

953 Mapleview Drive East (Block 193) City of Barrie

Traffic Brief / Parking Study /
Construction Traffic Management Plan for
Mapleview South (Innisfil) Ltd.

Type of Document:
Final Report

Project Number:
JDE – 1302

Date Submitted:
June 14th, 2024



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1 Introduction

1.1 Background

Mapleview South (Innisfil) Ltd. [The Developer] is proposing a residential condominium development on Block 193, within the 953 Mapleview Drive East subdivision, located within the Hewitt's Secondary Plan Area in the City of Barrie [City]. A Traffic Brief was prepared by JD Engineering in May 2021 in support of the development of the subdivision. This report has been prepared in support of the Site Plan Approvals for Block 193.

The 953 Mapleview Drive East subdivision [Subject Site] is located on the south side of Mapleview Drive between Prince William Way and 20th Sideroad. An excerpt showing the 953 Mapleview Drive South subdivision lands within the Hewitt's Secondary Plan Overall Development Plan is provided in **Appendix A**. The Draft Plan of Subdivision for 953 Mapleview Drive East is provided in **Appendix A¹**.

Block 193 includes a total of 100 medium-density residential units.

The 953 Mapleview Drive East subdivision includes one intersection access onto Mapleview Drive East [Site Access]. Previously this intersection was to be full-movement, but it has since been confirmed that the Site Access will be restricted to right-in right-out [RIRO] functionality only. Roadway connections are also planned through lands to the east, west, and south.

The Developer has retained **JD Northcote Engineering Inc.** [JD Engineering] to prepare this Traffic Brief / Parking Study / Construction Traffic Management Plan in support of the proposed residential development in Block 193.

The subject lands were considered as part of the Hewitt's Transportation Study (LEA Consulting Ltd. February 2017) which has since been updated (February 2019). This Traffic Brief will build on and update the findings of the updated Hewitt's Transportation Study and other traffic projections in the local area.

1.2 Study Area

Figure 1 shows the location of the Subject Site and study area intersections in relation to the surrounding area. The Draft Plan of Subdivision by Jones Consulting Group Limited is shown in **Appendix B**.

The Subject Site is bound by Mapleview Drive East to the north and future residential lands to the east, west and south.

Through consultation with the City, the following intersections are included in the Traffic Brief:

- Mapleview Drive East / Site Access.

¹ The block numbering for the three medium density blocks has been revised in the Draft Plan of Subdivision to reflect the latest block numbering.

Figure 1 – Proposed Site Location and Study Area

1.3 Study Scope and Objectives

The purpose of this study is to identify the potential impacts to traffic flow at the site access and on the surrounding roadway network. The study analysis includes the following tasks:

- Consult with the City to address any traffic-related issues or concerns they have with the proposed development;
- Estimate future traffic volumes through the study area based on the updated Hewitt's Transportation Study, the City's Emme models and the most recent development plans;
- Complete a LOS analysis of horizon year traffic conditions and identify additional operational deficiencies;
- Review the need for auxiliary turn lanes at the study intersection;
- Identify improvement options to address operational deficiencies; and
- Document findings and recommendations in a final report.

1.4 Horizon Year and Analysis Periods

The 2026 and 2031 horizon years were selected for analysis of traffic operations in the study area. The 2026 horizon was chosen to evaluate the need for temporary improvements on Maplevue Drive East,

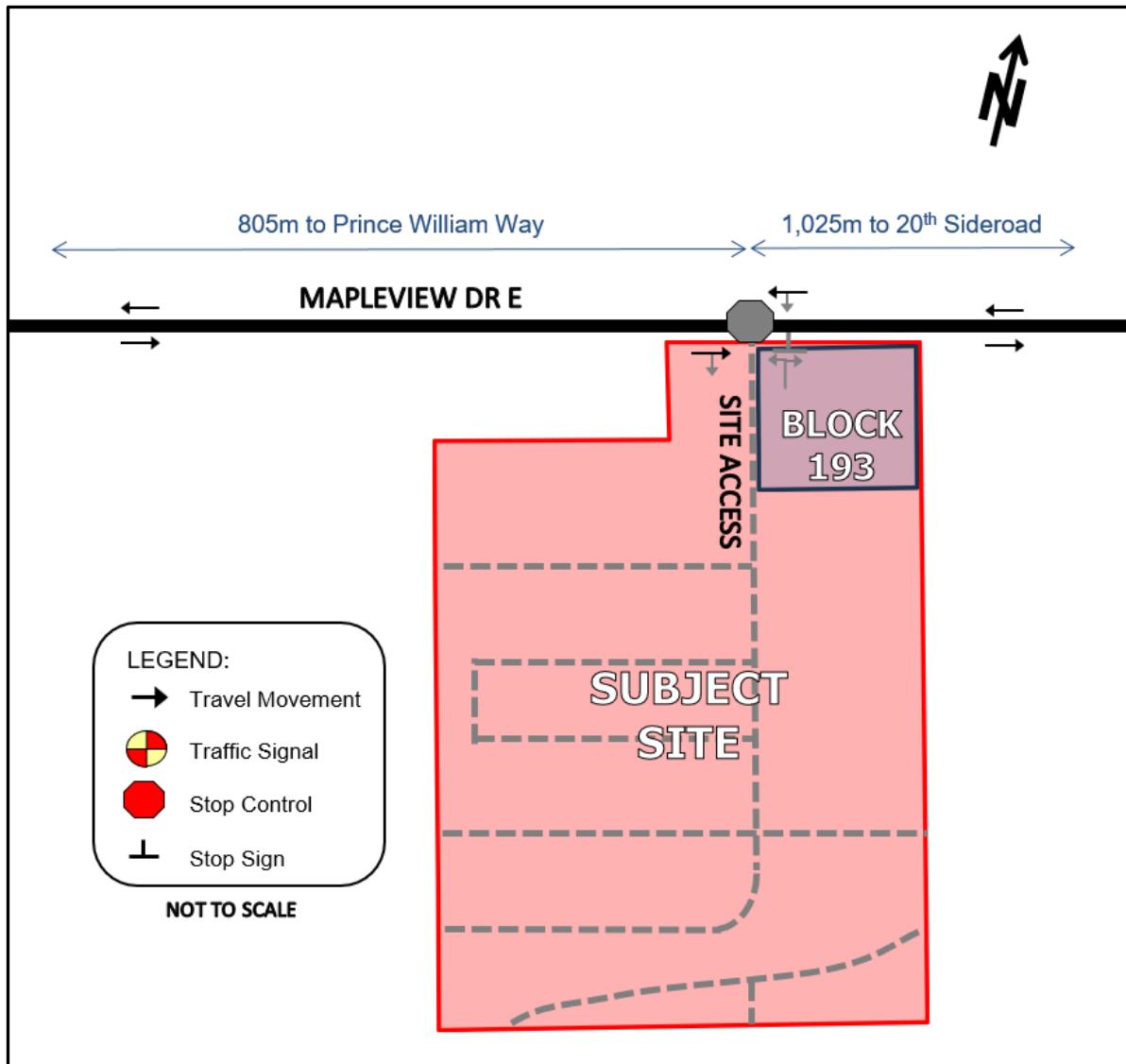
prior to the road widening which is anticipated to be completed by the City post 2026 (the City currently does not have a set timeline for the planned road widening). The weekday morning [AM] and weekday afternoon [PM] peak hours have been selected as the analysis periods for this study.

2 Information Gathering

2.1 Street and Intersection Characteristics

Mapleview Drive East is a two-lane arterial road with a rural cross-section within the study area. Mapleview Drive East has a posted speed limit of 60km/h and is under the jurisdiction of the City.

The existing intersection spacing and lane configuration within the study area is illustrated in **Figure 2**.

Figure 2 – Existing (2024) Intersection Spacing and Lane Configuration within Study Area

2.2 Local Transportation Infrastructure Improvements

In review of the City's Capital Project Detail Report, the following road improvements are anticipated within the study area:

- Maplevue Drive East (within study area)
 - Addition of two way left turn lane to provide a 3-lane cross-section;
 - Buffered bike lanes;
 - Sidewalk on the south side of the road; and
 - Multi-use trail on the north side.

Based on our correspondence with the City, it is our understanding that these improvements have been delayed to post 2026. It is also noted that the City is considering the construction of a 5-lane cross-

section on Mapleview Drive East between Prince William Way and Terry Fox Drive, rather than the previously planned 3-lane cross-section. However, in order to be conservative, the 3-lane cross-section has been used in the traffic modeling.

2.3 Traffic Data

A review of the City's Emme model was completed to establish the projected traffic volumes adjacent to the Subject Site during the 2026 and 2031 horizon years (Excerpts are provided in **Appendix C**). A summary of the traffic data is provided in **Table 1**.

Table 1 – Traffic Data

ROAD	Section	2016				2031			
		AM		PM		AM		PM	
		EB	WB	EB	WB	EB	WB	EB	WB
Mapleview Dr E	East of Prince William Way	196	147	299	158	490	664	797	515

The 2026 horizon year traffic volumes are provided in are **Table 2**, estimated by interpolating between the 2016 and 2031 Emme volumes.

Table 2 – 2026 Horizon Year Traffic Volumes

ROAD	Section	2026			
		AM		PM	
		EB	WB	EB	WB
Mapleview Dr E	East of Prince William Way	392	492	631	396

3 Proposed Development

The 953 Mapleview Drive East subdivision is proposed to include the following:

- Block 193 – 100 apartment units;
- Block 192 – 120 apartment units;
- Block 191 – 16 townhouses and 261 – 332 apartment units; and
- Subdivision – 150 single detached units and 61 townhouses (north of the creek).

For a total of:

- 150 single detached units;
- 77 townhouses; and
- 481 – 552 apartment units.

As previously mentioned, the proposed development includes a right-in right-out access onto Mapleview Drive East. The occupancy timeframe of the proposed development has been projected as follows:

- 2026 – 220 occupancies;
- 2031 – 559 occupancies (779 total).

The Draft Plan of the Subdivision including Block 193 is provided in **Appendix B**.

3.1 Traffic Generation

The traffic generation for Block 193 has been based on proxy site survey trip rates as utilized in the Hewitt's Transportation Study. The trip rates and estimated trip generation for the proposed development is illustrated below in **Table 3**.

Table 3 – Trips Rates and Estimated Trip Generation of Proposed Development - Block 193

Horizon Year	Size	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Proxy Site Trip Rate	-	0.14	0.34	0.48	0.41	0.25	0.66
Block 193	100 units	14	34	48	41	25	66
953 Mapleview Drive (Total)	779 units ¹	109	265	374	319	195	514

¹For the purpose of this study, the highest proposed unit count has been considered

As shown, the Subject Site is estimated to generate a total of 374 AM and 514 PM peak hour trips during the 2031 horizon year.

Block 193 will attribute 48 AM and 66 PM peak hour trips to the total.

3.2 Traffic Assignment

The assignment of traffic volumes through the study area has been assumed to follow the same distribution as utilized in the Hewitt's Transportation Study for the subject lands. The distribution has been derived from the future (2031) PM peak synchro analysis for the Street 24 (Site Access) / Mapleview Drive East intersection (Excerpts are provided in **Appendix C**). The distribution is illustrated in **Table 4**.

