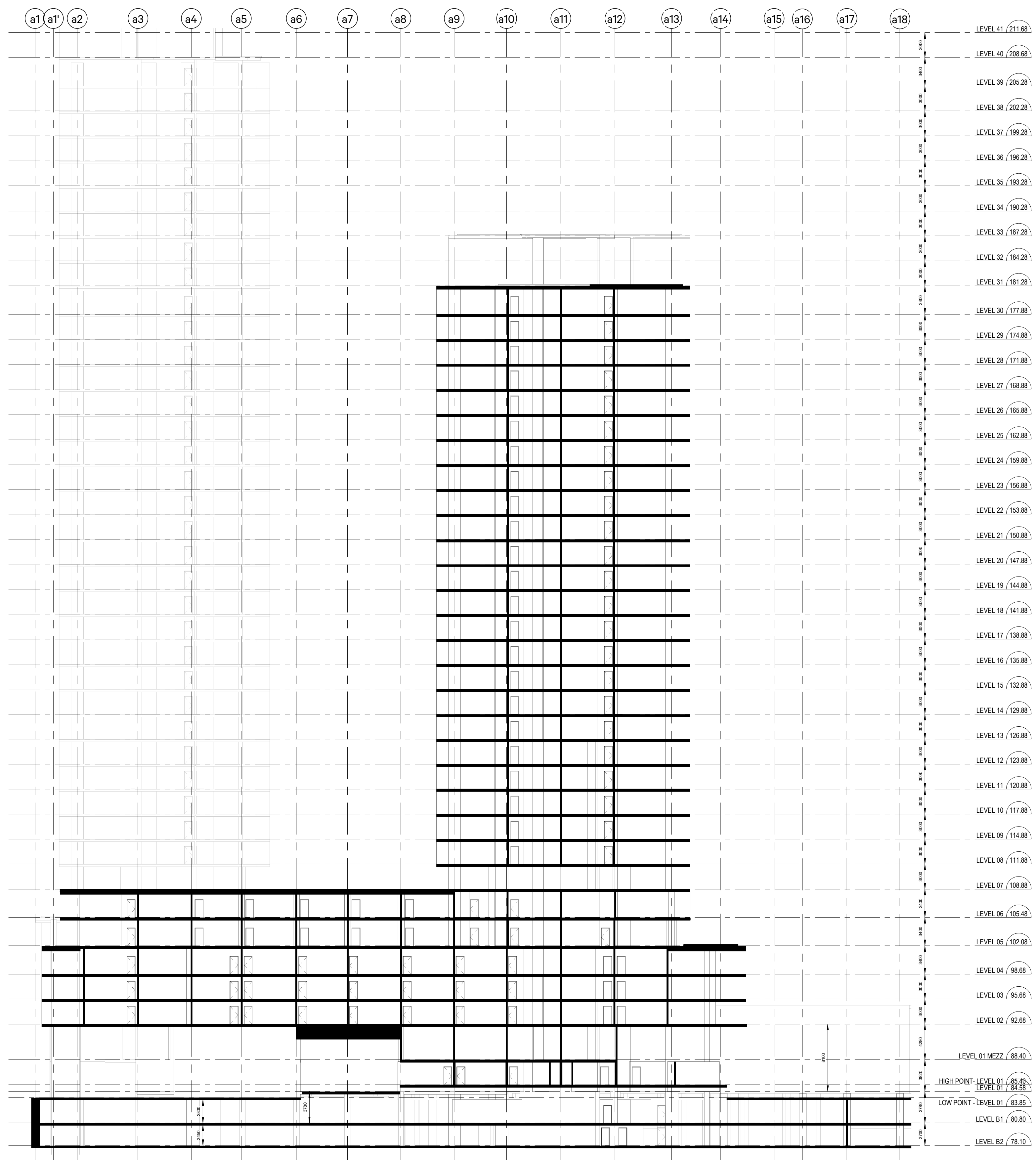
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 ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

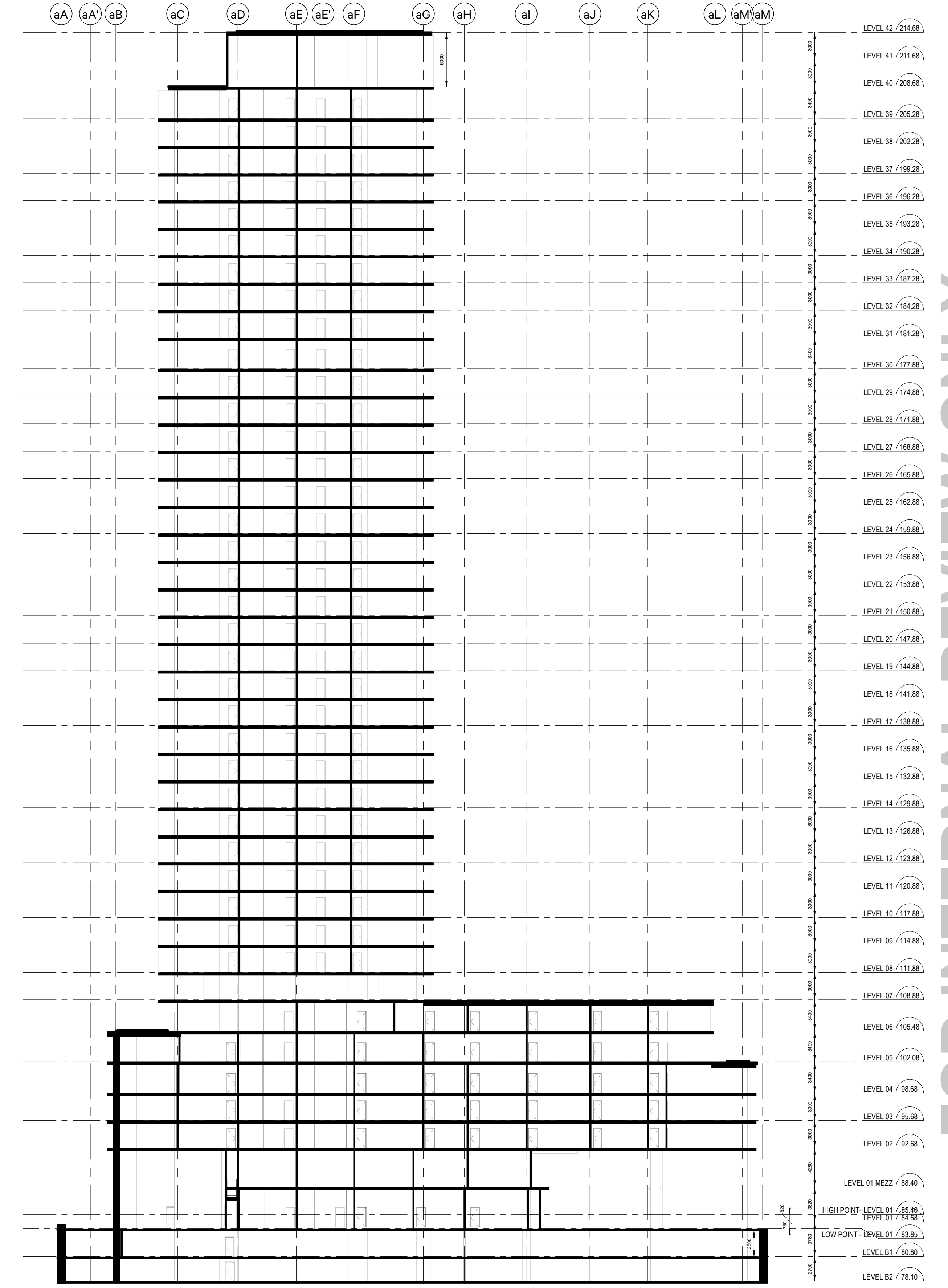
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 ITOC  
 LAKESHORE EAST | GERRARD  
 LEVEL 42 / SOUTH TOWER MECH ROOF

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**Infrastructure Ontario**  
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SHEET No. 312T501D1a E: BIM 360/10206938\_OL\_TA\_Planning/10206938-TD012D1a-LKSR-GERRARD.rvt



LONGITUDINAL SECTION  
scale: 1:300



CROSS SECTION  
scale: 1:300

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ISSUANCE	

DRAFT



DESIGNED	MC
DRAWN	NC MD
CHECKED	MC
APPROVED	AG

ONTARIO LINE	
ITOC	
LAKESHORE EAST   GERRARD	
SECTIONS	

TITLE	
ONTARIO LINE	
ITOC	
LAKESHORE EAST   GERRARD	
SECTIONS	

Plot Date: 2022-10-03 4:15:39 PM	
METROLINX	
Infrastructure Ontario	
SCALE	DRAWING NUMBER
1 : 300	312T501D1a

# ONTARIO LINE

## INTEGRATED TRANSIT ORIENTED COMMUNITY

BADGEROW BLOCK, CARLAW BLOCK,  
AND THACKERAY BLOCK

DRAWING NUMBER	DRAWING NAME
312T000D1b	COVER
312T001D1b	CONTEXT MASSING
312T003D1b	PROJECT STATISTICS
312T004D1b	ROOF SITE PLAN
312T101D1b	LEVEL B2 - PARKING LEVEL
312T102D1b	LEVEL B1 - PARKING LEVEL
312T201D1b	LEVEL 01
312T202D1b	LEVEL MEZZ
312T203D1b	LEVEL 02
312T204D1b	LEVEL 03
312T205D1b	LEVEL 04
312T206D1b	LEVEL 05
312T207D1b	LEVEL 06
312T208D1b	LEVEL 07
312T209D1b	LEVEL 08
312T210D1b	LEVEL 09
312T211D1b	LEVEL 10
312T212D1b	LEVEL 11
312T213D1b	LEVEL 12
312T214D1b	LEVEL 14
312T215D1b	LEVEL 24
312T216D1b	LEVEL 26
312T501D1b	SECTIONS
312T502D1b	SECTIONS
312T502D2b	Elevations

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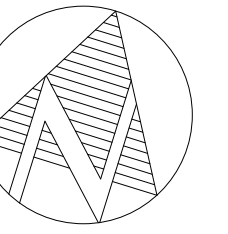
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NOT FOR CONSTRUCTION - NOT FOR ESTIMATING OR BIDDING - TRANSIT  
STATION AREAS BY OTHERS ARE SHOWN FOR REFERENCE AND ARE NOT  
PART OF THIS APPLICATION

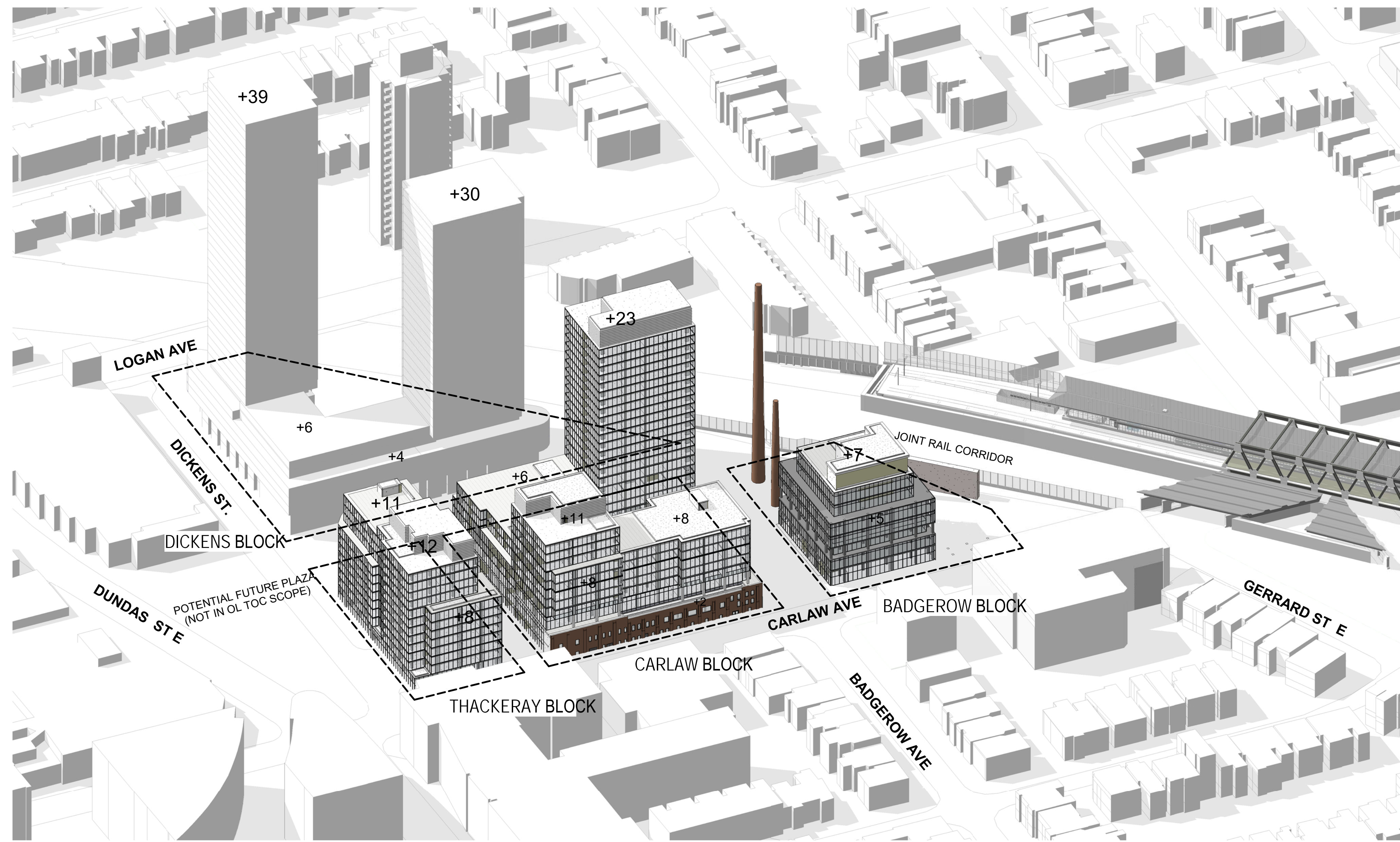
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Drawing Number  
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SHEET No. 312T001D1b File: BIM 360/10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt

ISSUANCE	

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 NOT FOR CONSTRUCTION

**ONETEAM**  
 ONTARIO LINE TECHNICAL ADVISOR

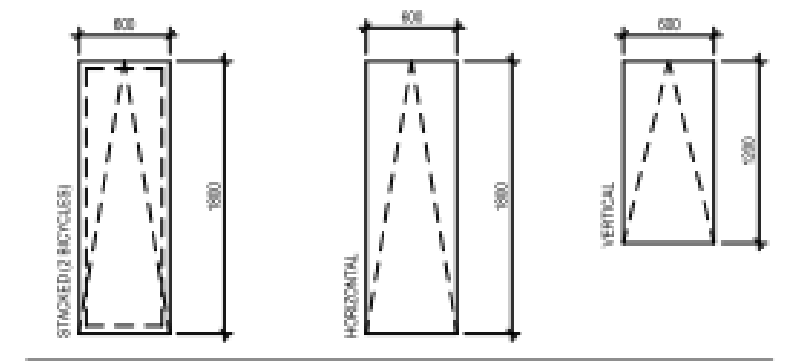
DESIGNED	MC
DRAWN	NS, MD
CHECKED	MC
APPROVED	AG

**ONTARIO LINE**  
 ITOC  
 LAKESHORE EAST | GERRARD  
 CONTEXT MASSING

Plot Date: 2022-10-04 3:29:52 PM  
**METROLINX**  
 Infrastructure Ontario  
 SCALE: DRAWING NUMBER 312T001D1b

SHEET No. 312T002D1b.E: BIM 360/10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt

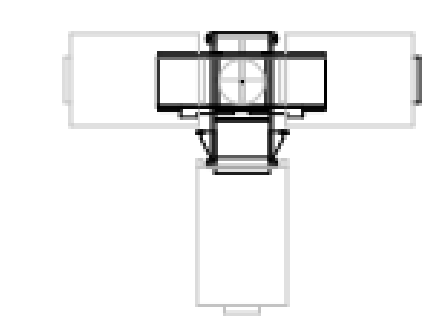
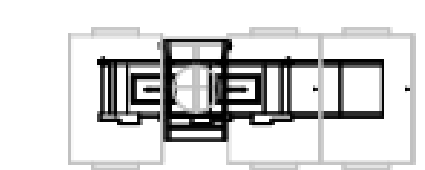
1B	ONE BEDROOM SUITE
2B	TWO BEDROOM SUITE
3B	THREE BEDROOM SUITE
AHU	AIR HANDLING UNIT
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
BC	BUILDING CODE
BLDG	BUILDING
BOH	BACK OF HOUSE SERVICE AREA
CACF	CENTRAL ALARM AND CONTROL FACILITY
DED	DEDUCTION
DIM	DIMENSION
DWG	DRAWING
EA	EXHAUST AIR
ECR	ELEVATOR CONTROL ROOM
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMR	ELEVATOR MACHINE ROOM
ESC	ESCALATOR
FLUE	FLUE VENT SHAFT
GCA	GROSS CONSTRUCTION AREA
GFA	GROSS FLOOR AREA
ITOC	INTEGRATED TRANSIT ORIENTED COMMUNITY
LT	LONG TERM
M	METRE
MAIL	RESIDENTIAL MAIL ROOM
MECH	MECHANICAL
MECH PH	MECHANICAL PENTHOUSE
NON-RES WASTE	NON-RESIDENTIAL WASTE ROOM
NTS	NOT TO SCALE
OAI	OUTSIDE AIR INTAKE
OBC	ONTARIO BUILDING CODE
OL	ONTARIO LINE
RCD	REFERENCE CONCEPT DESIGN
ROOF MECH	ROOF AREA FOR MECHANICAL EQUIPMENT
ROW	RIGHT OF WAY
RSA	RESIDENTIAL SALEABLE AREA
SPS	STAIR PRESSURIZATION SHAFT
ST	SHORT TERM
STUDIO	STUDIO SUITE
SWM ROOF	PERMEABLE ROOF FOR STORM WATER MANAGEMENT
TELECOM	TELECOMMUNICATIONS ROOM
TGS	TORONTO GREEN STANDARD
TOFR	TOP OF FINISHED ROOF
TOS	TOP OF SLAB
TYP	TYPICAL



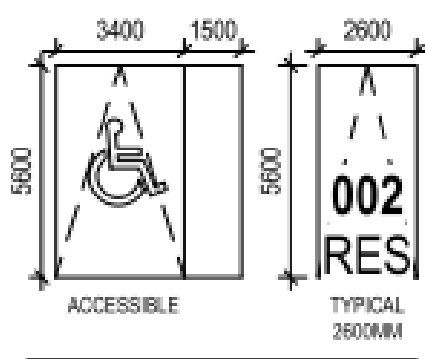
BICYCLE PARKING



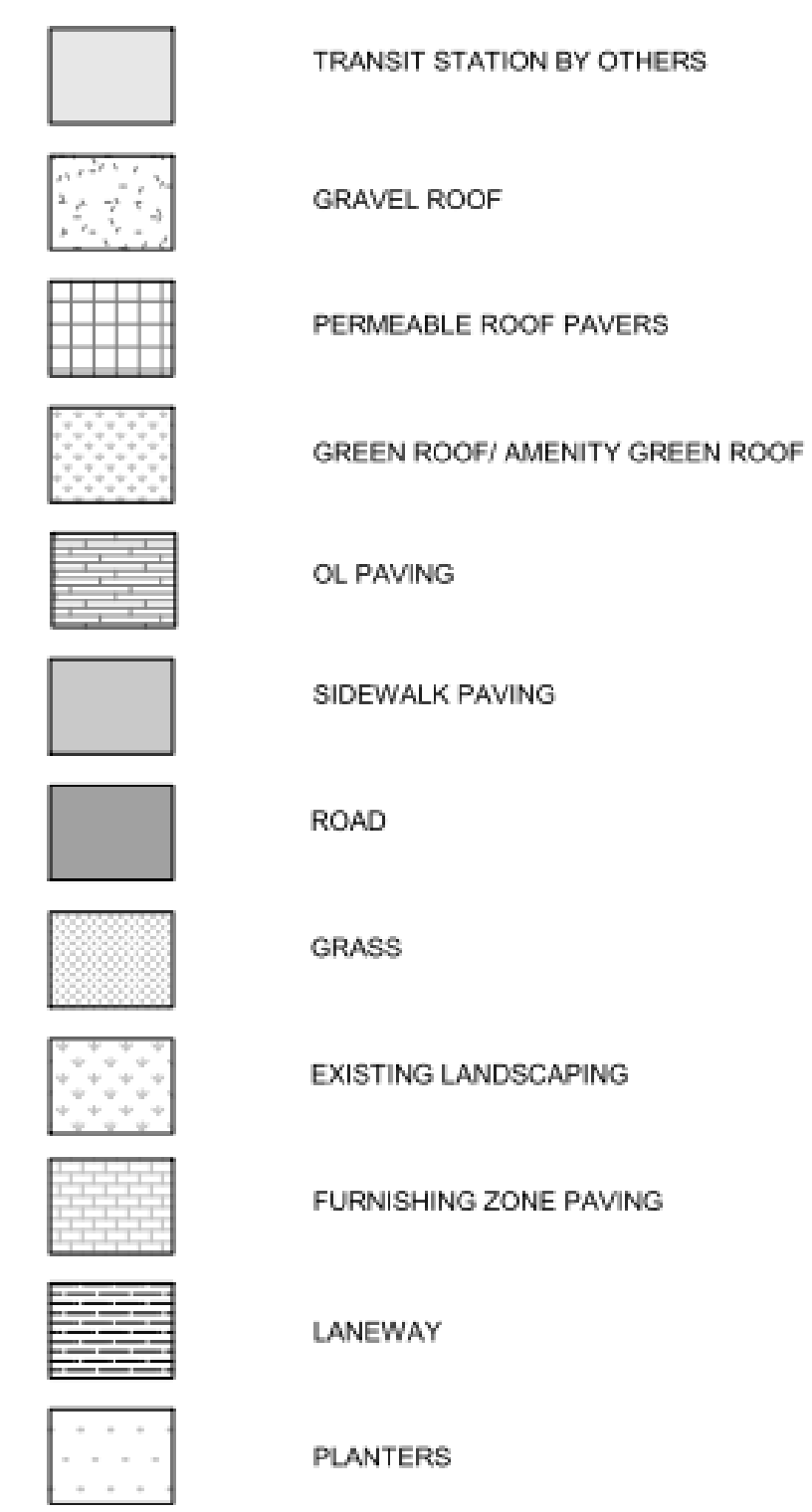
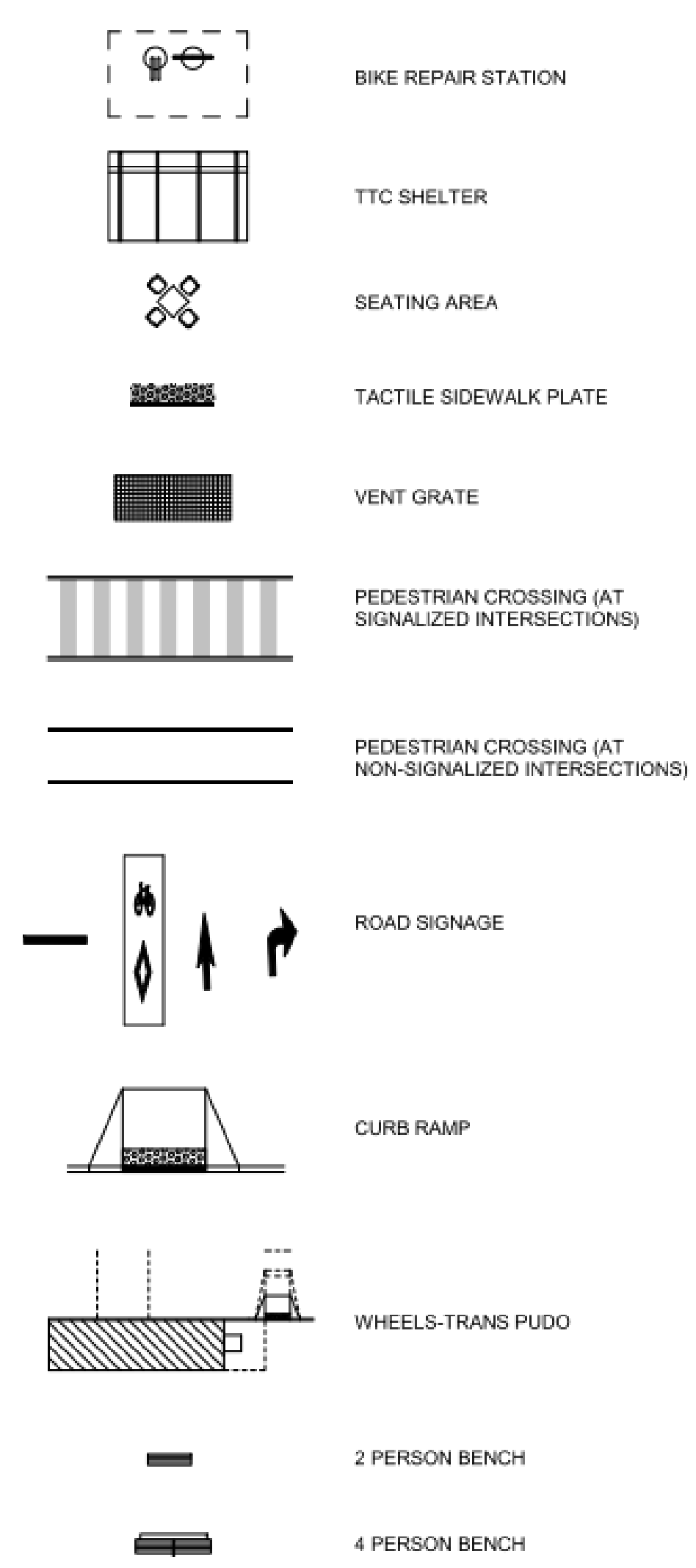
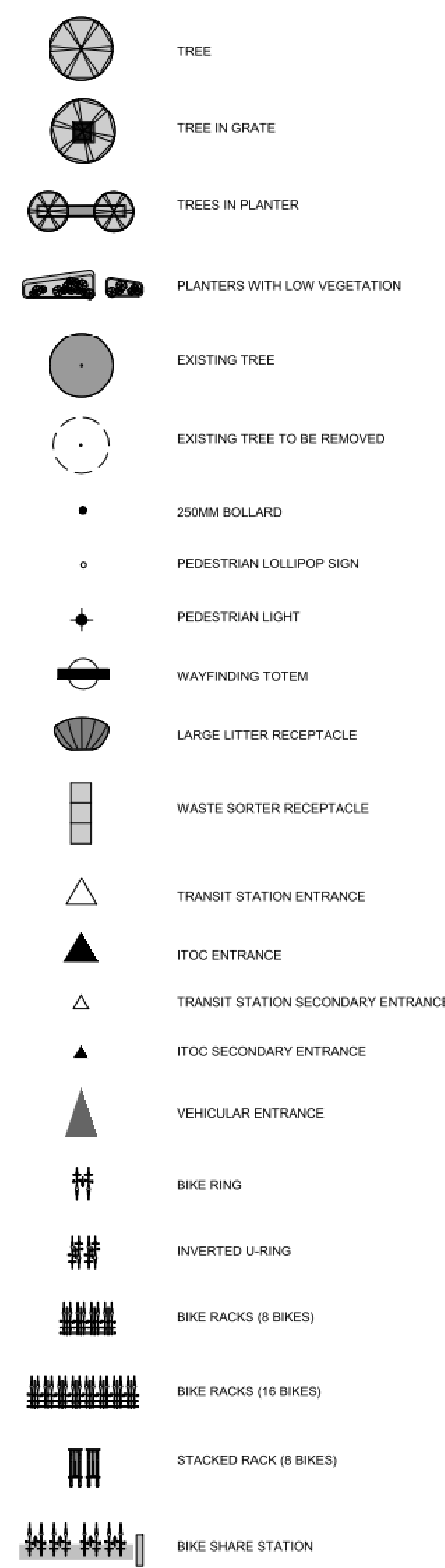
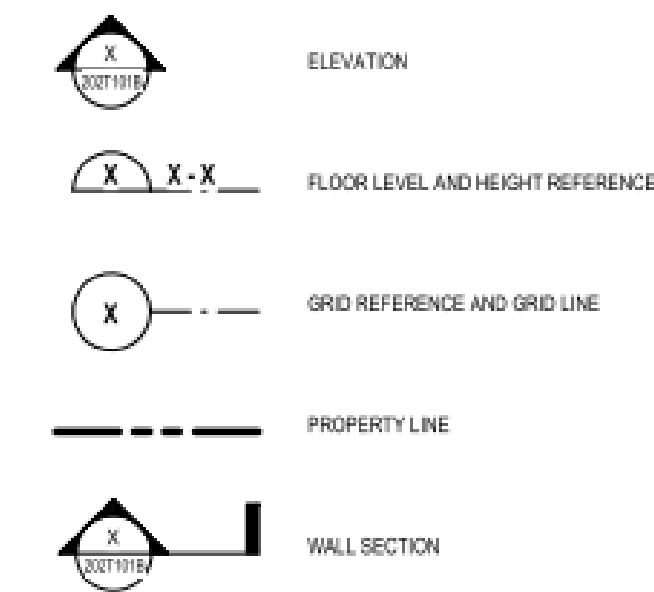
GARBAGE AND RECYCLING CHUTE



GARBAGE AND RECYCLING TRI-SORTER



PARKING



ISSUANCE

DRAFT



DESIGNED MC  
 DRAWN NS\_MD  
 CHECKED MC  
 APPROVED AG

ONTARIO LINE

TITLE

NOTES AND LEGEND

Plot Date: 2022-10-04 3:04:26 PM



SCALE DRAWING NUMBER  
 312T002D1b

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**PROJECT STATISTICS**  
 MUNICIPAL ADDRESS: 388 CARLAW AVENUE  
 BUILDING HEIGHT: X.X m (25 STOREYS)

BUILDING STATISTICS		
AREAS	%	m <sup>2</sup>
SITE AREA (EXISTING)		13002
SITE AREA (CONVEYANCE)		1403
SITE AREA		11600
GCA ABOVE GRADE (TOC)		71139
GCA BELOW GRADE (TOC)		17923
GFA TOTAL (TOC)		57194
GFA RESIDENTIAL (TOC)		44628
GFA NON-RESIDENTIAL (TOC)		12566
GFA RETAIL (TOC)		1726
GFA GENERAL COMMERCE (TOC)		5270
GFA OFFICE (TOC)		5488
FSI (TOC)		4.9
GFA TRANSIT ABOVE GRADE (SUBJECT OF A DIFFERENT APPLICATION)		n/a
FSI (TOC + TRANSIT)		n/a

UNIT DISTRIBUTION AND AMENITY AREAS				
UNIT TYPE	AREA m <sup>2</sup>	REQUIRED	PROPOSED	
STUDIO	27-34	NO REQ	0%	
1B	36-64	NO REQ	63%	
2B	59-81	15%	23%	
3B	85-111	10%	14%	
AMENITY AREAS		REQUIRED m <sup>2</sup>	PROPOSED m <sup>2</sup>	
INTERIOR AMENITY (RES)		1138	1208	
EXTERIOR AMENITY (RES)		1138	1539	
TOTAL AMENITY (RES)		2276	2747	
EXTERIOR AMENITY (NON-RES)		NO REQ	0	

GREEN ROOF	
ROOF AREAS	m <sup>2</sup>
TOTAL ROOF AREA	7029
RESIDENTIAL PRIVATE TERRACES	799
ROOFTOP EXTERIOR AMENITY	1539
RENEWABLE ENERGY DEVICES	0
TOWER AREA LESS THAN 750 m2	0
TOTAL TGS EXCLUSIONS	2338
TGS AVAILABLE ROOF	4691
GREEN ROOF	2711