Table 4 – Proposed Development Traffic Distribution

Travel Direction (to / from)	Percent of Total Traffic Generation			
	AM Peak Hour		PM Peak Hour	
	IN	OUT	IN	OUT
East via Mapleview Drive E	20%	6%	20%	6%
West via Mapleview Drive E	80%	94%	80%	94%
TOTAL	100%	100%	100%	100%

As the Site Access has been restricted to right-in right-out functionality only, it is anticipated that trips arriving from the east or departing to the west will utilize internal connections through adjacent subdivisions to the east, west, and south, as the lands are developed. These connections are shown on the Draft Plan and the Hewitt Secondary Plan excerpt and include Street 'E' to the west, Street 'A' (McAush Street) to the east and west, Street 'C' to the west, and future Street 'B' (Terry Fox Drive) to the east and southwest.

The site traffic assignment for the proposed development during the AM and PM peak hour is illustrated in and **Figure 3 and 4**.

Figure 3 – Site Traffic Assignment (2026)

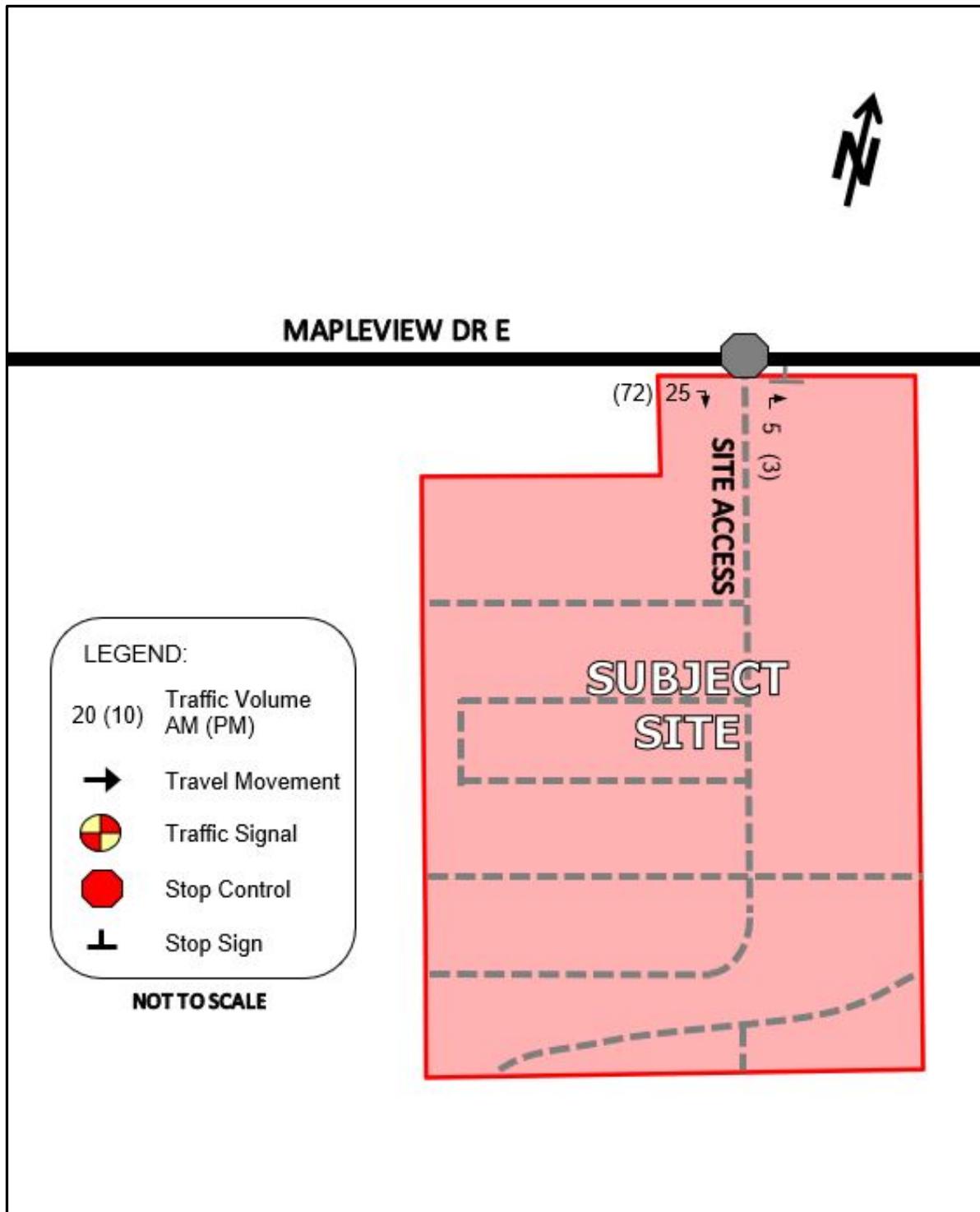
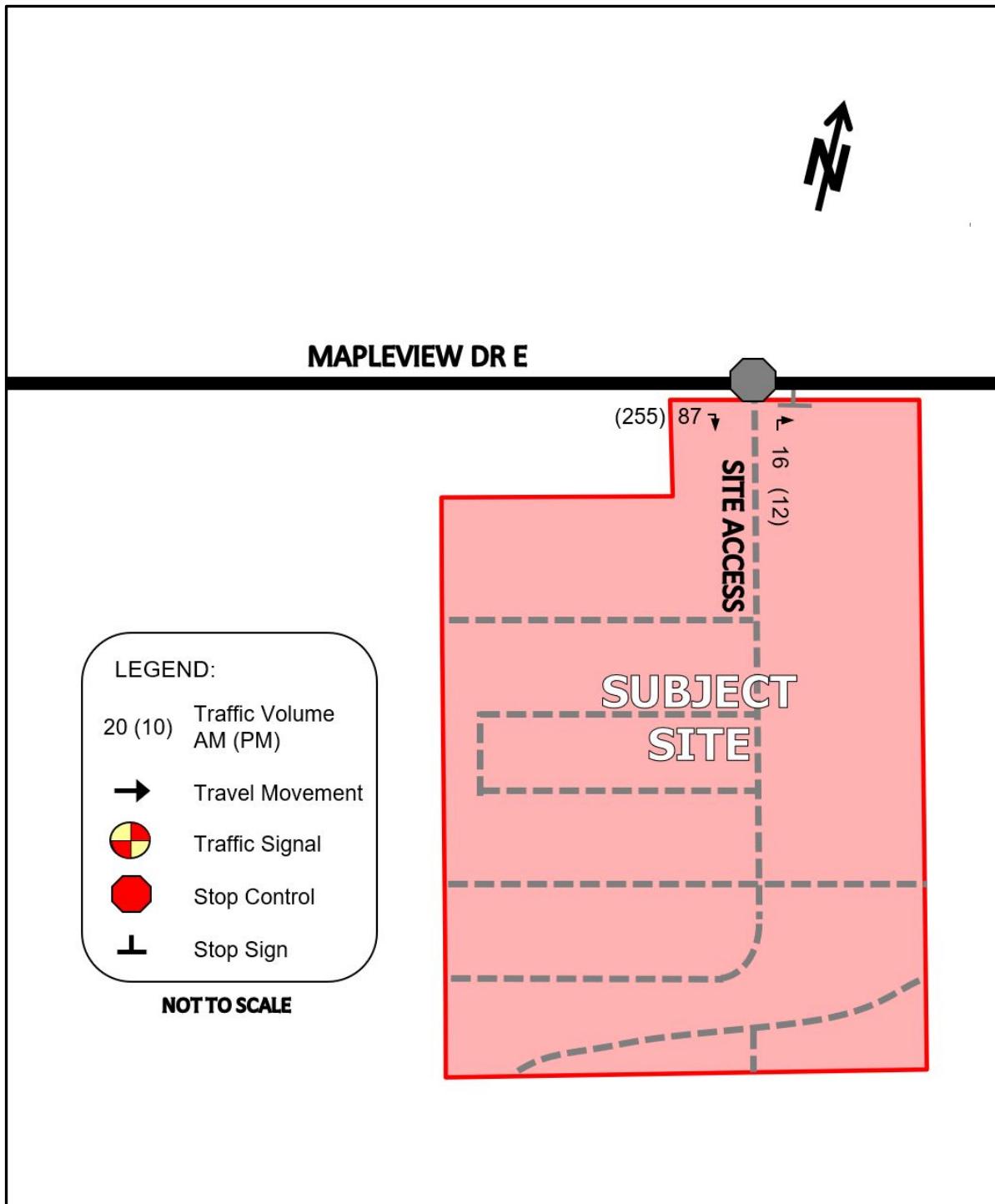


Figure 4 – Site Traffic Assignment (2031)



4 Horizon Year Traffic Volumes

Traffic volumes for the 2026 and 2031 horizon years were established based on the midblock EMME volumes (illustrated in **Table 1** and **Table 2**) in addition to the site generated traffic volumes.

Figure 5 and **Figure 6** illustrate the 2026 and 2031 peak hour traffic volumes within the study area.

Figure 5 – 2026 Horizon Year Traffic Volumes

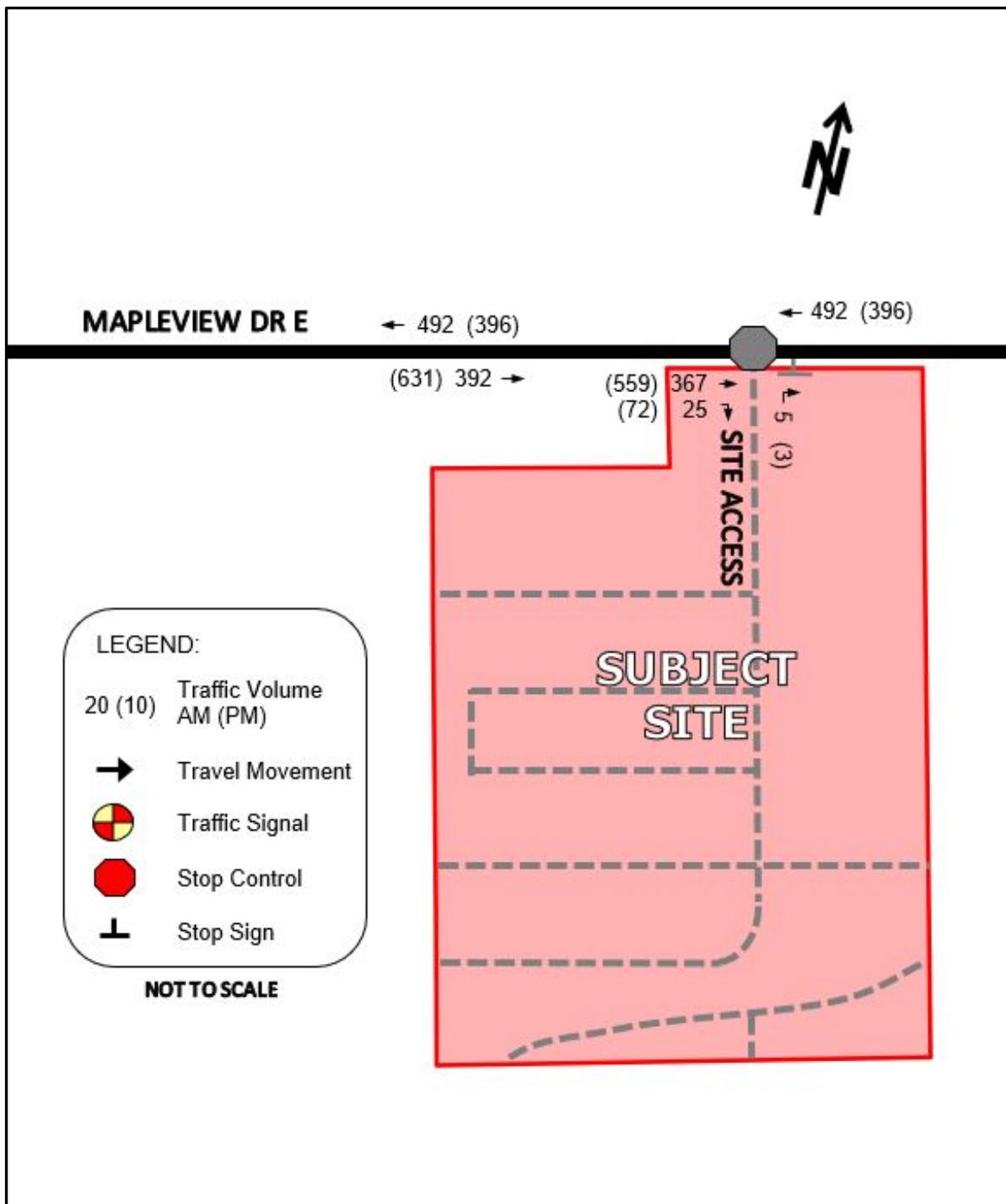
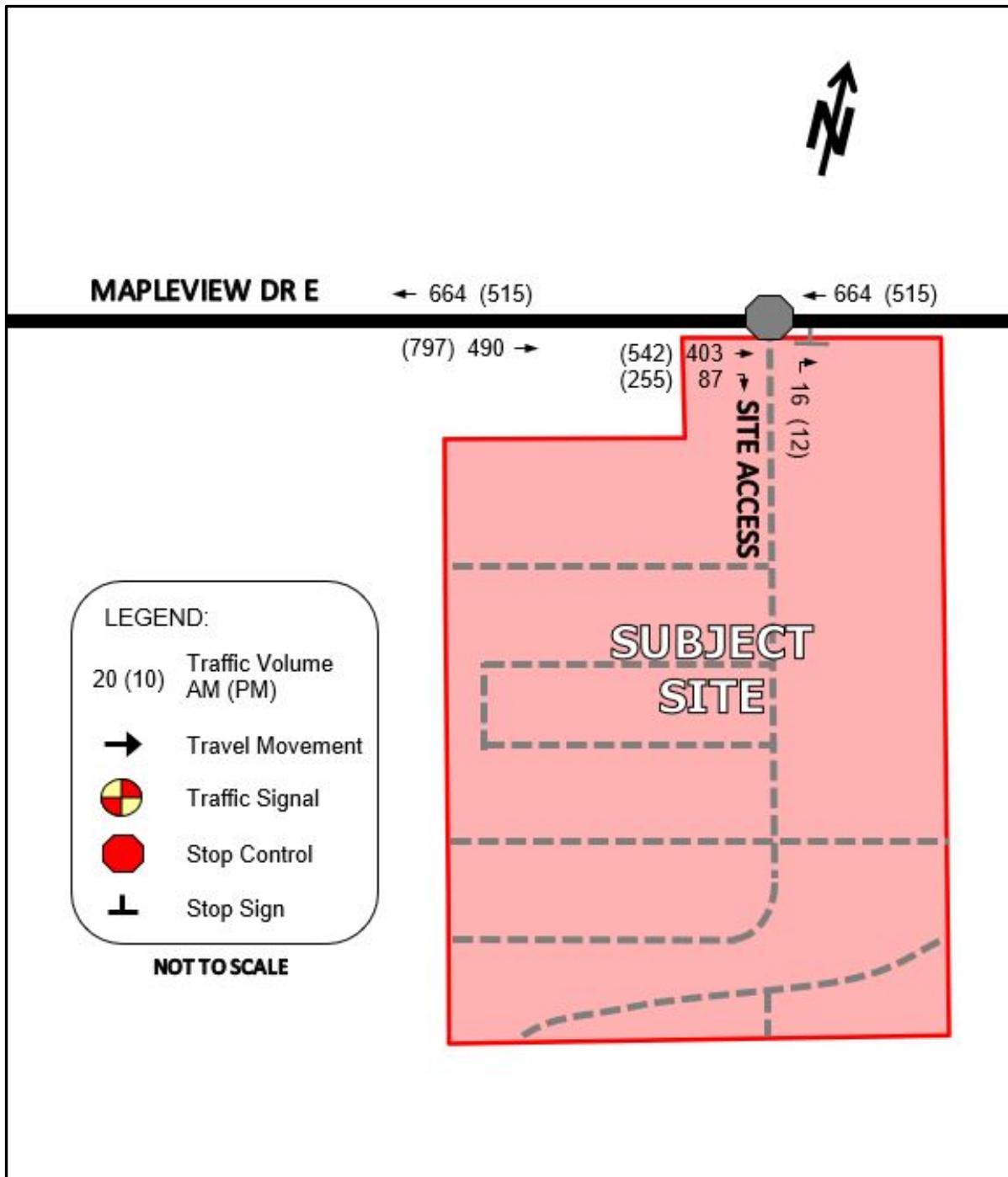


Figure 6 – 2031 Horizon Year Traffic Volumes



5 Future Operation Analysis

5.1 Introduction

Traffic operations within the study area were evaluated using the horizon year traffic volumes with the existing and future road configuration and traffic control. The intersection performance was measured using the traffic analysis software, Synchro 11, a deterministic model that employs Highway Capacity Manual and Intersection Capacity Utilization methodologies for analyzing intersection operations. These procedures are accepted by provincial and municipal agencies throughout North America.

Synchro 11 enables the study area to be graphically defined in terms of streets and intersections, along with their geometric and traffic control characteristics. The user is able to evaluate both signalized and unsignalized intersections in relation to each other, thus not only providing level of service for the individual intersections, but also enabling an assessment of the impact the various intersections in a network have on each other in terms of spacing, traffic congestion, delay, and queuing.

Individual turning movements with a volume-to-capacity [V/C] ratio of 0.85 or greater are considered to be critical movements and have been highlighted in the LOS tables.

The intersection operations were also evaluated in terms of the LOS. LOS is a common measure of the quality of performance at an intersection and is defined in terms of vehicular delay. This delay includes deceleration delay, queue move-up time, stopped delay, and acceleration delay. LOS is expressed on a scale of A through F, where LOS A represents very little delay (i.e. less than 10 seconds per vehicle) and LOS F represents very high delay (i.e. greater than 50 seconds per vehicle for a stop sign controlled intersection and greater than 80 seconds per vehicle for a signalized intersection).

The LOS criteria for signalized and stop sign-controlled intersections are shown in **Table 5**. A description of traffic performance characteristics is included for each LOS.

Table 5 – Level of Service Criteria for Intersections

LOS	LOS Description	Control Delay (seconds per vehicle)	
		Signalized Intersections	Stop Controlled Intersections
A	Very low delay; most vehicles do not stop (Excellent)	less than 10.0	less than 10.0
B	Higher delay; more vehicles stop (Very Good)	between 10.0 and 20.0	between 10.0 and 15.0
C	Higher level of congestion; number of vehicles stopping is significant, although many still pass through intersection without stopping (Good)	between 20.0 and 35.0	between 15.0 and 25.0
D	Congestion becomes noticeable; vehicles must sometimes wait through more than one red light; many vehicles stop (Satisfactory)	between 35.0 and 55.0	between 25.0 and 35.0
E	Vehicles must often wait through more than one red light; considered by many agencies to be the limit of acceptable delay	between 55.0 and 80.0	between 35.0 and 50.0
F	This level is considered to be unacceptable to most drivers; occurs when arrival flow rates exceed the capacity of the intersection (Unacceptable)	greater than 80.0	greater than 50.0

5.2 Horizon Year (2026) Intersection Operation

The results of the LOS analysis under 2026 horizon year traffic volumes during the AM and PM peak hour can be found below in **Table 6** (existing Mapleview Drive 2-lane cross-section) and **Table 7** (improved Mapleview Drive 3-lane cross-section). Stop control has been assumed at the Site Access egress movements. Detailed output of the Synchro analysis can be found in **Appendix D**.

Table 6 – 2026 LOS (2-lane cross-section)

Location (E-W Street / N-S Street)	Weekday AM Peak Hour			Weekday PM Peak Hour		
	V/C	Delay (s)	LOS	V/C	Delay (s)	LOS
Mapleview Dr E / Site Access	-	0.1	A	-	0.0	A
EB	0.25	0.0	A	0.40	0.0	A
WB	0.31	0.0	A	0.25	0.0	A
NB	0.01	10.7	B	0.01	12.7	B

Table 7 – 2026 LOS (3-lane cross-section)

Location (E-W Street / N-S Street)	Weekday AM Peak Hour			Weekday PM Peak Hour		
	V/C	Delay (s)	LOS	V/C	Delay (s)	LOS
Mapleview Dr E / Site Access	-	0.1	A	-	0.0	A
EB	0.25	0.0	A	0.40	0.0	A
WB	0.31	0.0	A	0.25	0.0	A
NB	0.01	10.7	B	0.01	12.7	B

The results of the LOS analysis indicate that the study intersection will operate within the typical design limits noted in Section 5.1 under both the existing (2-lane) configuration and improved (3-lane) configuration.

The criterion outlined in Section E.7 of the Ministry of Transportation [MTO] Geometric Design Supplement for Ontario Highways [GDSOH] (60vph minimum right turn volume warrant) has been used to assess whether an auxiliary right turn lane is required at the unsignalized study area intersection. The eastbound right-turn volume in the PM peak hour at the Mapleview Drive East / Site Access intersection exceeds the minimum volume threshold; however, this infrastructure improvement is not recommended based on the excellent LOS for this movement and the overall intersection operation under both the existing (2-lane) configuration and improved (3-lane) configuration.

No infrastructure improvements are recommended within the study area to facilitate the 2026 horizon year volumes.

5.3 Horizon Year (2031) Intersection Operation

The results of the LOS analysis under 2031 horizon year traffic volumes during the AM and PM peak hour can be found in **Table 8**. The improved Mapleview Drive 3-lane cross-section was utilized. Stop control has been assumed at the Site Access egress movements. Detailed output of the Synchro analysis can be found in **Appendix D**.

Table 8 – 2031 LOS (3-lane cross-section)

Location (E-W Street / N-S Street)	Weekday AM Peak Hour			Weekday PM Peak Hour		
	V/C	Delay (s)	LOS	V/C	Delay (s)	LOS
Mapleview Dr E / Site Access	-	0.2	A	-	0.1	A
EB	0.31	0.0	A	0.51	0.0	A
WB	0.42	0.0	A	0.33	0.0	A
NB	0.03	11.4	B	0.03	13.8	B

The results of the LOS analysis indicate that the study intersection will be within the typical design limits noted in Section 5.1.