TGS TIER 4 V3	REQUIRED %	PROPOSED %
GREEN ROOF	60%	58%

PARKING			
VEHICLE PARKING	RATIO	REQUIRED	PROPOSED
RESIDENTIAL STUDIO	0.30	0	
RESIDENTIAL 1B	0.30	109	
RESIDENTIAL 2B	0.30	39	
RESIDENTIAL 3B	0.30	24	
RESIDENTIAL VISITOR	0.10	57	
RESIDENTIAL TOTAL		229	248
OFFICE	0.80	44	37
RETAIL	1.00	18	0
GENERAL COMMERCE	0.50	27	0
NON-RESIDENTIAL TOTAL		89	
SHARED TOTAL		NO REQ	0
VEHICLE PARKING TOTAL		318	285

BICYCLE PARKING			
BICYCLE PARKING TGS TIER 3 V4	RATIO	REQUIRED	PROPOSED
RESIDENTIAL LONG TERM	0.9/units	513	526
RESIDENTIAL SHORT TERM	0.1/units	57	63
RETAIL LONG TERM	.2/100m <sup>2</sup>	4	10
RETAIL SHORT TERM	3+.3/100m <sup>2</sup>	9	12
OFFICE LONG TERM	.2/100m <sup>2</sup>	11	48
OFFICE SHORT TERM	3+.2/100m <sup>2</sup>	14	11
GENERAL COMMERCE LONG TERM	.2/100m <sup>2</sup>	11	14
GENERAL COMMERCE SHORT TERM	3+.2/100m <sup>2</sup>	14	19
TRANSIT LONG TERM		0	0
TRANSIT SHORT TERM		10	0
BICYCLE PARKING TOTAL		643	703

OCCUPANT LOADS	
OCCUPANT LOAD	PEOPLE
OCCUPANT LOAD RESIDENTIAL	1710
OCCUPANT LOAD RETAIL	204
OCCUPANT LOAD OFFICE	1223
TOTALS	3137

LOADING AND WASTE COLLECTION		
LOADING AREAS	REQUIRED	PROPOSED
TYPE C RESIDENTIAL	1	2
TYPE G RESIDENTIAL	1	1
TYPE A NON-RESIDENTIAL	0	0
TYPE B NON-RESIDENTIAL	3	4
TYPE C NON-RESIDENTIAL	0	2
WASTE COLLECTION AREAS	REQUIRED m <sup>2</sup>	PROPOSED m <sup>2</sup>
RESIDENTIAL WASTE ROOM	160	342
RESIDENTIAL BULK WASTE ROOM	10	58
NON-RESIDENTIAL WASTE ROOM		147
TOTAL WASTE COLLECTION AREA		547

FLOOR AREAS (ITOC)											
LEVEL	GCA	GFA DED	NRES GFA	RES GFA	RSA	0B	1B	2B	3B	UNITS	
LEVEL B4	0	0	0	0	0	0	0	0	0	0	0
LEVEL B3	0	0	0	0	0	0	0	0	0	0	0
LEVEL B2	7851	7802	0	50	0	0	0	0	0	0	0
LEVEL B1	10072	9902	0	170	0	0	0	0	0	0	0
LEVEL 01	6450	1429	4105	916	139	0	0	0	0	0	0
MEZZANINE	6472	6470	0	2	0	0	0	0	0	0	0
LEVEL 02	5462	294	3421	1748	1388	0	14	4	2	20	
LEVEL 03	5576	922	0	4654	4130	0	44	11	7	62	
LEVEL 04	5100	298	0	4802	4377	0	39	15	9	63	
LEVEL 05	5096	529	0	4567	4149	0	42	12	8	62	
LEVEL 06	4822	254	0	4568	4150	0	41	13	8	62	
LEVEL 07	4803	944	0	3859	3303	0	28	13	6	47	
LEVEL 08	4013	144	0	3869	3405	0	29	13	7	49	
LEVEL 09	2875	560	0	2315	1717	0	20	6	2	28	
LEVEL 10	2293	132	0	2161	1968	0	20	8	3	31	
LEVEL 11	2293	132	0	2161	1968	0	20	9	2	31	
LEVEL 12	1651	547	0	1103	999	0	9	4	2	15	
LEVEL 13	1023	319	0	704	643	0	5	2	2	9	
LEVEL 14	750	46	0	704	643	0	5	2	2	9	
LEVEL 15	750	46	0	704	643	0	5	2	2	9	
LEVEL 16	750	46	0	704	643	0	5	2	2	9	
LEVEL 17	750	46	0	704	643	0	5	2	2	9	
LEVEL 18	750	46	0	704	643	0	5	2	2	9	
LEVEL 19	739	46	0	692	632	0	5	2	2	9	
LEVEL 20	739	46	0	692	632	0	5	2	2	9	
LEVEL 21	739	46	0	692	632	0	5	2	2	9	
LEVEL 22	739	46	0	692	632	0	5	2	2	9	
LEVEL 23	739	46	0	692	632	0	5	2	2	9	
LEVEL 24	250	250	0	0	0	0	0	0	0	0	
LEVEL 25	0	0	0	0	0	0	0	0	0	0	
LEVEL 26	0	0	0	0	0	0	0	0	0	0	
LEVEL 27	0	0	0	0	0	0	0	0	0	0	
LEVEL 28	0	0	0	0	0	0	0	0	0	0	
LEVEL 29	0	0	0	0	0	0	0	0	0	0	
LEVEL 30	0	0	0	0	0	0	0	0	0	0	
<b>TOTALS</b>	<b>83545</b>	<b>31391</b>	<b>7526</b>	<b>44628</b>	<b>38707</b>	<b>0</b>	<b>361</b>	<b>130</b>	<b>78</b>	<b>569</b>	

SHEET No. 312T003D1b.E: BIM 360/10206938\_OLTA\_Planming/10206938-TD012D1b-LKSRE-GERRARD.rvt

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ISSUANCE	
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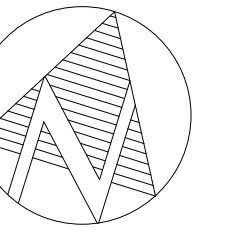
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DRAWN	NS_MD
CHECKED	MC
APPROVED	AG

**ONTARIO LINE**  
**ITOC**  
 LAKESHORE EAST | GERRARD  
 PROJECT STATISTICS

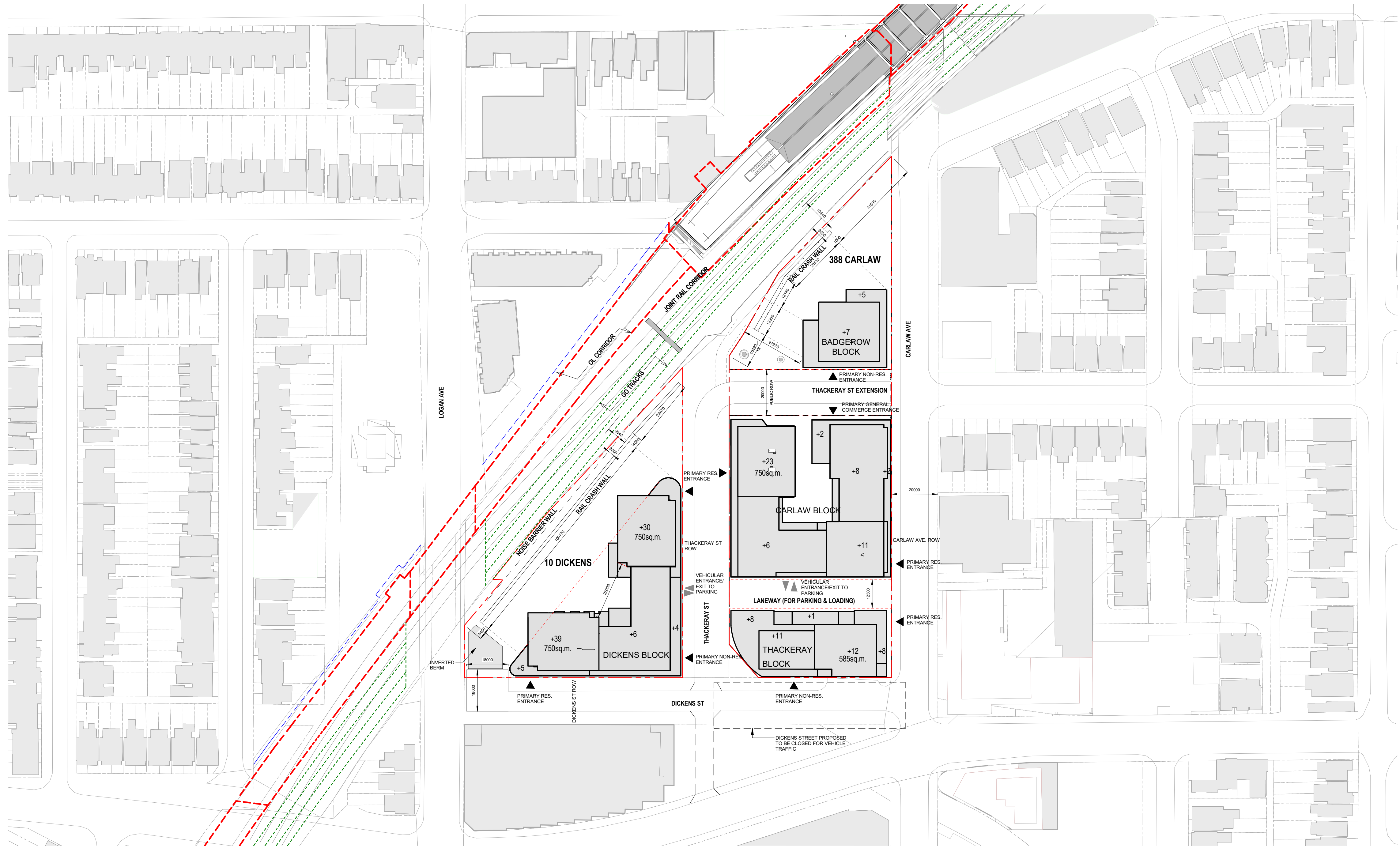
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ISSUANCE	
SITE PLAN CORRESPONDS TO EARLY ENGAGEMENT CONCEPT PRESENTED TO CoT ON DEC 07, 2021	

DRAFT

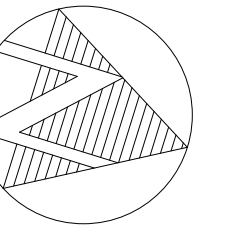
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**ONETEAM**  
ONTARIO LINE TECHNICAL ADVISOR

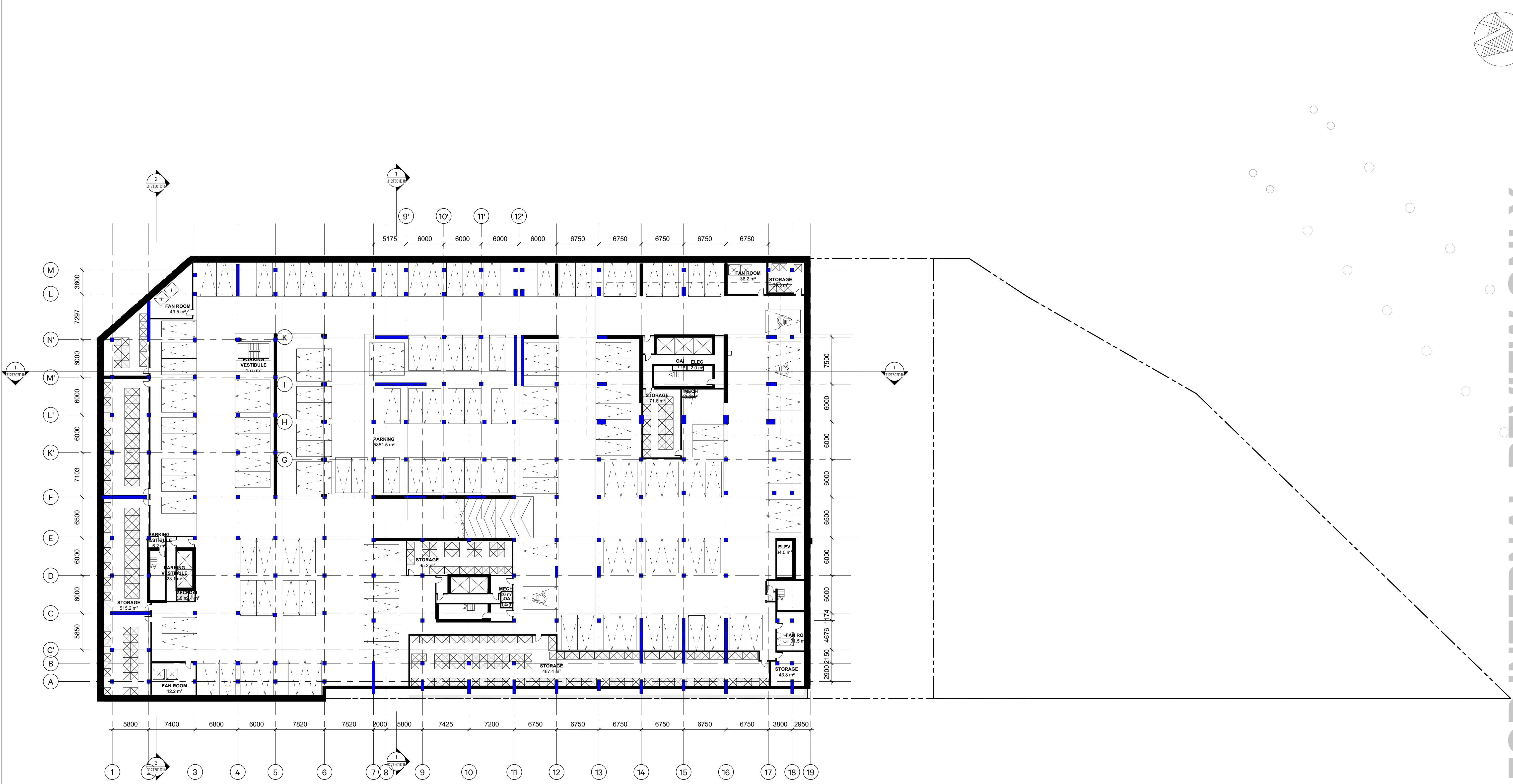
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DRAWN	_____
CHECKED	_____
APPROVED	_____

ONTARIO LINE  
TITLE  
TOC  
LAKESHORE EAST | GERRARD SOUTH  
ROOF SITE PLAN

Plot Date: 2022-10-03 3:55:33 PM  
**METROLINX**  
Infrastructure Ontario  
SCALE 1 : 1000  
DRAWING NUMBER 312T005



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ISSUANCE	
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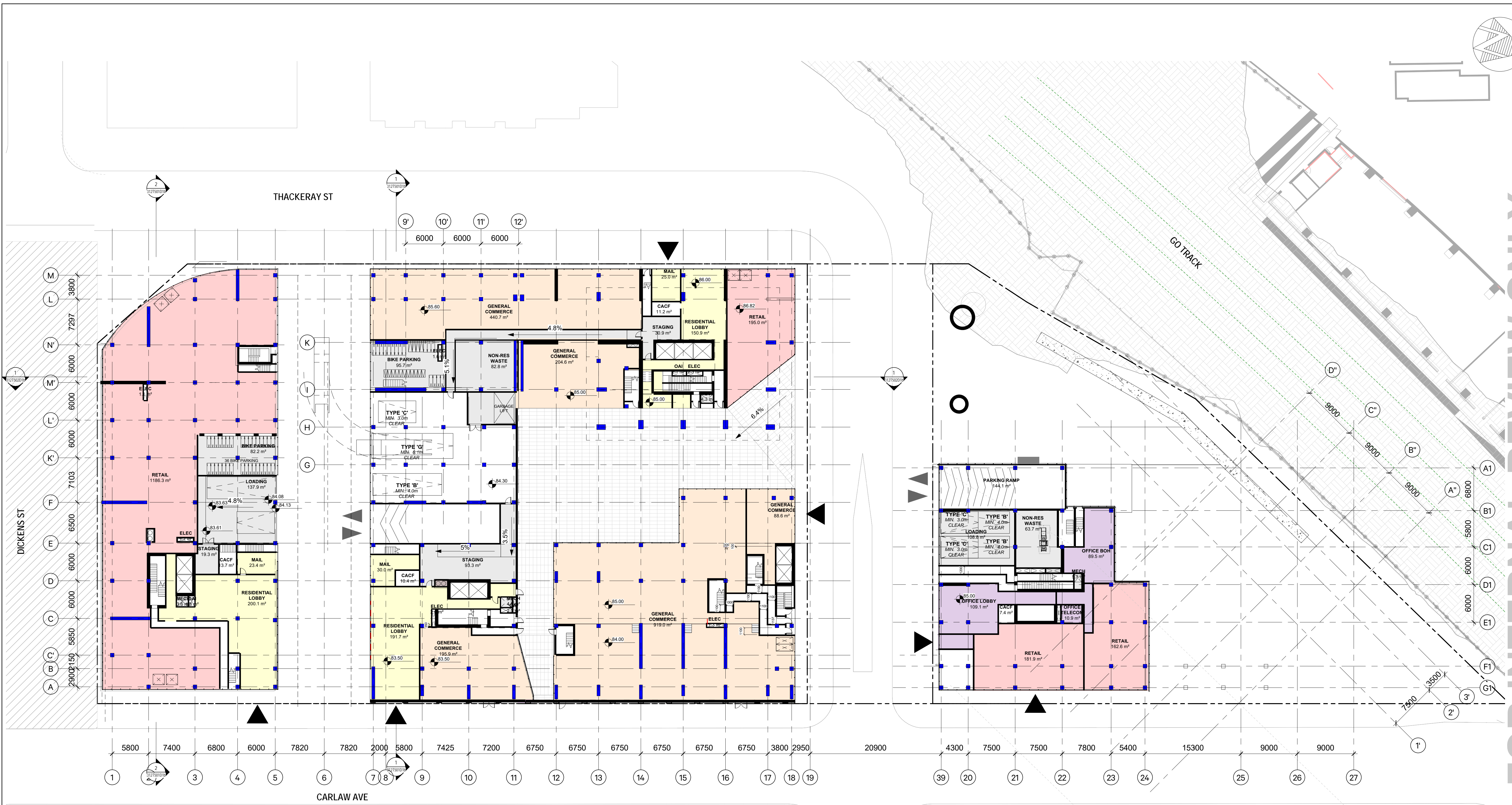
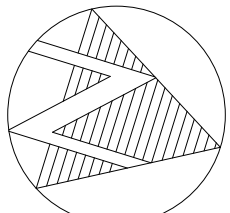
**ONETEAM**  
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	MC
DRAWN	NS, MD
CHECKED	MC
APPROVED	AG

ONTARIO LINE  
ITOC  
LAKESHORE EAST | GERRARD  
LEVEL B2 - PARKING LEVEL

Plot Date: 2022-10-04 3:05:36 PM  
**METROLINX**  
Infrastructure Ontario  
SCALE 1 : 300 DRAWING NUMBER 312T101D1b





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ISSUANCE

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NOT FOR CONSTRUCTION



DESIGNED MC  
DRAWN NS\_MD  
CHECKED MC  
APPROVED AG

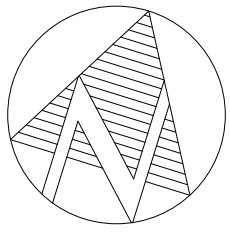
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TITLE  
ITOC  
LAKESHORE EAST | GERRARD  
LEVEL 01

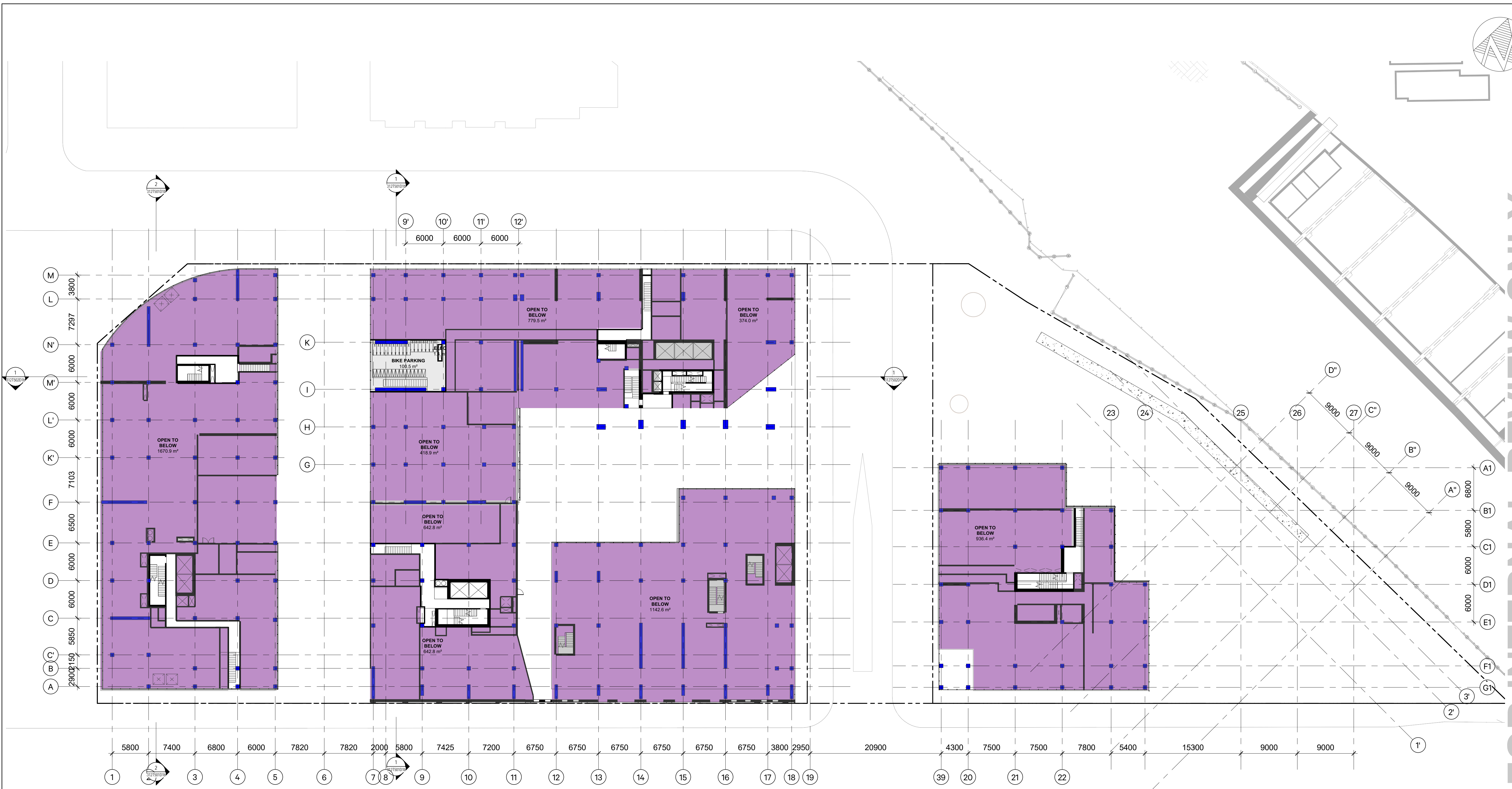
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ISSUANCE	

DRAFT



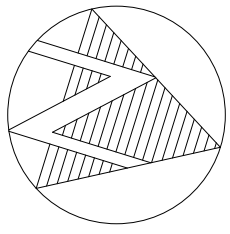
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DRAWN	Author
CHECKED	Checker
APPROVED	Approver

TITLE	

ONTARIO LINE

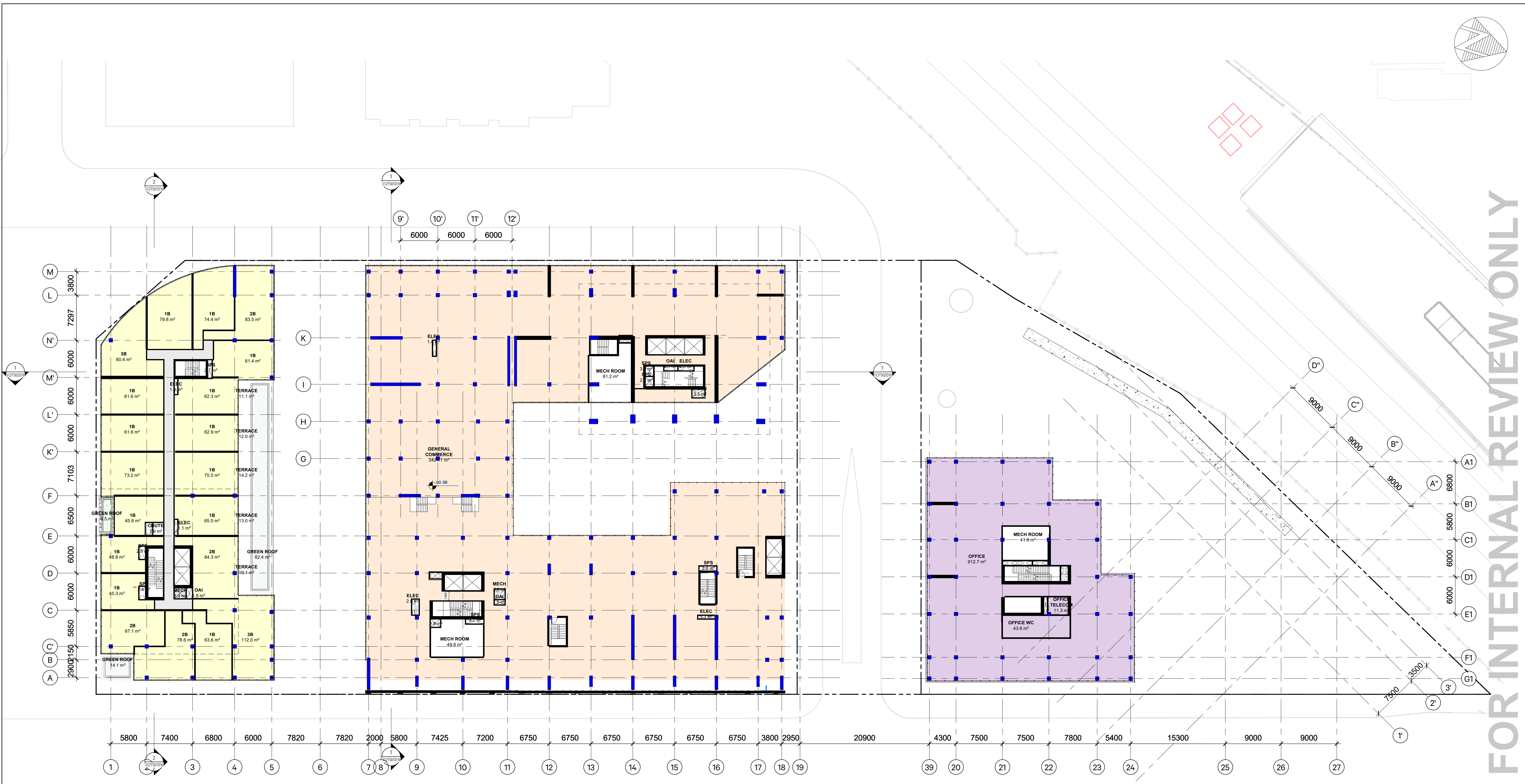
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METROLINX Infrastructure Ontario
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DRAWING NUMBER 312T202D1b



FOR INTERNAL REVIEW ONLY

SHEET No. 312T203D1b.E - BIM\_360/10206938-OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt



ISSUANCE	

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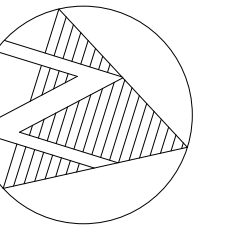
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NOT FOR ESTIMATING OR BIDDING  
NOT FOR CONSTRUCTION

**ONETEAM**  
ONTARIO LINE TECHNICAL ADVISOR

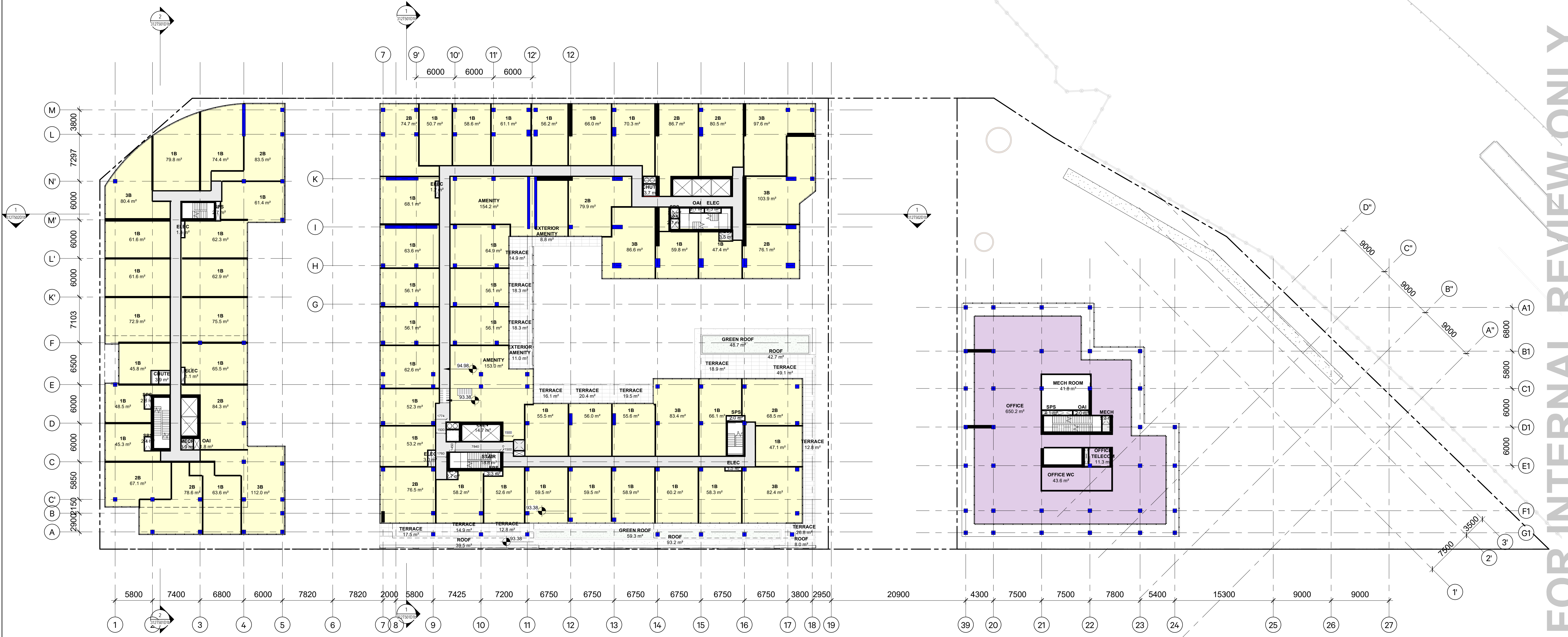
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DRAWN	NS, MD
CHECKED	MC
APPROVED	AG

**ONTARIO LINE**  
ITOC  
LAKESHORE EAST | GERRARD  
LEVEL 02

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Infrastructure Ontario  
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DRAWING NUMBER 312T203D1b



FOR INTERNAL REVIEW ONLY



LEVEL 03-08

SHEET No. 312T204D1b.E - BIM\_360/10206938\_OLTA\_Planning/10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt

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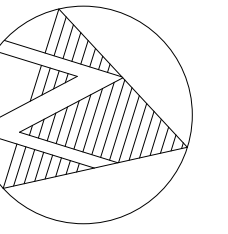
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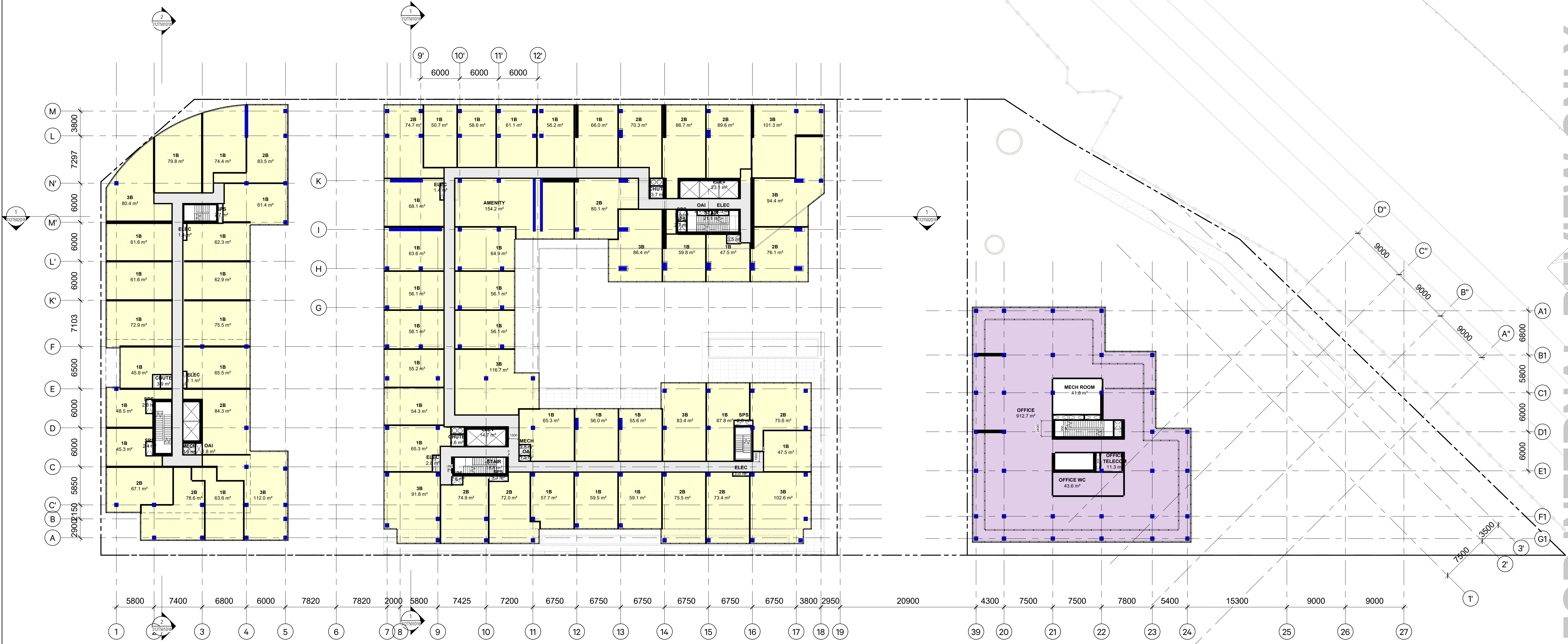
DESIGNED	MC
DRAWN	NS, MD
CHECKED	MC
APPROVED	AG

ONTARIO LINE	
TITLE	
ITOC LAKESHORE EAST   GERRARD LEVEL 03	

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METROLINX	
Infrastructure Ontario	
SCALE 1 : 300	DRAWING NUMBER 312T204D1b



FOR INTERNAL REVIEW ONLY

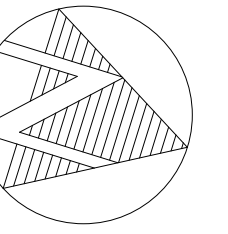


LEVEL 03-08

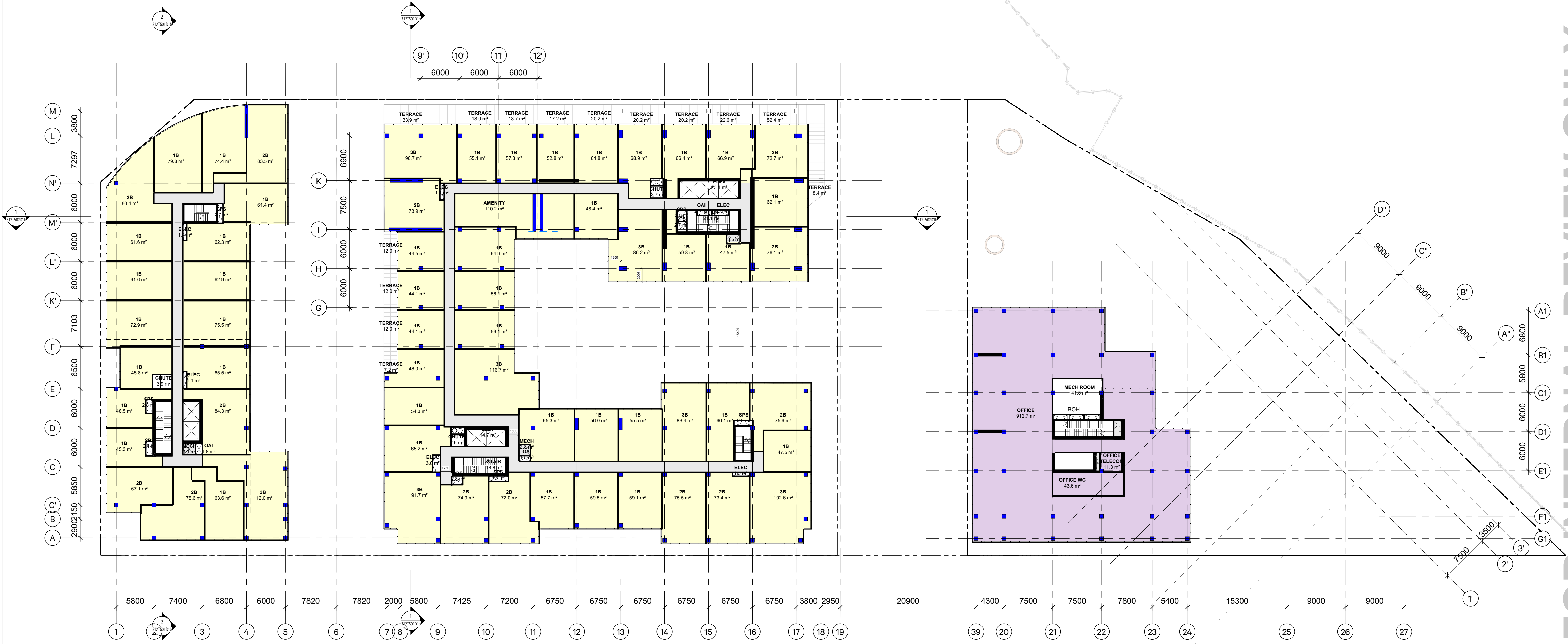
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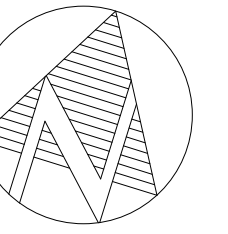
FOR INTERNAL REVIEW ONLY



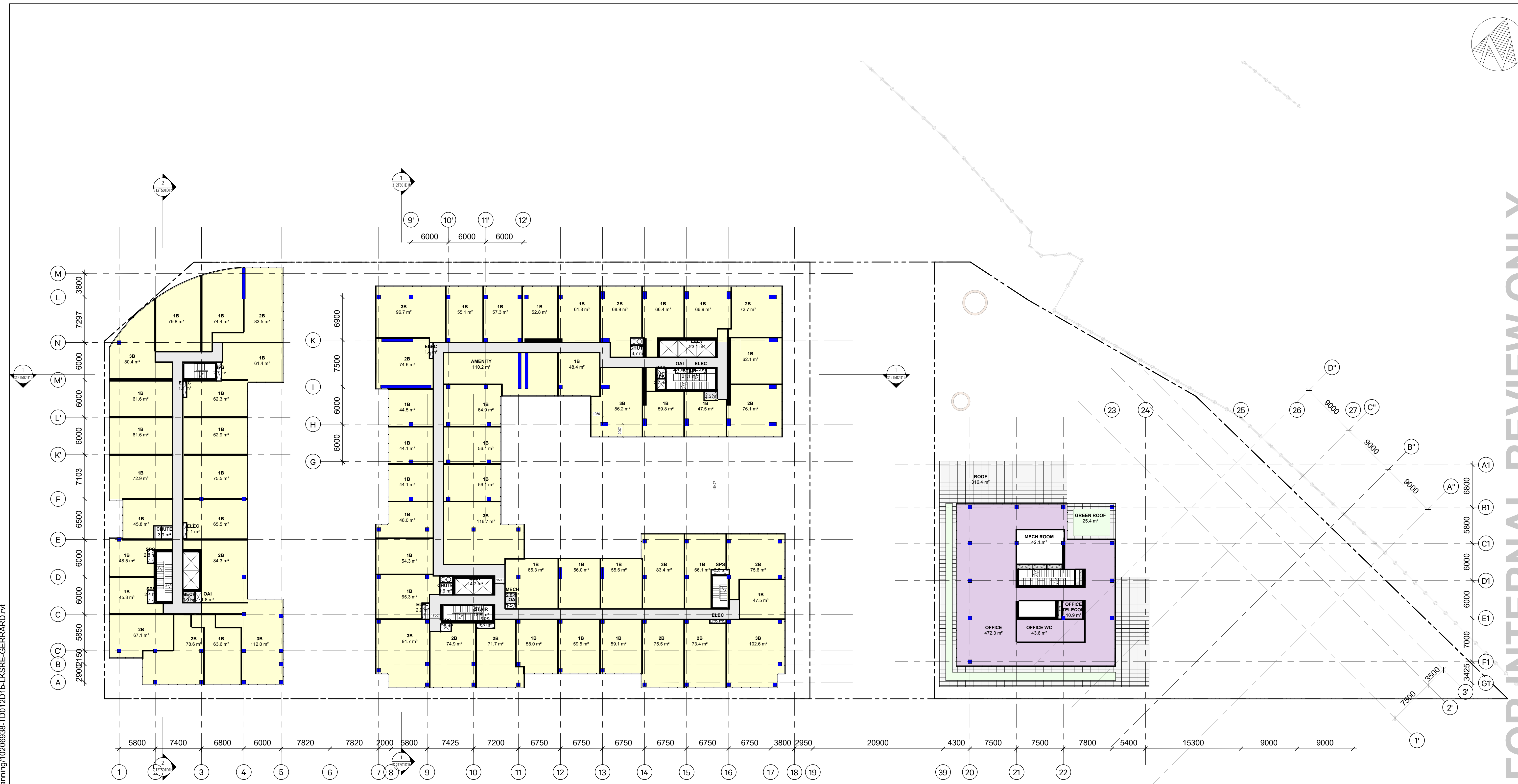
LEVEL 03-08

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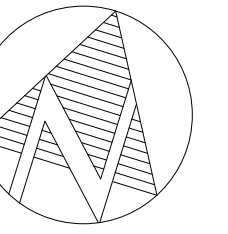
FOR INTERNAL REVIEW ONLY



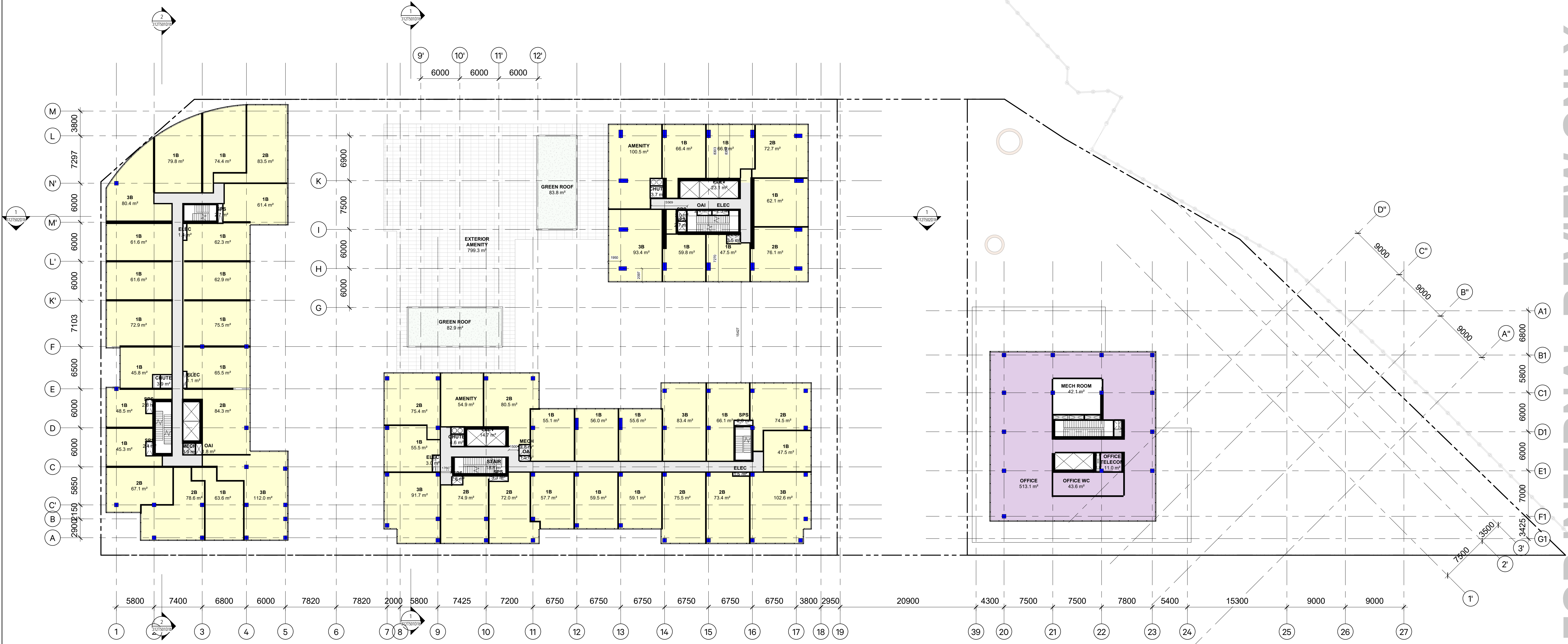
LEVEL 03-08

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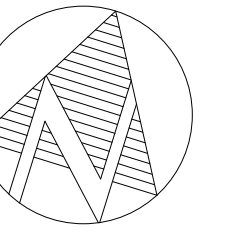
FOR INTERNAL REVIEW ONLY



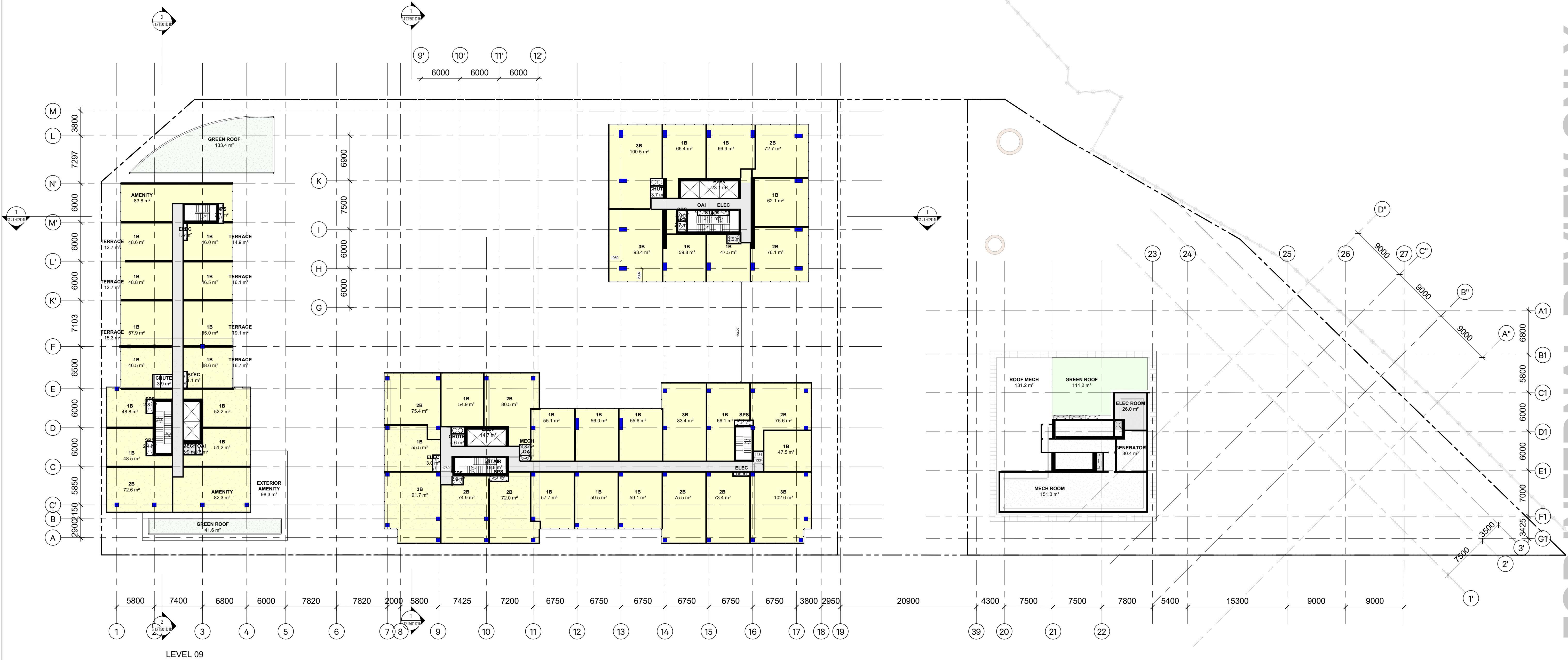
LEVEL 03-08

SHEET No. 312T208D1b\_E: BIM 360://10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt

ISSUANCE		DRAFT	 NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	 ONTARIO LINE TECHNICAL ADVISOR	DESIGNED <u>Designer</u> DRAWN <u>Author</u> CHECKED <u>Checker</u> APPROVED <u>Approver</u>	ONTARIO LINE		Plot Date: 2022-10-04 3:07:20 PM
						TITLE		 Infrastructure Ontario
						LEVEL 07		SCALE 1 : 300 DRAWING NUMBER 312T208D1b



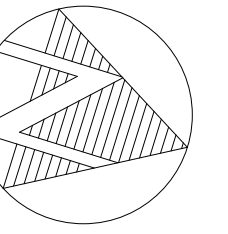
FOR INTERNAL REVIEW ONLY



LEVEL 09

SHEET No. 312T209D1b - BIM 360/10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt

ISSUANCE		DRAFT	 NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	 ONTARIO LINE TECHNICAL ADVISOR	DESIGNED <u>MC</u>	<b>ONTARIO LINE</b>  TITLE  <b>LEVEL 08</b>	Plot Date: 2022-10-04 3:07:37 PM
					DRAWN <u>NS, MD</u>		 Infrastructure Ontario
		CHECKED <u>MC</u>	SCALE 1 : 300				
		APPROVED <u>AG</u>	DRAWING NUMBER 312T209D1b				



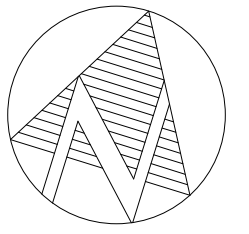
FOR INTERNAL REVIEW ONLY



LEVEL 10-11

SHEET No. 312T210D11E: BIM 360://10206938\_OLTA\_Planning/10206938-TD012D11b-LKSRE-GERRARD.rvt

ISSUANCE		DRAFT	 NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	 ONTARIO LINE TECHNICAL ADVISOR	DESIGNED <u>MC</u> DRAWN <u>NS_MD</u> CHECKED <u>MC</u> APPROVED <u>AG</u>	ONTARIO LINE ITOC LAKESHORE EAST   GERRARD LEVEL 09		Plot Date: 2022-10-04 3:07:52 PM  Infrastructure Ontario
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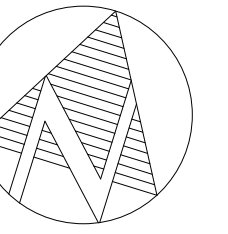
FOR INTERNAL REVIEW ONLY



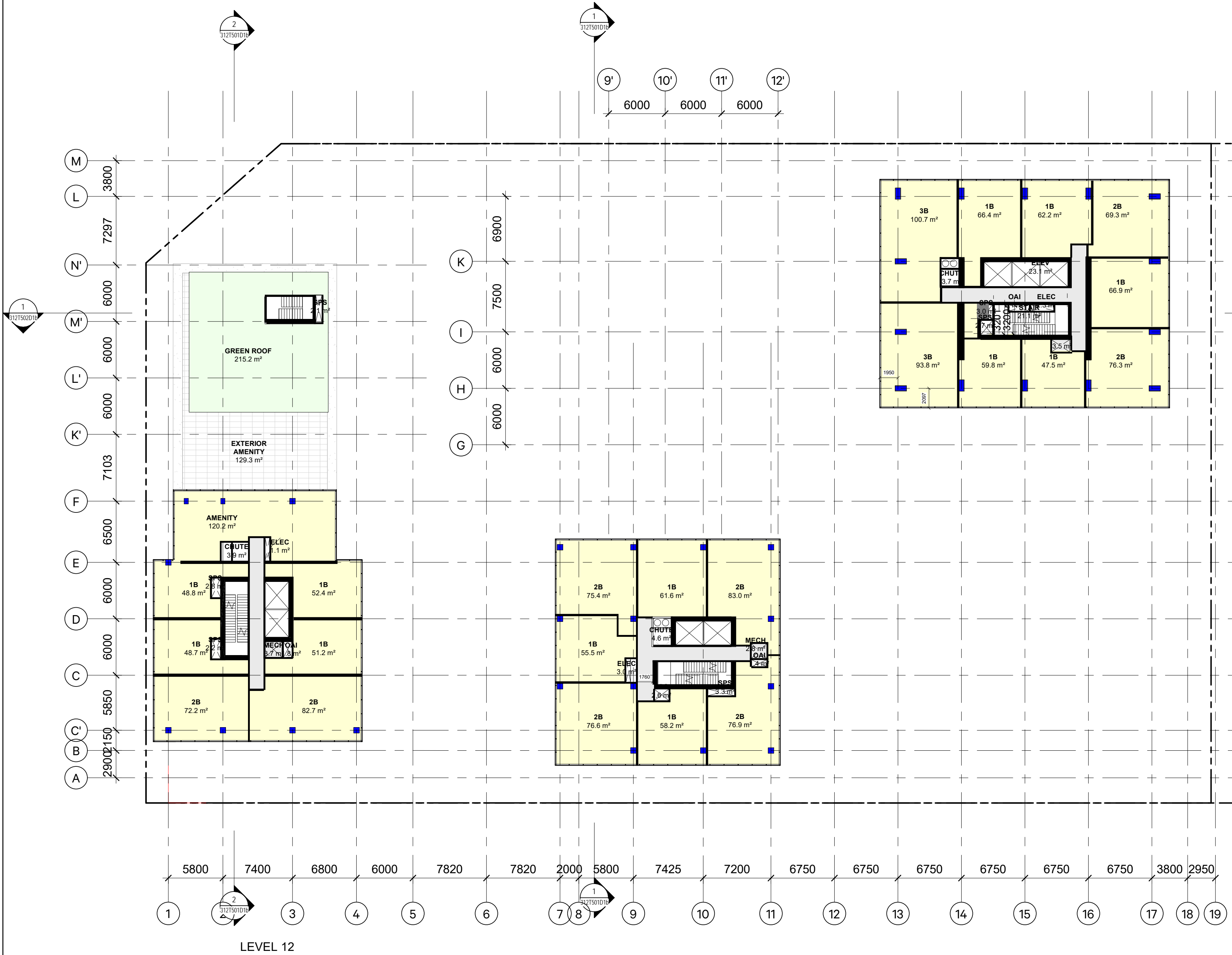
LEVEL 10-11

SHEET No. 312T211D1b FILE: BIM 360/10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt

ISSUANCE		DRAFT	 <b>SvN</b> NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	 <b>ONE TEAM</b> ONTARIO LINE TECHNICAL ADVISOR	DESIGNED <u>Designer</u> DRAWN <u>Author</u> CHECKED <u>Checker</u> APPROVED <u>Approver</u>	ONTARIO LINE		Plot Date: 2022-10-04 3:08:11 PM
						TITLE		 <b>METROLINX</b> Infrastructure Ontario
						LEVEL 10		SCALE 1 : 300
								DRAWING NUMBER 312T211D1b



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SHEET No. 312T212D1b.E: BIM 360://10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt

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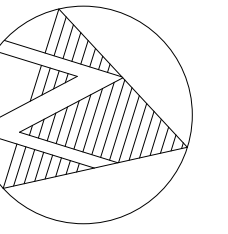
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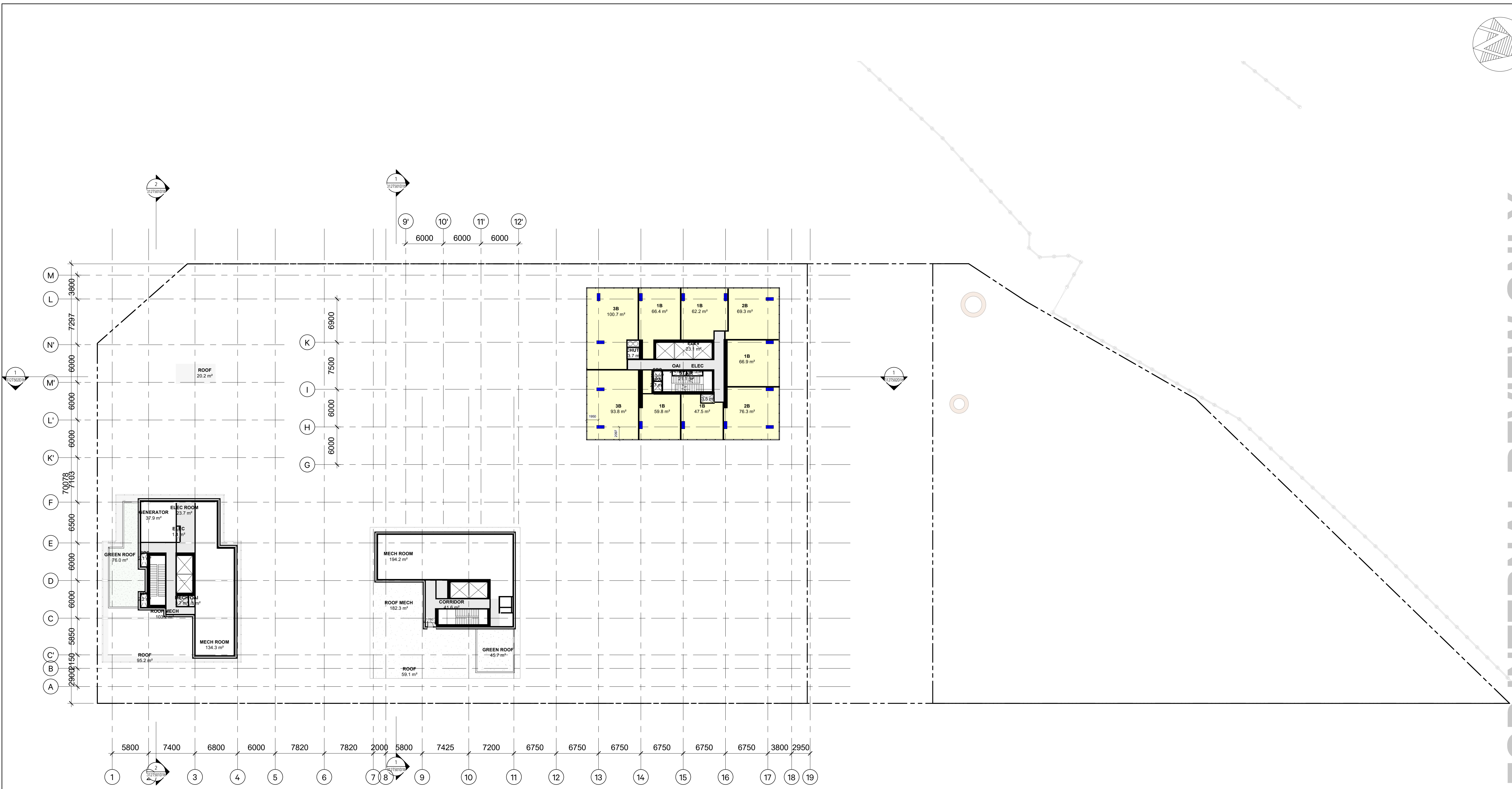
DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

ONTARIO LINE	
TITLE	
ITOC LAKESHORE EAST   GERRARD LEVEL 11	

Plot Date: 2022-10-04 3:08:34 PM	
METROLINX	
Infrastructure Ontario	
SCALE 1 : 300	DRAWING NUMBER 312T212D1b



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LEVEL MECH PH

SHEET No. 312T213D1b.E: BIM 360://10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt

ISSUANCE	

DRAFT

**SvN**  
 NOT FOR ESTIMATING OR BIDDING  
 NOT FOR CONSTRUCTION

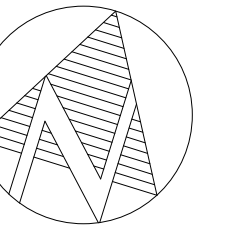


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DRAWN	NS, MD
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APPROVED	AG

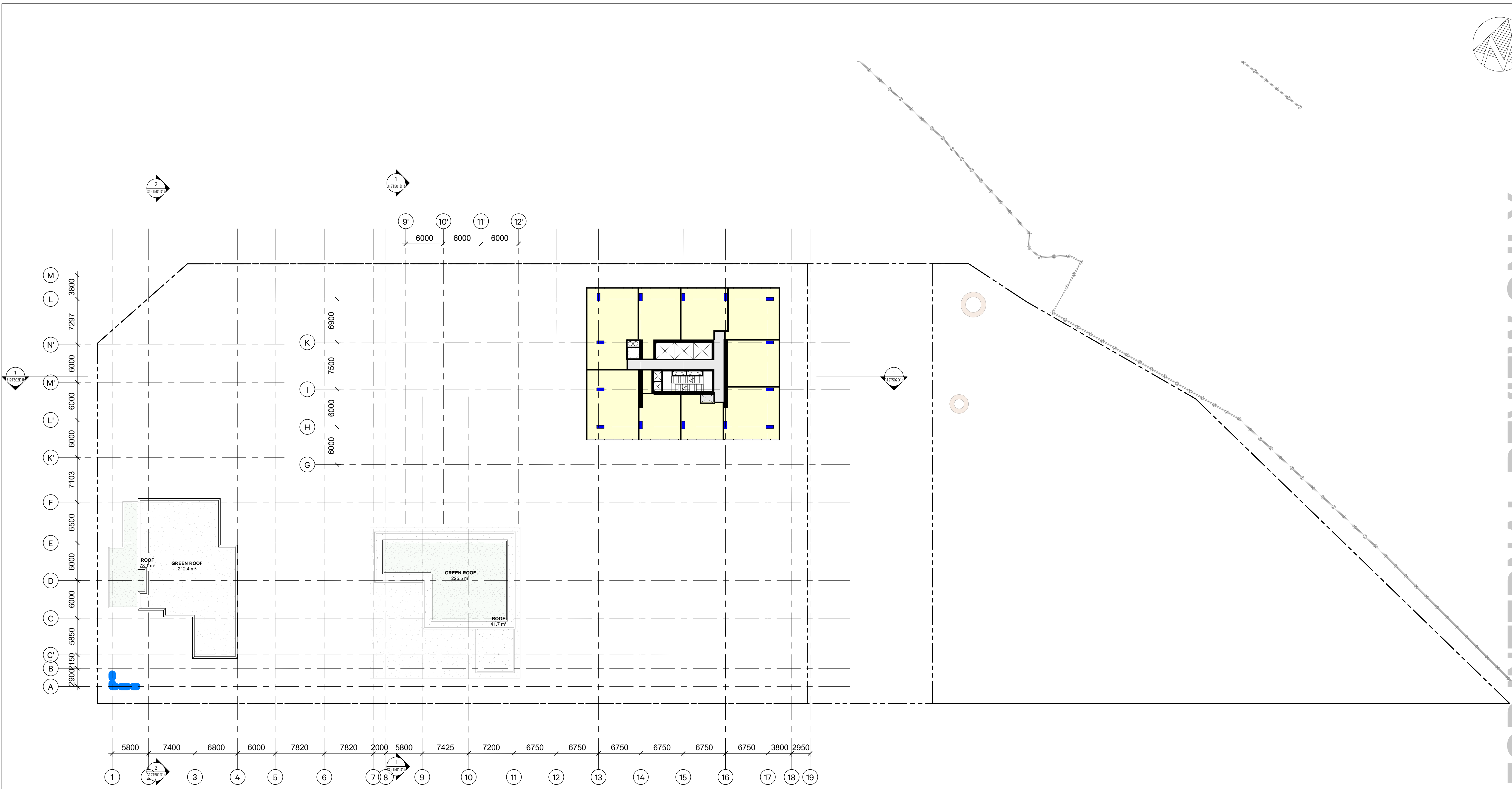
ONTARIO LINE	
ITOC	
LAKESHORE EAST   GERRARD	
LEVEL 12	

Plot Date: 2022-10-04 3:08:55 PM
<b>METROLINX</b> Infrastructure Ontario
SCALE: 1 : 300
DRAWING NUMBER: 312T213D1b