The eastbound right-turn volume in the PM peak hour at the Mapleview Drive East / Site Access intersection exceeds minimum threshold (as per Section E.7 of the MTO GDSOH); however, this infrastructure improvement is not recommended based on the excellent LOS for this movement and the overall intersection operation.

No infrastructure improvements are recommended within the study area to facilitate the 2031 horizon year volumes.

5.4 Sight Distance Review

A sight distance review has been provided in **Appendix B** to illustrate that the minimum sight stopping distance (85 metres for 60km/h design speed) is provided at the Site Access.

5.5 Swept Path Analysis

A swept path analysis has been provided in **Appendix E** to illustrate that the following vehicles can access the site as intended:

- Passenger Vehicle (TAC P);
- Fire Truck; and
- City of Barrie Recycling Truck.

6 Parking Study

The proposed parking supply for the subject site meets the parking requirements specified in the City's Zoning By-law 2009-141 for the proposed neighbourhood mixed-use zone [NMU]. The residential apartment units will provide slightly more than 1.0 spaces per unit and the commercial parking is provided at a rate of one space per 24 square metres of gross floor area. The proposed parking breakdown is provided in **Table 20**.

Table 9 – Parking Statistics

Category	Zoning By-Law Section	Parking Standard	Size	Parking	
				Required	Provided
Residential Apartment	4.6.1	1.0 spaces per dwelling unit	100 units	100 spaces	107 spaces
Commercial	14.4.1		350 sq.m.	15 spaces	15 spaces
TOTAL PARKING				115 spaces	122 spaces
Resident Bicycle Parking	14.4.2	0.2 spaces per unit	100 units	20 spaces	29 spaces
Commercial Bicycle Parking	14.4.2	7% of commercial parking supply	15 spaces	1 space	2 spaces
Accessibility Parking	4.6.4	1 spaces plus 3% of required parking spaces	115 spaces	Type A: 2 spaces Type B: 2 spaces	Type A: 2 spaces Type B: 2 spaces

The proposed parking supply meets the minimum parking requirements specified in the City's Zoning By-law 2009-141 and is acceptable for the intended use.

7 Construction Traffic Management Plan

A construction traffic management plan was completed to identify the proposed management of traffic related to parking of trades people, delivery of construction material, maintenance of adjacent property access, pedestrian movements and City infrastructure. A Construction Traffic Management Plan is provided in **Appendix F**.

Construction access for development within the 953 Mapleview Drive East subdivision will be provided via the Site Access intersection on Mapleview Drive East. The proposed Site Access will be the primary access throughout the entire construction period (i.e., demolition, site preparation, servicing and erection etc.). Construction access will be limited to right-in / right-out movements on Mapleview Drive East.

Construction access onto Block 193 will be provided via a dedicated gravel construction driveway onto the right-of-way for the proposed north / south local road within the 953 Mapleview Drive East subdivision (Dallaire Street).

Deliveries and trades parking associated with the construction of Block 193 can be accommodated within the southeast area of Block 191, which will be developed after Block 193. A gravel parking area and gravel driveway will be constructed to provide access into the Street 'E' right-of-way which connects onto Dallaire Street and the Site Access onto Mapleview Drive East.

Construction traffic and parking will not impede or prevent access to the neighboring lots. Construction work will occur within the property limits and outside of the boulevard. Pedestrian movements adjacent

to the Subject Site will be unaffected by the construction of the proposed development. No sidewalk closures are expected.

Construction activities within the site (including start-up and warm-up of equipment) will only occur between 07:00 and 19:00 on weekdays and Saturdays, per City of Barrie by-law. No construction activities will occur outside the above-noted periods without approval from the City.

Signage shall be posted at all work zone entrances as required, notifying visitors that check-in at the site office is mandatory. Signage will also be provided to identify the area as a 'construction site', requiring all visitors be equipped with personal protection equipment suitable for a construction zone (hard hat, footwear, high visibility gear). Signage will also be provided informing that access to the site is limited to authorized personnel only.

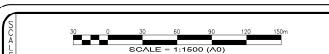
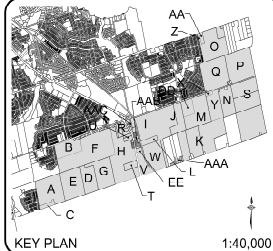
8 Summary

Mapleview South (Innisfil) Ltd. retained **JD Engineering** to prepare this traffic brief in support of the residential subdivision located within the Hewitt's Secondary Planning Area in the City of Barrie. The proposed Draft Plan of Subdivision is shown in **Appendix B**. This chapter summarizes the conclusions and recommendations from the study.

1. Block 193 includes a total of 100 medium-density residential units.
2. As shown, the Subject Site is estimated to generate a total of 374 AM and 514 PM peak hour trips during the 2031 horizon year. Block 193 will attribute 48 AM and 66 PM peak hour trips to the total.
3. The 2026 and 2031 horizon year volumes were developed based on the City's Emme model volumes and anticipated build-out of the Subject Site.
4. An intersection operation and turn lane analysis was completed under the 2026 and 2031 horizon year traffic volumes with the anticipated developments operational at the study area intersections. No infrastructure improvements are recommended.
5. In summary, the proposed development will not cause any operational issues and will not add significant delay or congestion to the local roadway network.

Appendix A – Hewitt Transportation Study Excerpts & 953 Mapleview Drive East - Draft Plan of Subdivision

Hewitt's Secondary Plan
Overall Development Plan



Date issued: MARCH 26, 2020
Checked by: RD
Project No.: EAS-11118
Drawing No.: EAS-11118-DevPlan-20-03-07.dwg
Drawing Name: EAS-11118-DevPlan-20-03-07.dwg



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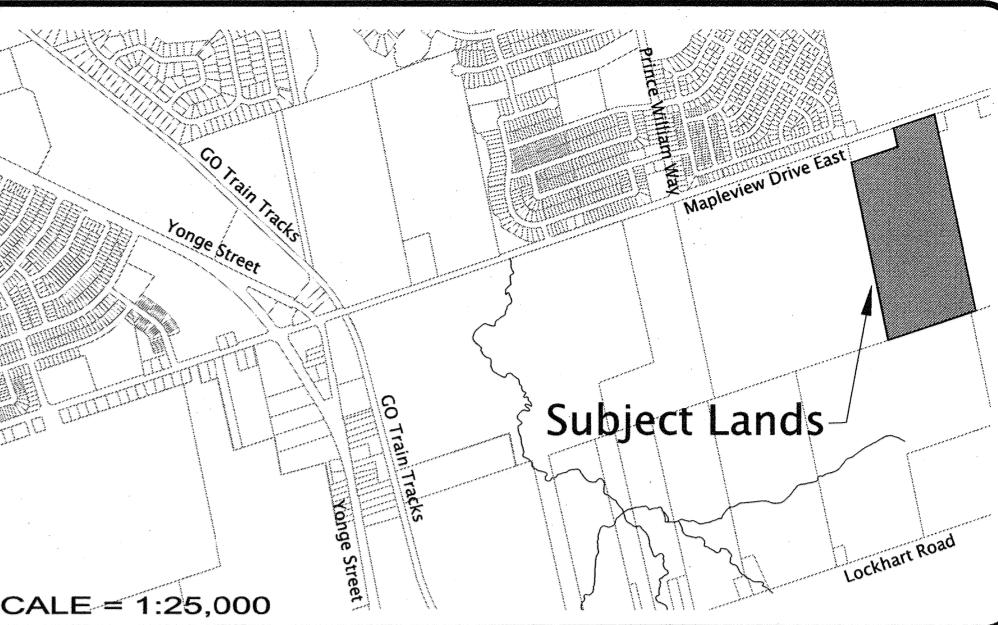
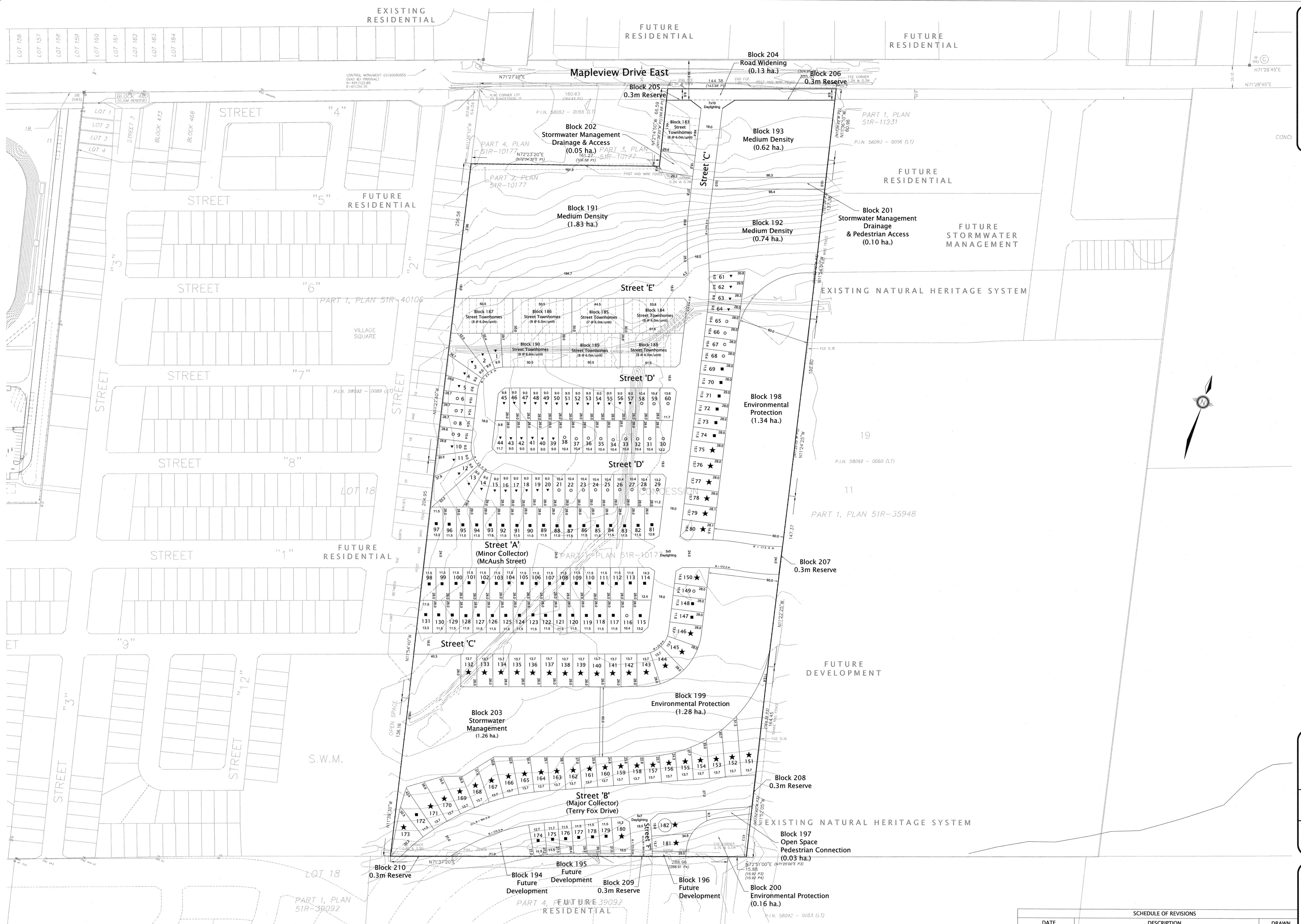
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Proposed Draft Plan of Subdivision
Part of Lot 19, Concession 11
Geographic Township of Innisfil,
Now in the
City of Barrie 2022

OWNER'S CERTIFICATE
I, THE UNDERSIGNED, BEING THE REGISTERED OWNER OF THE SUBJECT LANDS, HEREBY AUTHORIZE THE JONES CONSULTING GROUP LTD., TO PREPARE THIS DRAFT PLAN OF SUBDIVISION AND TO SUBMIT SAME TO THE CITY OF BARRIE FOR APPROVAL.