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SHEET No. 312T214D1b FILE: BIM\_360/10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt

ISSUANCE	

DRAFT



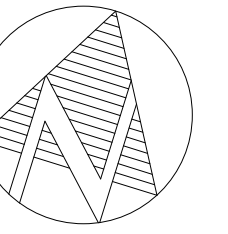
DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

TITLE	

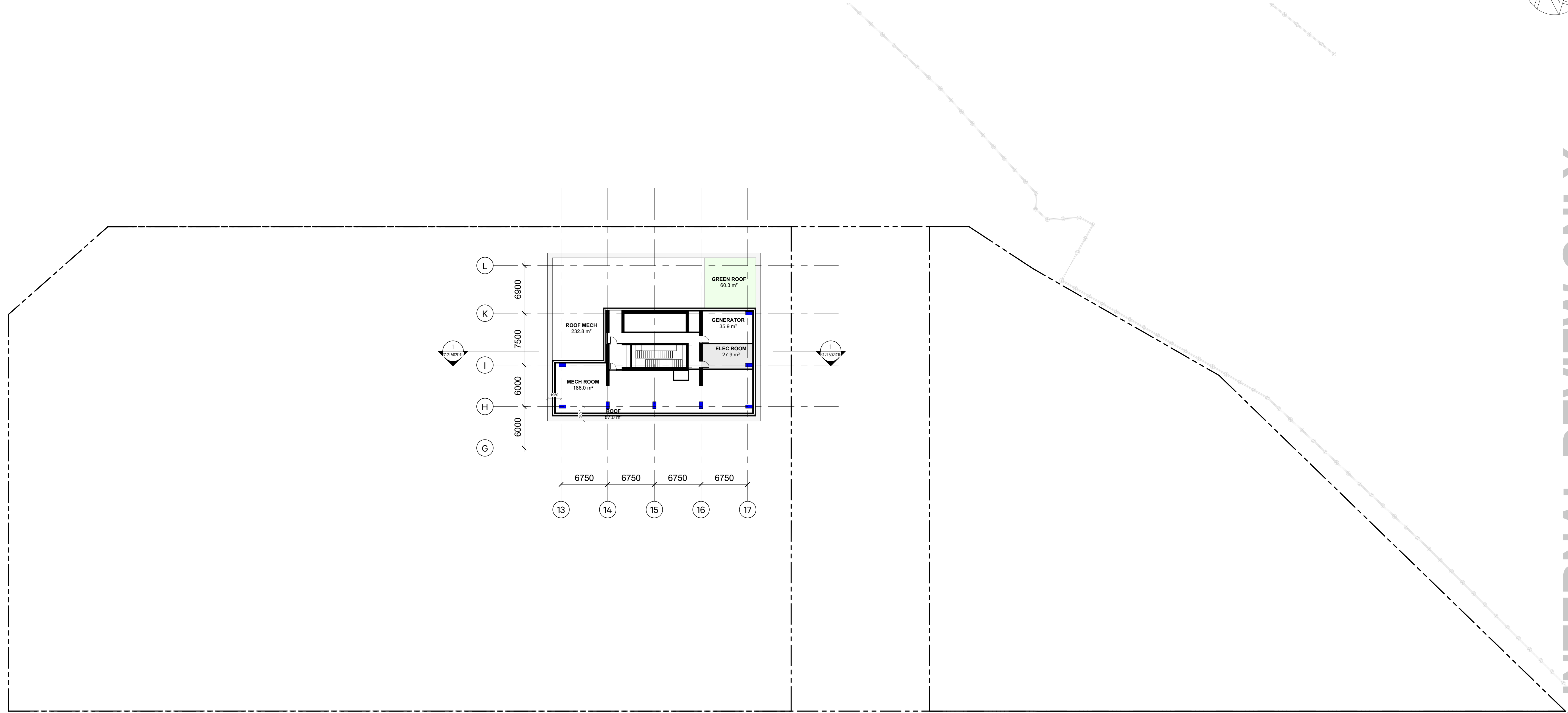
ONTARIO LINE

LEVEL 14

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METROLINX
Infrastructure Ontario
SCALE 1 : 300
DRAWING NUMBER 312T214D1b



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SHEET No. 312T215D1b FILE: BIM 360/10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt

ISSUANCE	
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DRAFT

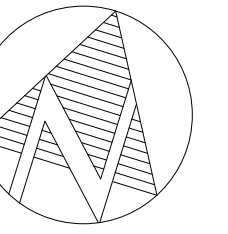
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 NOT FOR CONSTRUCTION

**ONETEAM**  
 ONTARIO LINE TECHNICAL ADVISOR

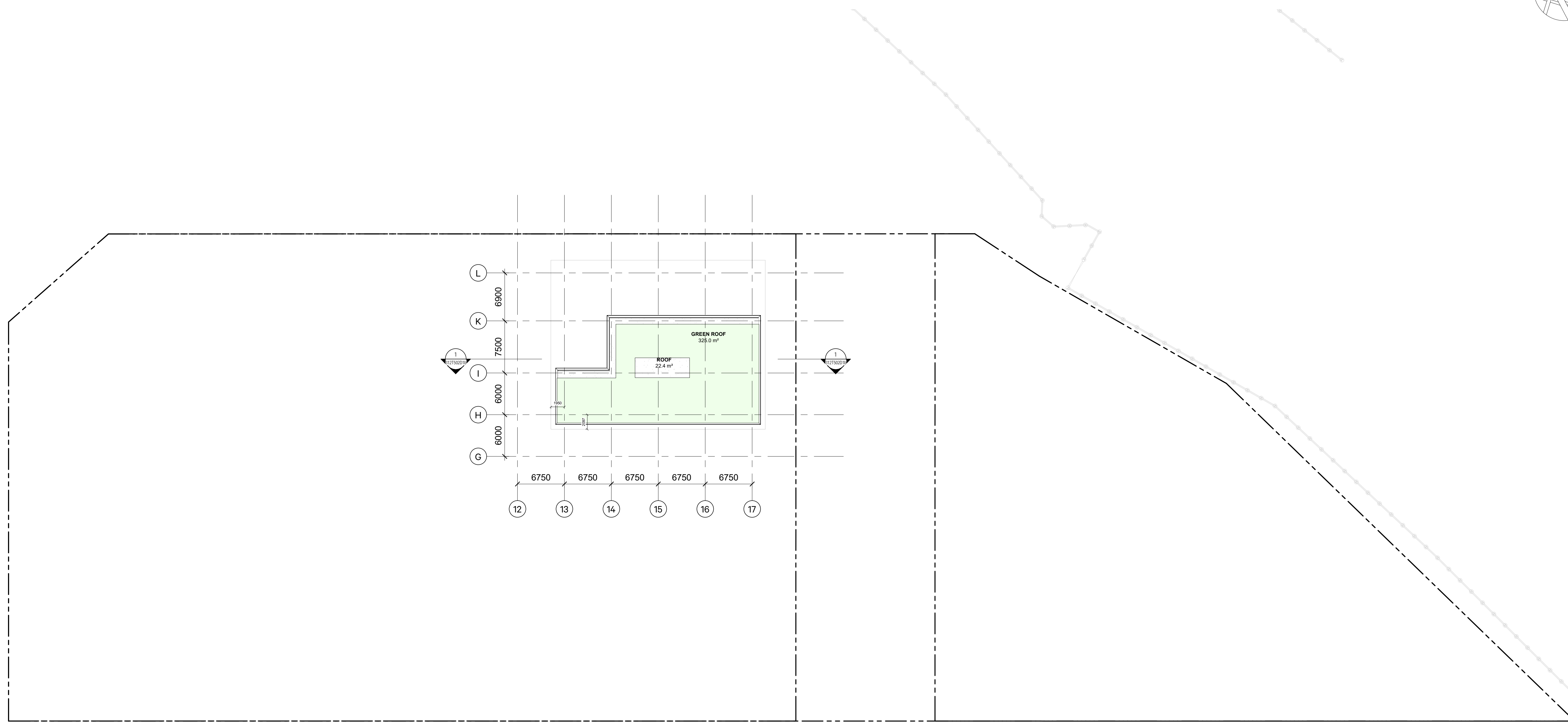
DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

ONTARIO LINE	
TITLE	
LEVEL 24	

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<b>METROLINX</b> Infrastructure Ontario
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DRAWING NUMBER 312T215D1b



FOR INTERNAL REVIEW ONLY



SHEET No. 312T216D1b.rvt FILE: BIM 360://10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt

ISSUANCE	

DRAFT

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 NOT FOR CONSTRUCTION

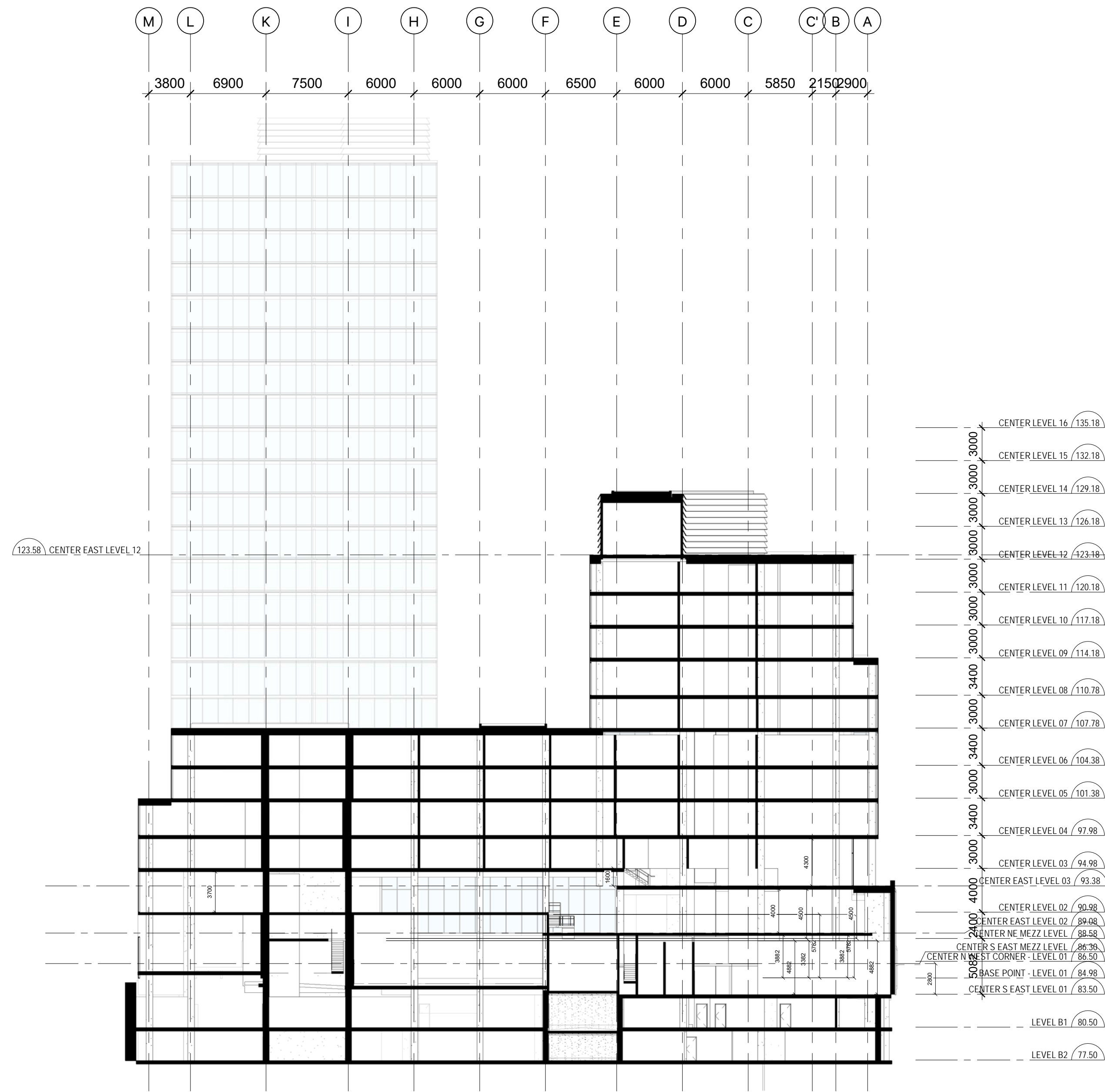
**ONETEAM**  
 ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

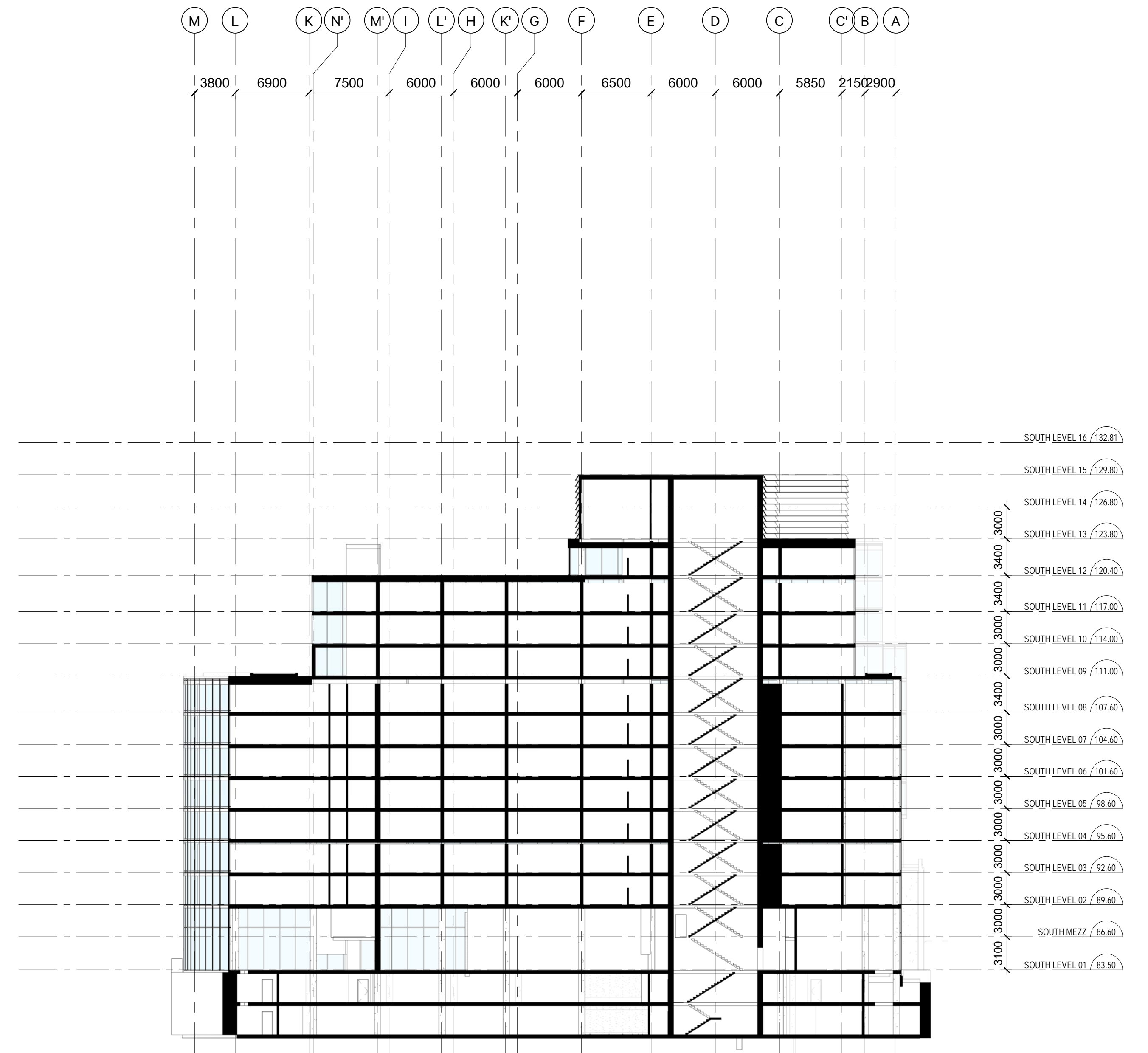
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	LEVEL 26