NOV. 8/22

DATE

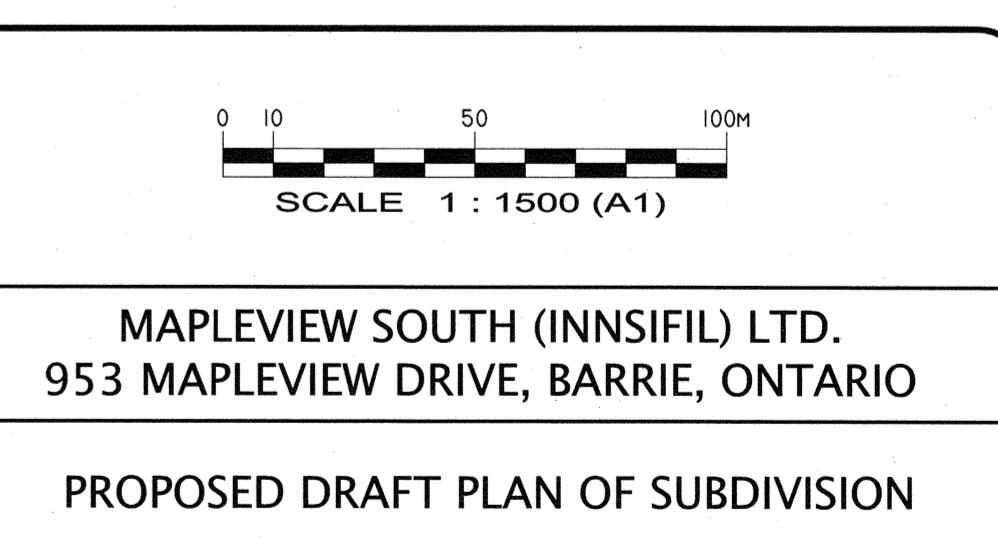
MAPLEVIEW SOUTH (INNISFIL) LTD.

SURVEYOR'S CERTIFICATE

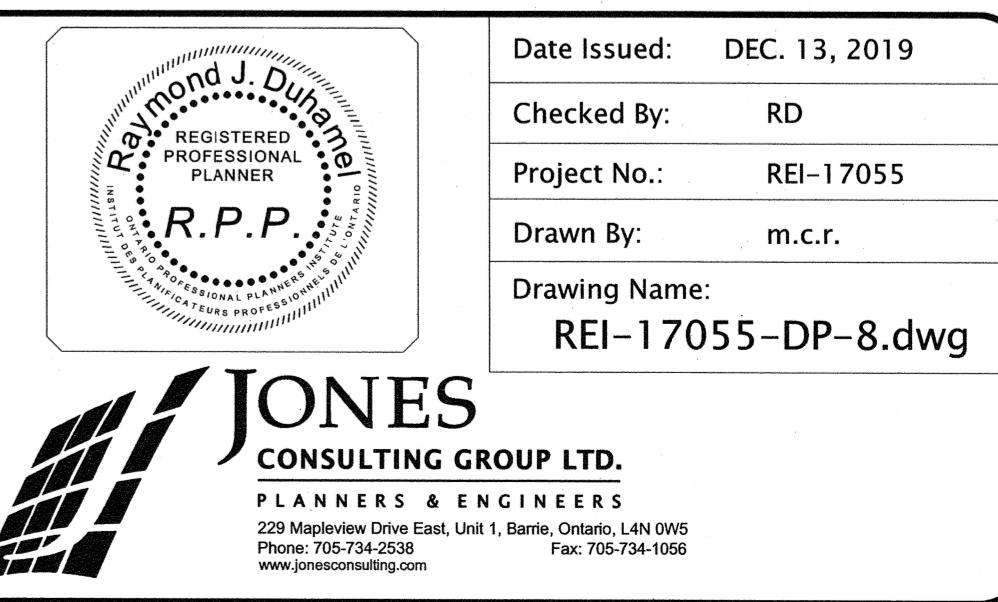
I CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE
 SUBDIVIDED AND THEIR RELATIONSHIP TO ADJACENT LANDS
 ARE ACCURATELY AND CORRECTLY SHOWN.

NOV. 4, 2022 
DATE RUDY MAK, O.L.S.

STATISTICS	Area (ha.)	Units
★ 13.7 m Singles		47 units
■ 11.5 m Singles		65 units
○ 10.4 m Singles		31 units
▼ 9.0 m Singles (LOTS 1 – 182)		39 units
SUB TOTAL	6.33 ha.	182 units
Street Townhomes (6.0m) (BLOCKS 183 – 190)	1.18 ha.	61 units
Medium Density Residential (BLOCKS 191 – 193 @ 70 uph)	3.19 ha.	223 units
Future Lots & Blocks (BLOCKS 194 – 196)	0.15 ha.	4 units
Open Space/Pedestrian Connection (BLOCK 197)	0.03 ha.	
Environmental Protection (BLOCKS 198 – 200)	2.78 ha.	
Stormwater Management & Drainage (BLOCKS 201 – 203)	1.41 ha.	
Widening & Reserve (BLOCKS 204 – 210)	0.15 ha.	
Roads (MINOR COLLECTOR, STREET 'A') (McAUSH STREET) (MAJOR COLLECTOR, STREET 'B') (TERRY FOX DRIVE) (LOCAL STREETS 'C' – 'F')	3.81 ha.	
TOTAL	19.03 ha.	470 units

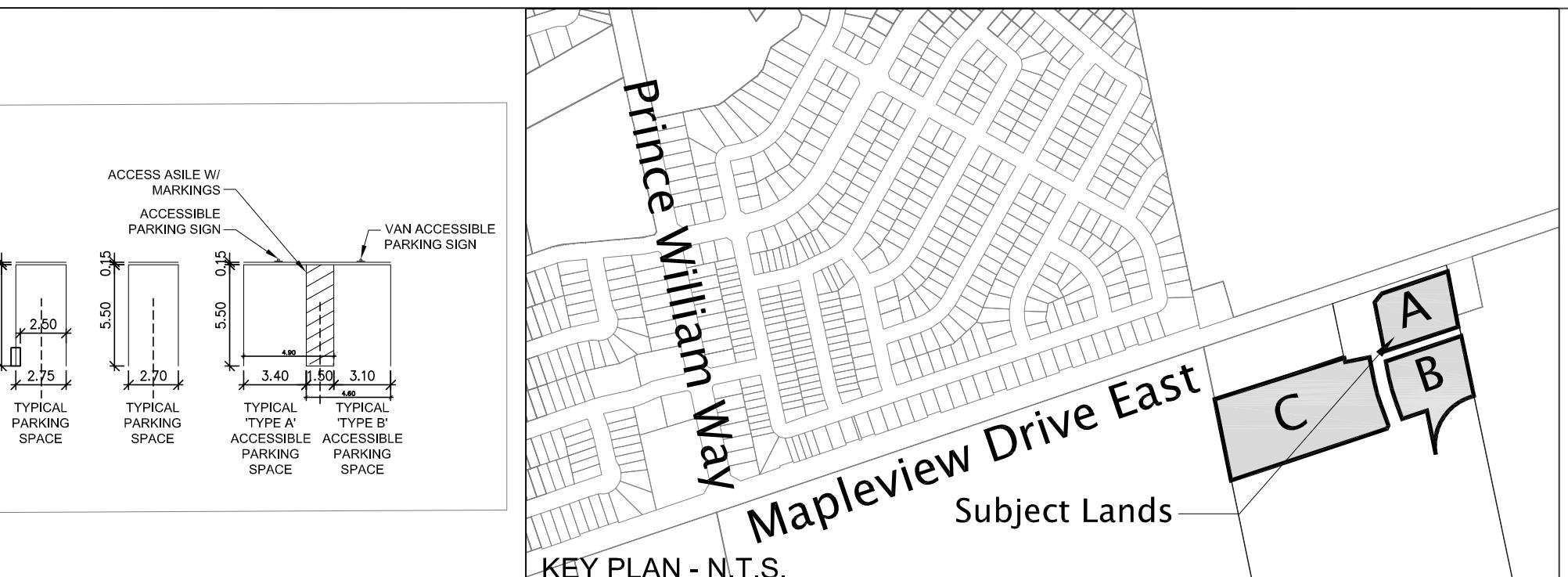
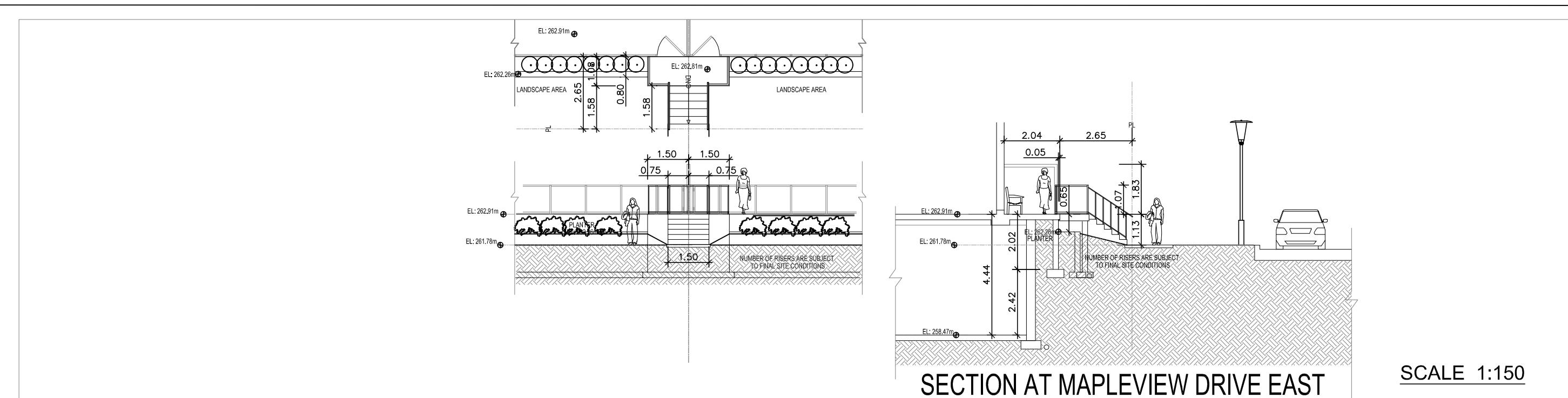


SCHEDULE OF REVISIONS		
DATE	DESCRIPTION	DRAWN
FEB. 25, 2021	CHANGES AS PER ENG COMMENTS/SWM POND REVISION	m.c.r.
MARCH 5, 2021	REVISION TO LOTS 172 & 173	m.c.r.
APRIL 1, 2021	MINOR CHANGES TO TITLE BLOCK ONLY	m.c.r.
MARCH 10, 2022	CHANGES PER CITY COMMENTS	m.c.r.
MARCH 16, 2022	REVIEW OF RIGHT OF WAY WIDTHS AND DAYLIGHTING	m.c.r.
MARCH 21, 2022	UPDATED ADJACENT LANDS WITH CURRENT DP LINEWORK	m.c.r.
MARCH 22, 2022	CHANGES AS PER CITY COMMENTS	m.c.r.
MARCH 30, 2022	CHANGES AS PER CITY COMMENTS	m.c.r.

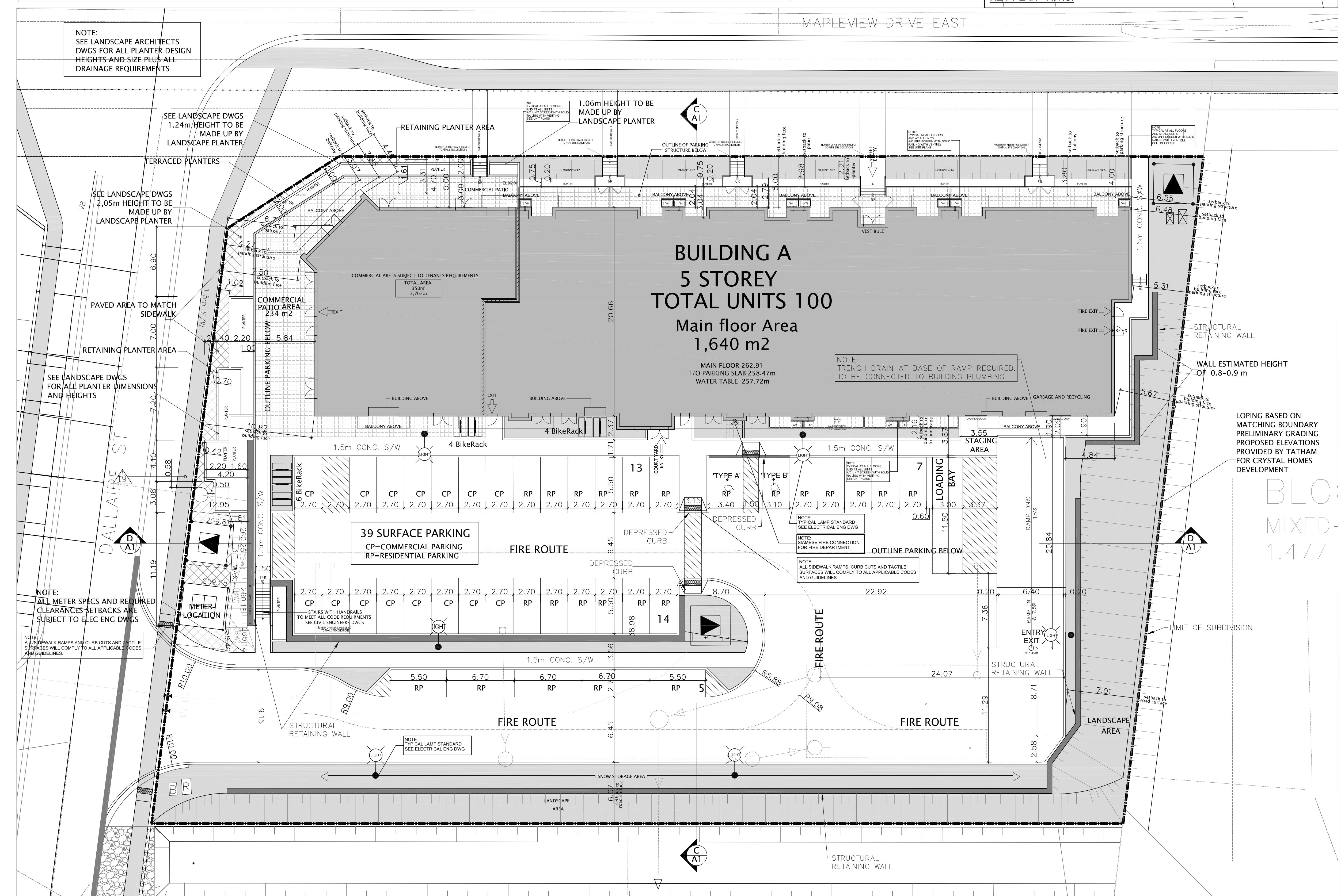


**MAPLEVIEW SOUTH (INNISFIL) LTD.
953 MAPLEVIEW DRIVE BARRIE, ONTARIO**

Appendix B – Block 193 - Site Plan



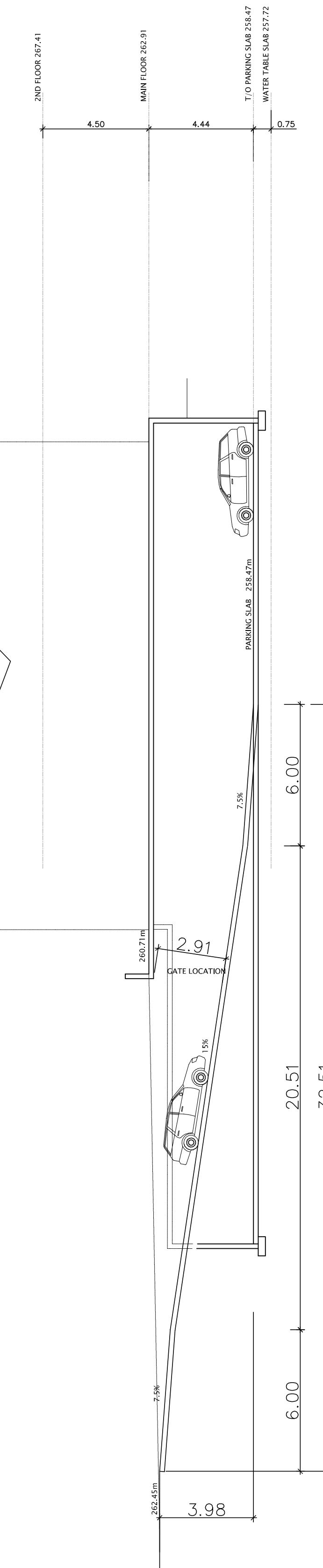
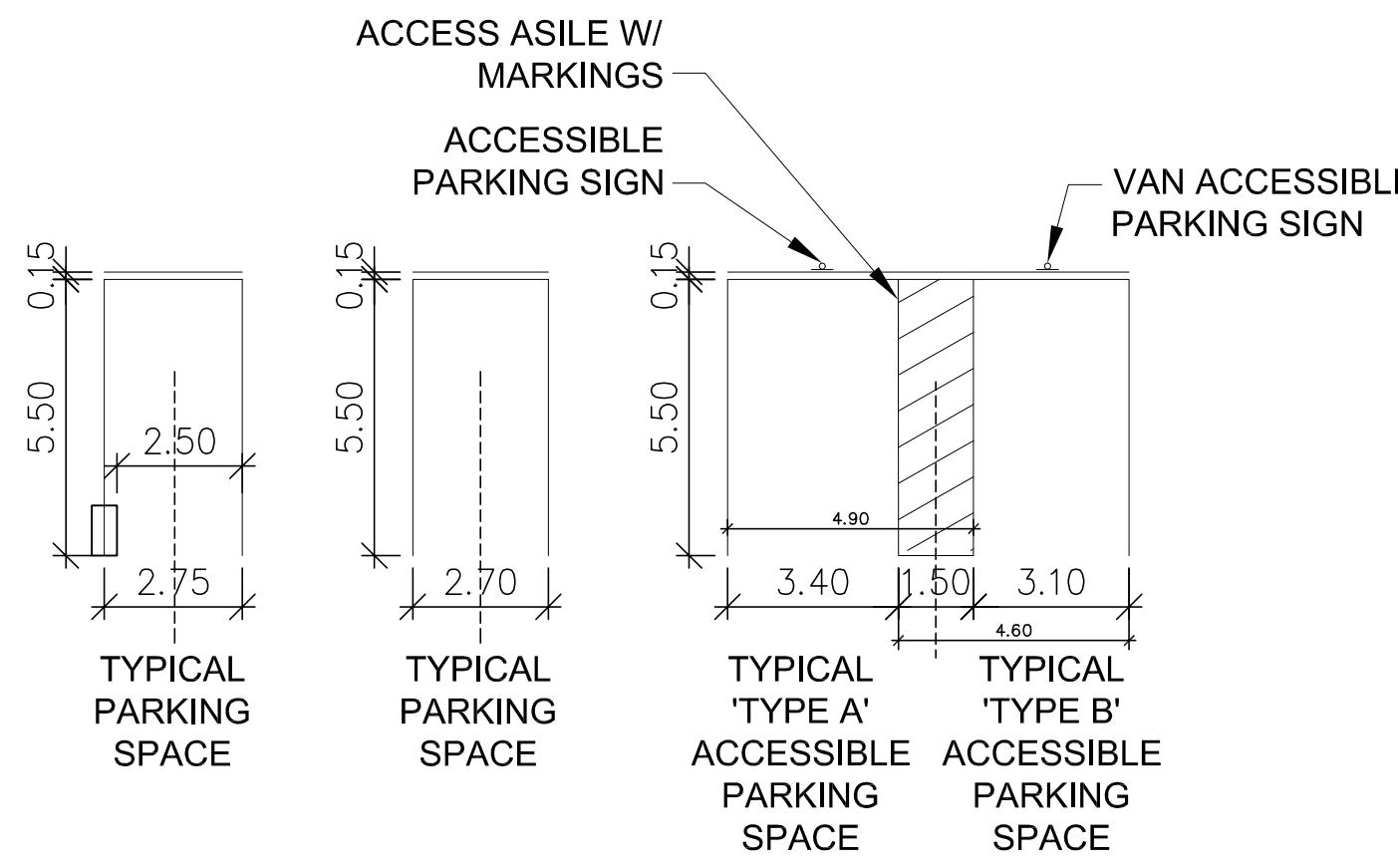
Building 'A' Details		Unit Count:			
Building Footprint	2,430 m ²	100 units			
BUILDING FOOTPRINT					
2.2.43A GROUP C					
ALLOWABLE GFA 1,800 m ²					
PROPOSED GFA 1,649 m ²					
Land Requirements		100 units			
REQUIRED					
PROPOSED					
Site Plan Area	-	0.63 ha.(6,267.66m ²)			
Frontage	24.0 m	85.4 m			
Front Yard	3.0 m	5.33 m			
terior Side Yard	5.0 m	5.31m			
terior Side Yard	2.0 m	7.50m			
ear Yard	5.0 m	38.98 m			
Coverage	max 50 % (0.931 ha.)	26 % (0.18 ha.)			
cessory Structures	max 10 % (0.06 ha.)	0 % (0.00 ha.)			
andscape Open Space	min. 25 % (0.16 ha.)	39 % (0.25 ha.)			
aved Area	max 35 %	35 % (0.22 ha.)			
nsity Index	min 120 max 300	158.73			
or Space Index	min 0.5 max 2.5	1.31			
mmmercial Area	50% of the ground floor	21.45%			
	816 m ²	350 m ²			
Commercial Floor to Floor Height		Required 4.5m			
Provided 4.5m					
Setbacks					
setback at street frontage					
percentage of building at the		Required min			
setback to all street frontage		50%			
Provided		74%			
percentage of building within the		Required max			
setback to all street frontage		50%			
Provided		26%			
Building					
GFA		8184 m ²			
Height in Stories		5			
Units		100			
Parking Calculations					
Required		Provided			
Required Parking (100(units) x 1.0)		100 spaces			
Required Parking Commercial		107 spaces			
per 24m ²)(350/24=15)		15 spaces			
Total Required		15 spaces			
115 spaces		122 spaces			
Parking Breakdown					
Surface Spaces		22 spaces			
Surface Spaces Commercial		15 spaces			
Surface Barrier Free Spaces		2 spaces			
Underground Barrier Free Spaces		2 spaces			
Underground Spaces		81 spaces			
Total Provided		122 spaces			