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Infrastructure Ontario	
SCALE	DRAWING NUMBER
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SHEET No. 312T501D1b FILE E: BIM 360/10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt



**1** CROSS SECTION  
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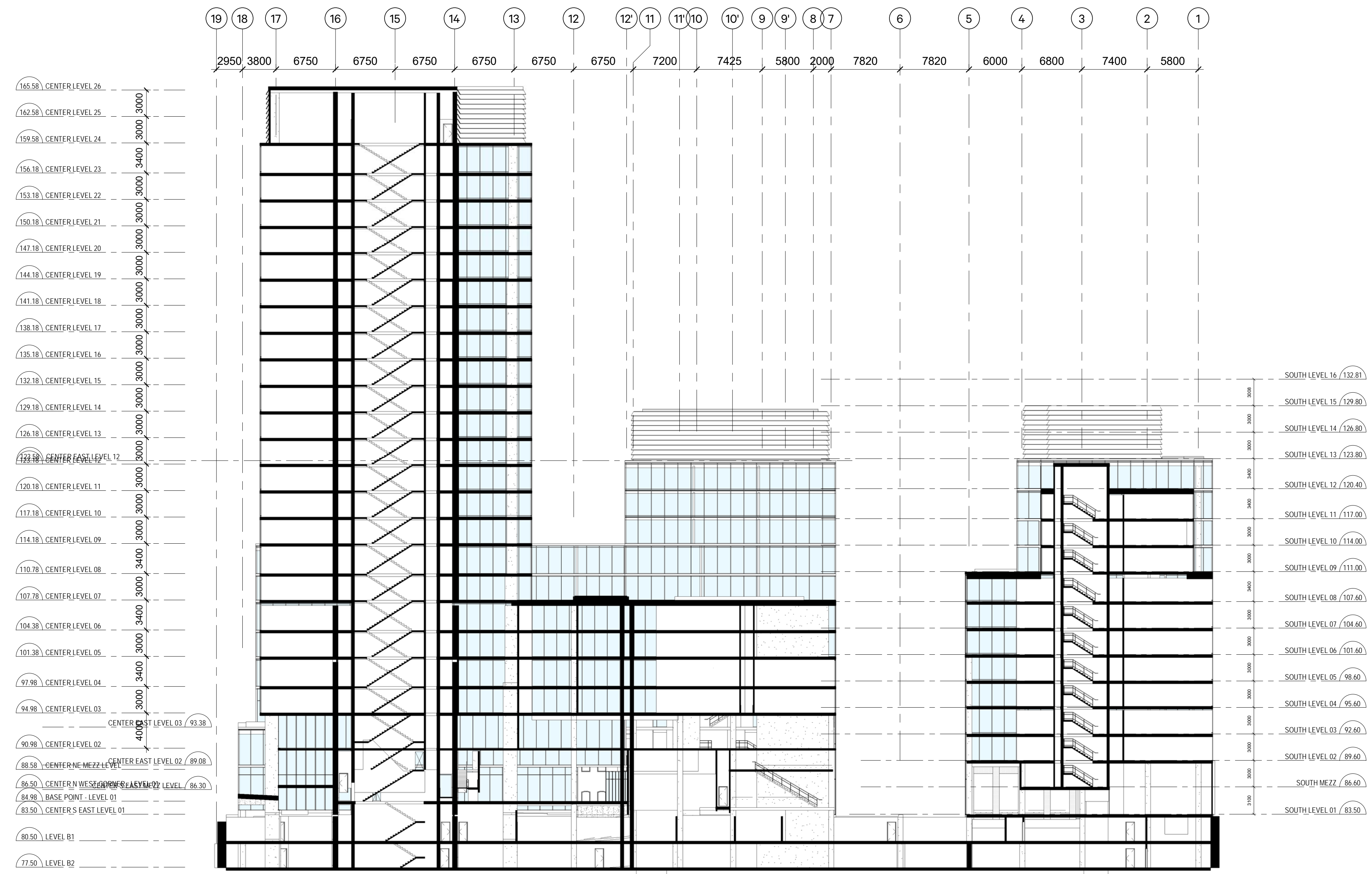


**2** CROSS SECTION - SOUTH  
1 : 300

FOR INTERNAL REVIEW ONLY

ISSUANCE		 NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	 ONTARIO LINE TECHNICAL ADVISOR	DESIGNED <u>MC</u>	ONTARIO LINE ITOC LAKESHORE EAST   GERRARD SECTIONS	Plot Date: 2022-10-04 3:09:27 PM
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		CHECKED <u>MC</u>	SCALE 1 : 300	DRAWING NUMBER 312T501D1b		
		APPROVED <u>AG</u>				

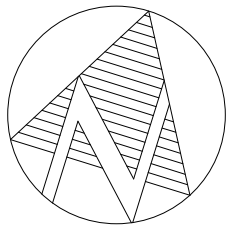
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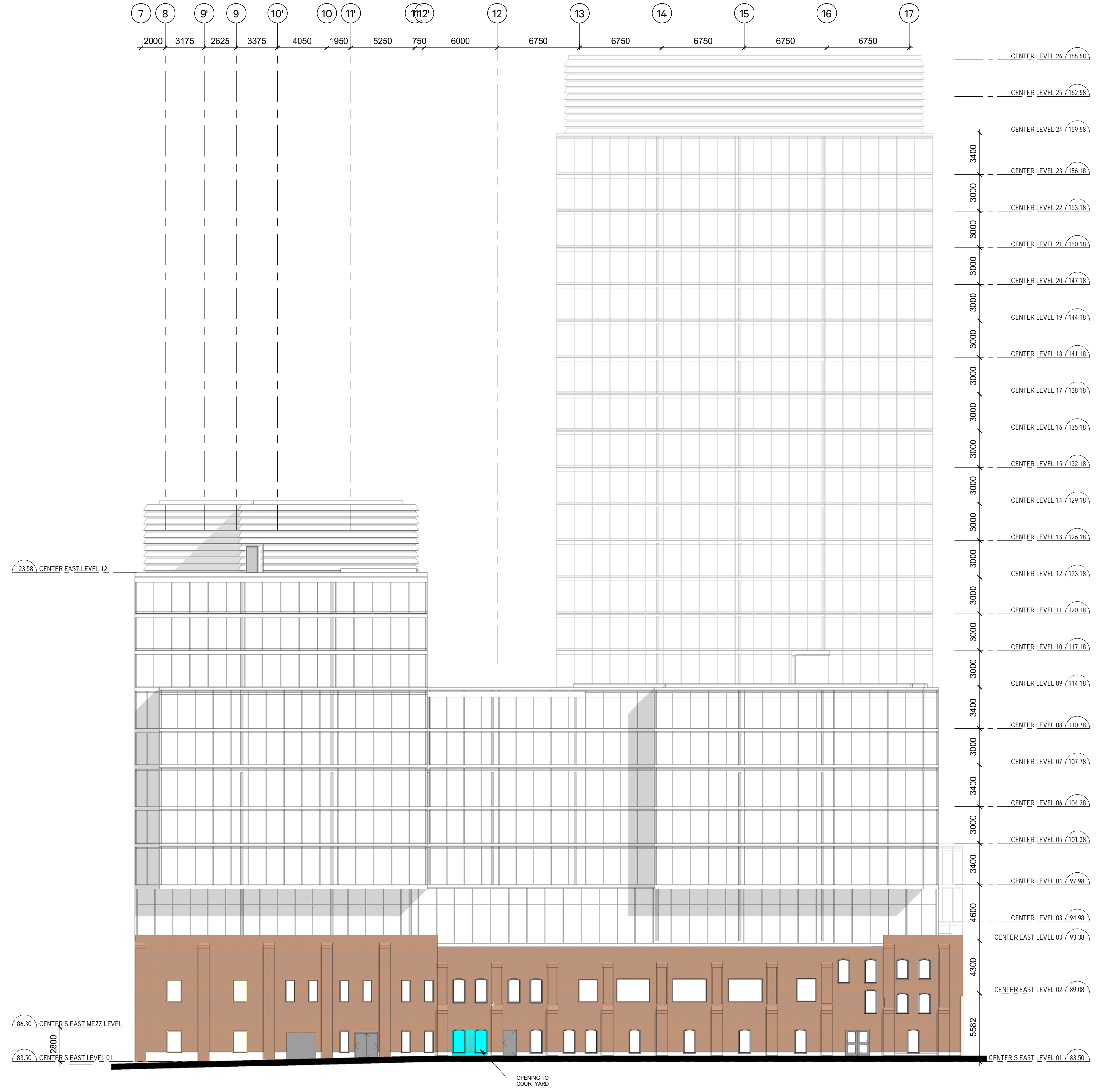
**1** LONG SECTION CENTER  
1 : 300

FOR INTERNAL REVIEW ONLY

ISSUANCE		DRAFT	 NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	 ONTARIO LINE TECHNICAL ADVISOR	DESIGNED <u>MC</u> DRAWN <u>NS, MD</u> CHECKED <u>MC</u> APPROVED <u>AG</u>	ONTARIO LINE ITOC LAKESHORE EAST   GERRARD SECTIONS		Plot Date: 2022-10-04 3:09:36 PM Infrastructure Ontario
						SCALE 1 : 300	DRAWING NUMBER 312T502D1b	



FOR INTERNAL REVIEW ONLY



EAST ELEVATION  
-1 CARLAW BLOCK  
1:200

SHEET No. 312T502D2b FILE: BIM 360://10206938\_OLTA\_Planning/10206938-TD012D1b-LKSRE-GERRARD.rvt

ISSUANCE		DRAFT	 NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	 ONTARIO LINE TECHNICAL ADVISOR	DESIGNED <u>Designer</u> DRAWN <u>Author</u> CHECKED <u>Checker</u> APPROVED <u>Approver</u>	ONTARIO LINE		Plot Date: 2022-10-04 3:09:56 PM
						Elevations		 METROLINX Infrastructure Ontario

## Appendix B. Rail Traffic Information

## LSE OnCorr Tracks

D1L6 (rev and non rev)  
 D2L12 (rev and non rev)  
 E1L6 (rev and non rev)  
 E2L12 (rev and non rev)  
 Freight  
 Via  
 D1L6 STF  
 E1L6 STF  
 E2L12 STF

East Harbor to Danforth - Combined Table							
Track 1 (Local)		Track 2 (Express)		Track 3 (Express)		Track 4 (Local)	
Day	Night	Day	Night	Day	Night	Day	Night
5	-	21	5	19	3	5	-
1	-	31	5	37	3	2	-
46	6	1	0	1	-	47	9
18	7	1	0	1	-	19	4
0	0	3	1	4	0	0	0
0	0	16	1	18	0	0	0
6	-	1	-	1	-	6	-
129	29	2	2	4	-	128	32
-	1	3	2	5	-	-	-

D1L6 (rev and non rev)  
 D2L12 (rev and non rev)  
 E1L6 (rev and non rev)  
 E2L12 (rev and non rev)  
 Freight  
 Via  
 D1L6 STF  
 E1L6 STF  
 E2L12 STF

East Harbor to US - Combined Table							
Track 1 (Local)		Track 2 (Express)		Track 3 (Express)		Track 4 (Local)	
Day	Night	Day	Night	Day	Night	Day	Night
5	-	21	5	19	3	5	-
1	-	31	5	37	3	2	-
46	6	1	0	1	-	47	9
18	7	1	0	1	-	19	4
0	0	3	1	4	0	0	0
0	0	16	1	18	0	0	0
6	-	1	-	1	-	6	-
129	29	2	2	4	-	128	32
-	1	3	2	5	-	-	-

Station	Route	D1L6		D2L12		E1L6		E2L12	
		DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT
<b>REVENUE</b>									
Danforth to East Harbour	GO Eastbound Revenue Local	5	-	2	-	47	9	19	4
	GO Eastbound Revenue Express 1	9	2	15	1	-	-	-	-
	GO Eastbound Revenue Express 2	2	-	11	1	-	-	-	-
	GO Westbound Revenue Local	5	-	1	-	46	6	18	7
	GO Westbound Revenue Express 1	14	1	9	4	-	-	-	-
	GO Westbound Revenue Express 2	2	-	10	1	-	-	-	-
East Harbour to Union	GO Eastbound Revenue Local	5	-	2	-	47	9	19	4
	GO Eastbound Revenue Express 1	9	2	15	1	-	-	-	-
	GO Eastbound Revenue Express 2	2	-	11	1	-	-	-	-
	GO Westbound Revenue Local	5	-	1	-	46	6	18	7
	GO Westbound Revenue Express 1	14	1	9	4	-	-	-	-
	GO Westbound Revenue Express 2	2	-	10	1	-	-	-	-
Whitby RMF to Union Station	GO Eastbound Non-Revenue	1	1	-	-	-	-	-	-
	GO Westbound Non-Revenue	1	4	-	-	-	-	-	-
Midland Layover to Union Station	GO Eastbound Non-Revenue	1	-	7	-	-	-	-	-
	GO Westbound Non-Revenue	-	-	6	-	-	-	-	-
Don Yard to Union Station	GO Eastbound Non-Revenue	6	-	4	1	1	-	1	-
	GO Westbound Non-Revenue	4	-	6	-	1	-	1	-
Danforth to East Harbour	GO Northbound Local	6	-	-	-	128	32	-	-
	GO Northbound Express	1	-	-	-	4	-	5	-
	GO Southbound Local	6	-	-	-	129	29	-	1
	GO Southbound Express	1	-	-	-	2	2	3	2

## Richmond Hill Future Tracks

D1L6 rev+non rev  
 D2L12 rev+non rev  
 E2L12 rev+non rev

Track 1 (WB/SB)		Track 2 (EB/NB)	
Day	Night	Day	Night
7	3	11	-
11	1	12	-
-	-	-	-

Station	Route	D1L6		D2L12		E2L12	
		DAY	NIGHT	DAY	NIGHT	DAY	NIGHT
<b>REVENUE</b>							
Oriole to Union	GO Southbound	7	3	8	1	-	-
	GO Northbound	11	-	9	-	-	-
<b>NON-REVENUE</b>							
Belleville Don Branch Layover to Union	GO Southbound	-	-	3	-	-	-
	GO Northbound	-	-	3	-	-	-



## Ontario Line Volumes

Name of Period	Period		Trains per Hour	No. Hours in Period	No. Trains per Period	
	Start	End	2060-2080 Data		2060-2080 Data	
Weekday 1	6:00	7:00	18	1	18	Night
Weekday 2	7:00	10:00	40	3	120	Day
Weekday 3	10:00	15:00	24	5	120	Day
Weekday 4	15:00	19:00	40	4	160	Day
Weekday 5	19:00	22:00	24	3	72	Day
Weekday 6	22:00	0:00	24	2	48	1/2 Day, 1/2 Night
Weekday 7	0:00	1:30	18	1.5	27	Night
			TOTAL		565	
			Day	07:00 to 23:00	<u>496</u>	
			Night	23:00 to 07:00	<u>69</u>	

Note: Trains per period are per track (i.e. in each direction on the corridor).