Route		AFFORDABLE UNIT *						
Area	Unit Type	Main floor	2nd floor	3rd floor	4th floor	5th floor		
55m	1 bed 1 bath	2	2	2	2	2	10	
34m	Studio	2	4	4	4	4	18	
55m	1 bed/1 bath/den	2	4	4	4	4	18	
49m	1 bed/1 bath		1	1	1	1	4	
57m	1 bed/1 bath/den	3	2	2	2	2	11	
81m	2 bed/2 bath	2	4	4	4	4	18	
83m	2 bed/2 bath	1	1	1	1	1	5	
109m	3 bed/2.5 bath		1	1	1		3	
111m	3 bed 2.5 bath					1	1	
70m	2 bed 2 bath		1	1	1		3	
72m	2 bed/2 bath					1	1	
103m	2 bed/2 bath/den	1	1	1	1	1	4	
57m	1 bed/1 bath		1	1	1		3	
52m	1 bed/1 bath					1	1	
		12	22	22	22	22	100	
Total Units						100		

The logo for Maple Glen is centered within a white rectangular frame. It features a stylized maple leaf at the top, composed of five distinct points. Below the leaf, the word "maple" is written in a large, lowercase, bold sans-serif font. Underneath "maple", the word "glen" is written in a slightly smaller, lowercase, bold sans-serif font. At the very bottom, the words "IN BARRIE" are printed in a smaller, uppercase, bold sans-serif font. The entire logo is rendered in black on a white background.

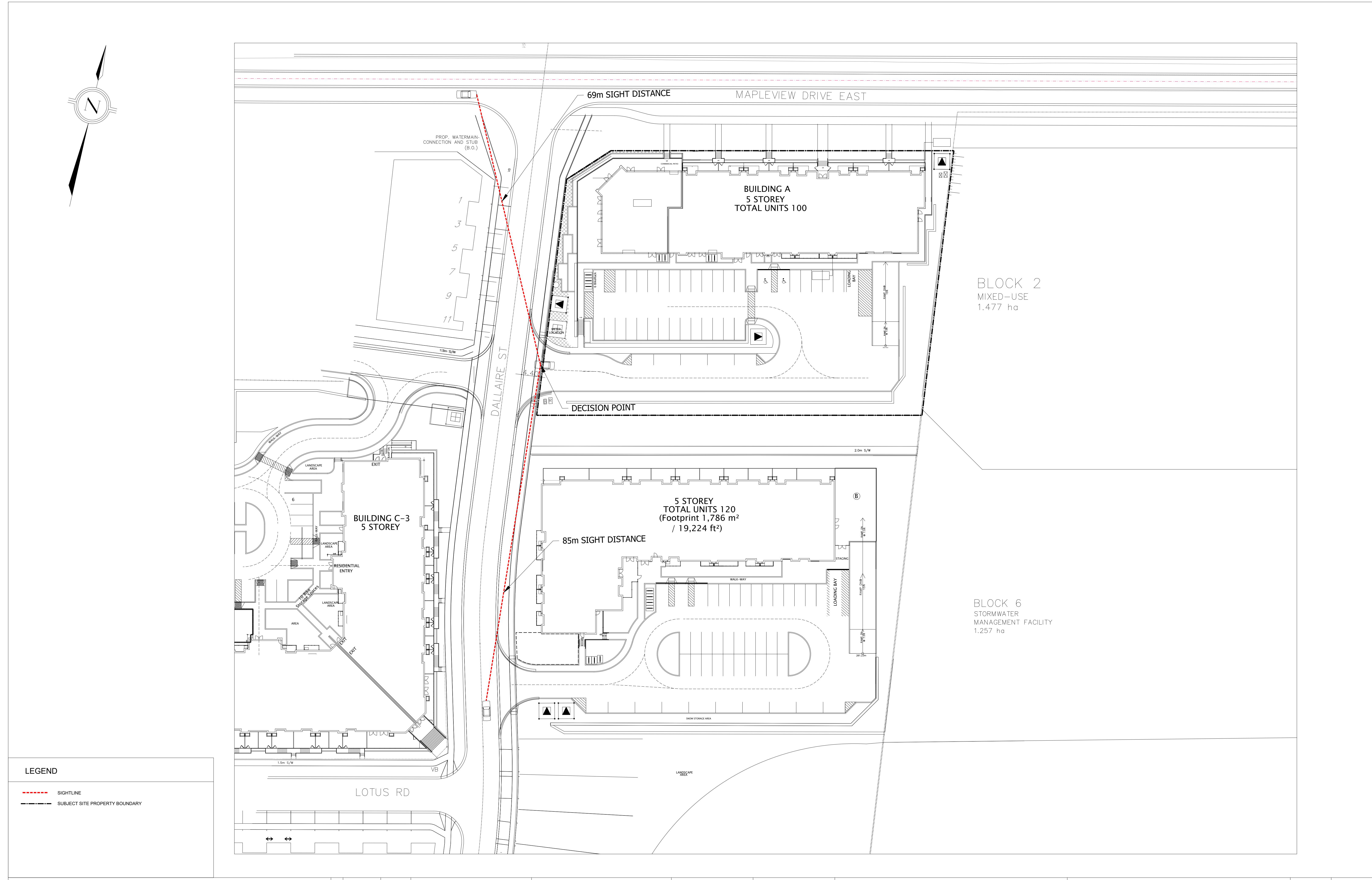
BELOW GRADE PARKING
83 parking stall
AREA 2,779 m²
AREA 29,913 sq.ft.



Underground Parking Area
2,774 m²

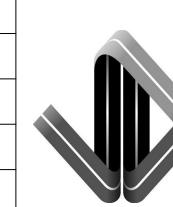
13	ISSUED FOR PRE-CONSULTATION MEETING	April 11, 2024
12	ISSUED FOR PRE-CONSULTATION MEETING	April 16, 2024
11	ISSUED FOR PRE-CONSULTATION MEETING	March 08, 2024
10	ISSUED FOR PRE-CONSULTATION MEETING	Feb 26, 2024
9	ISSUED FOR PRE-CONSULTATION MEETING	Feb 01, 2024
8	ISSUED FOR PRE-CONSULTATION MEETING	Feb 01, 2024
7	ISSUED FOR PRE-CONSULTATION MEETING	Nov 23, 2023
6	ISSUED FOR PRE-CONSULTATION MEETING	Nov 16, 2023
5	ISSUED FOR PRE-CONSULTATION MEETING	Oct 04, 2023
4	ISSUED FOR PRE-CONSULTATION MEETING	Sept 18, 2023
3	ISSUED FOR CLIENT AND CONSULTANT REVIEW	May 24, 2023
2	ISSUED FOR CLIENT AND CONSULTANT REVIEW	April 20, 2023
1	ISSUED FOR CLIENT AND CONSULTANT REVIEW	March 30, 2023, SA
No.	Description	Date Rev.
DATE	MAPLEVIEW SOUTH (INNISFIL) LTD.	
953 MAPLEVIEW DRIVE-BLOCK 193	CONCRETE UNDERGROUND	
TOTAL AREA:	PARKING PLAN	DATE ISSUED
		March 30, 2023
PROJECT #: 2023-05	MARKETING NAME: -	
S&C ARCHITECTS INC.		
SCALE: 1:150	MONITORING: 60 RANDALL DRIVE SUITE 10	
	AJAX, ONTARIO L1S 6L3	





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 2. DO NOT SCALE DRAWINGS.
 3. THE DRAWINGS ARE THE PROPERTY OF JD ENGINEERING AND MUST BE RETURNED ON COMPLETION OF THE PROJECT.
 4. BASE DRAWING PROVIDED BY S&C ARCHITECTS ON JUNE 24TH 2024.

1.	JUNE 2024	JN	FIRST SUBMISSION
NO.	DATE	APPROVED	REVISIONS



JD Northcote Engineering Inc.
Phone: 705.725.4035
86 Cumberland Street
Barrie, ON L4N 2P6
www.JDengineering.ca

AREA MUNICIPALITY
CITY OF BARRIE

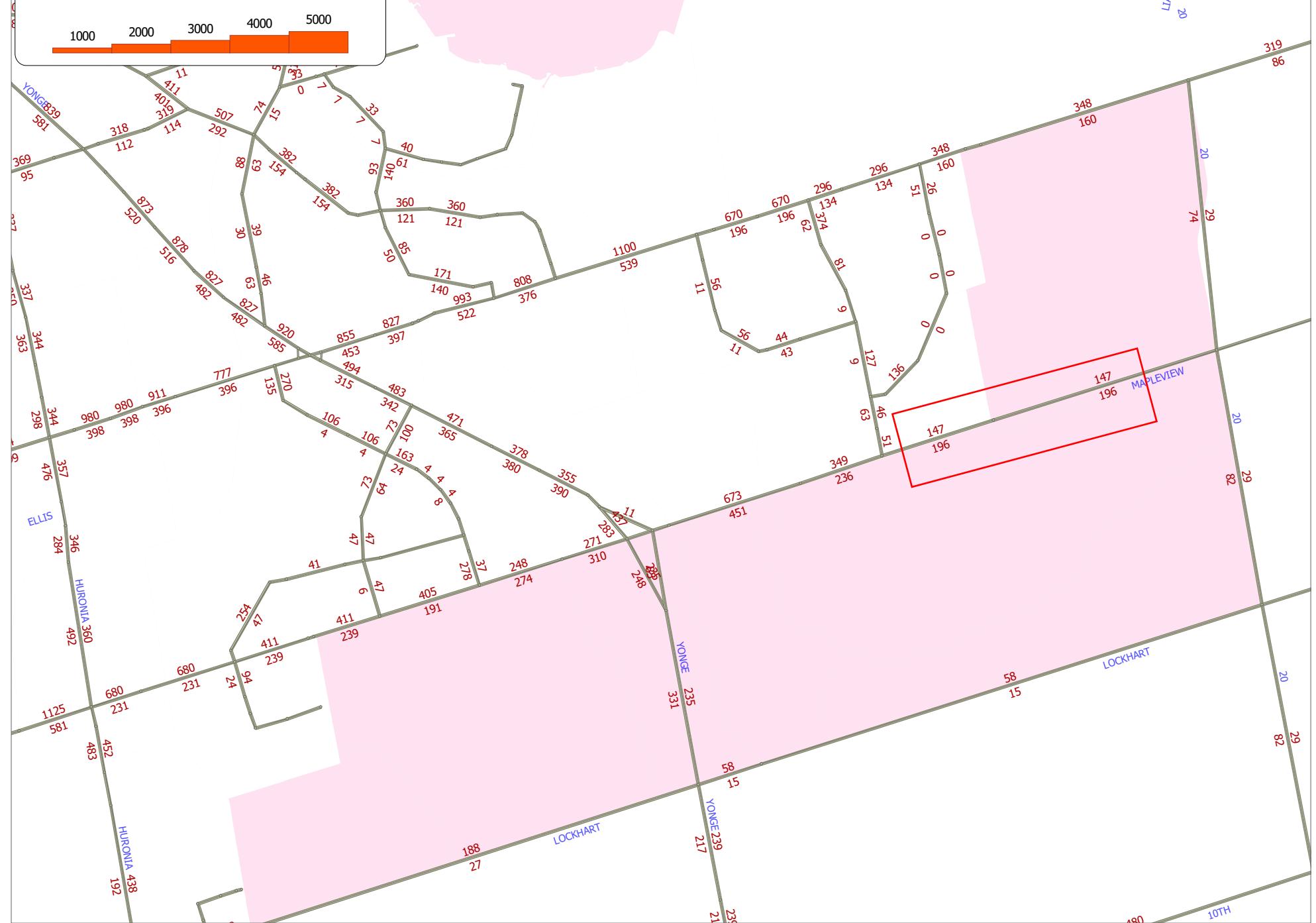
953 MAPLEVIEW DRIVE EAST
BLOCK 193

SIGHT DISTANCE REVIEW

DESIGN: RH DATE: 06/24
DRAWN: RH DATE: 06/24
REVIEWED: RH DATE: 06/24
SCALE HGT: 1:400 SCALE VERT: N/A
SHEET NO. 1302 - BLOCK 193

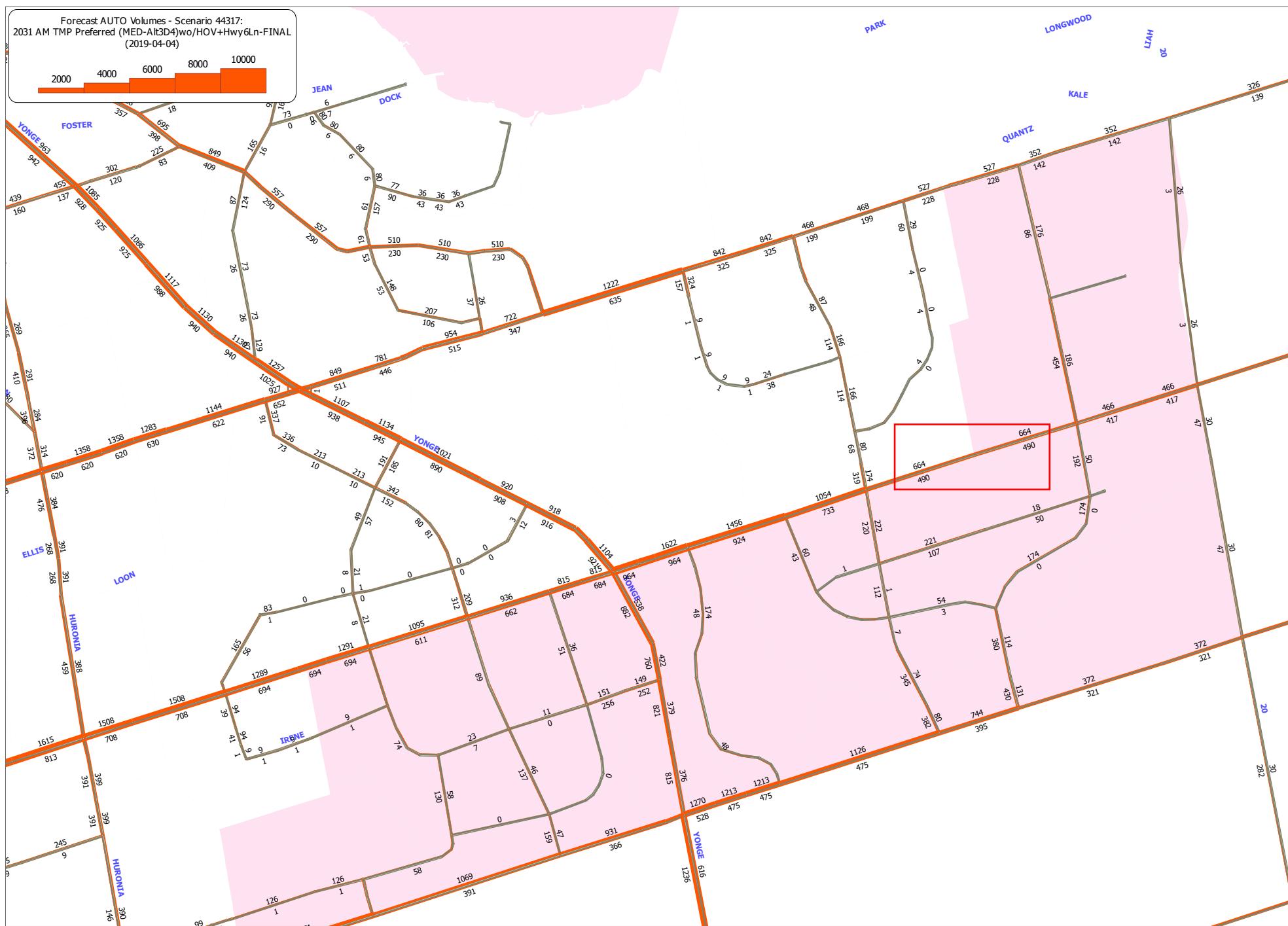
Appendix C – Traffic Data

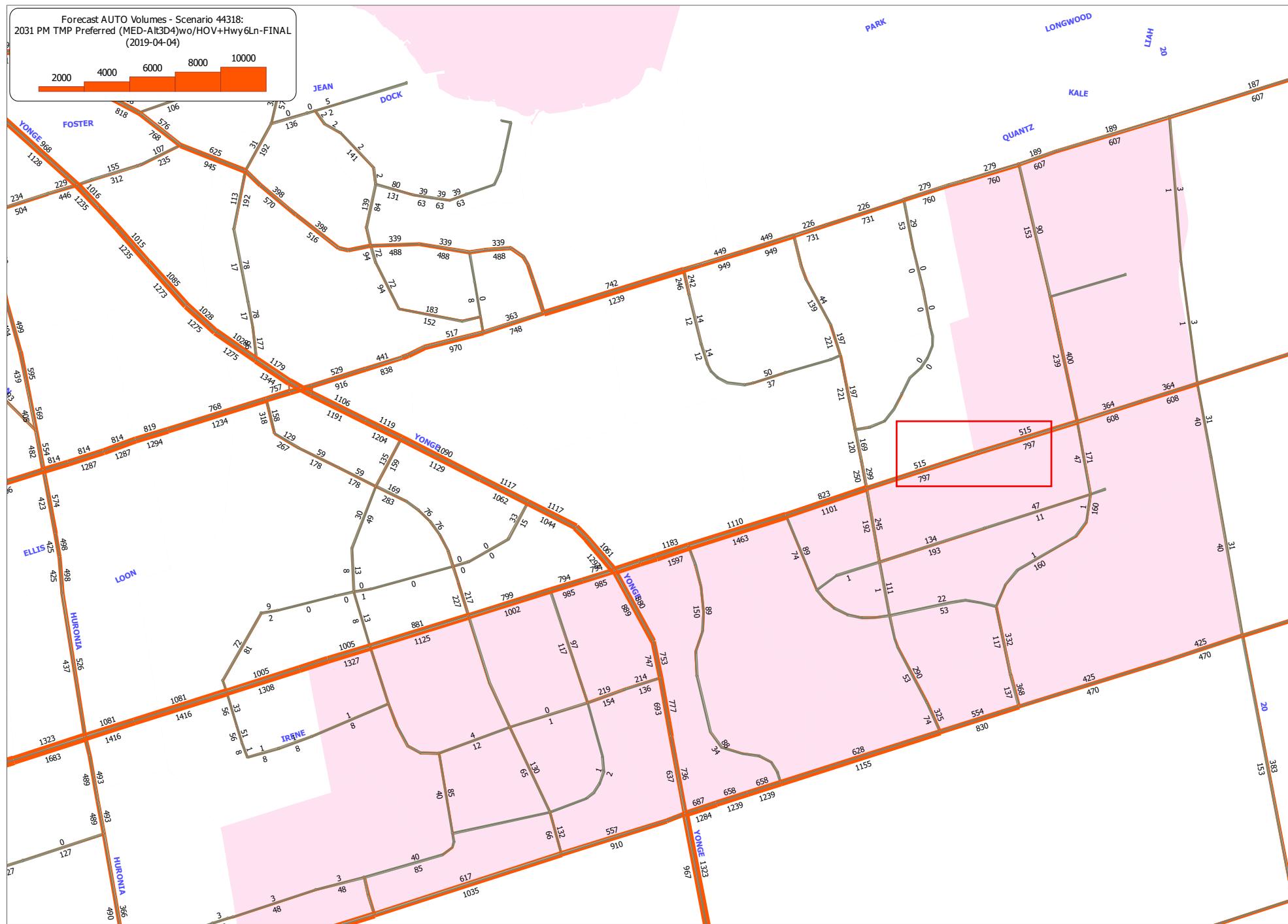
Forecast AUTO Volumes - Scenario 10167:
2016 AM Existing Network-Base Year Validation (Adj OD)-FINAL
(2018-11-29):



Forecast AUTO Volumes - Scenario 10168:
2016 PM Existing Network-Base Year Validation (Adj OD)-FINAL
(2018-11-29):







Appendix D – Synchro Analysis Output

HCM Unsignalized Intersection Capacity Analysis

1: Site Access & MVD

05-07-2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑		↑
Traffic Volume (veh/h)	367	25	0	492	0	5
Future Volume (Veh/h)	367	25	0	492	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	399	27	0	535	0	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume		426		948	412	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol		426		948	412	
tC, single (s)		4.1		6.4	6.2	
tC, 2 stage (s)						
tF (s)		2.2		3.5	3.3	
p0 queue free %		100		100	99	
cM capacity (veh/h)		1133		290	640	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	426	535	5			
Volume Left	0	0	0			
Volume Right	27	0	5			
cSH	1700	1700	640			
Volume to Capacity	0.25	0.31	0.01			
Queue Length 95th (m)	0.0	0.0	0.2			
Control Delay (s)	0.0	0.0	10.7			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	10.7			
Approach LOS			B			
Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		30.8%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

1: Site Access & MVD

05-07-2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑		↑
Traffic Volume (veh/h)	559	72	0	396	0	3
Future Volume (Veh/h)	559	72	0	396	0	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	608	78	0	430	0	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume		686		1077	647	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol		686		1077	647	
tC, single (s)		4.1		6.4	6.2	
tC, 2 stage (s)						
tF (s)		2.2		3.5	3.3	
p0 queue free %		100		100	99	
cM capacity (veh/h)		908		242	471	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	686	430	3			
Volume Left	0	0	0			
Volume Right	78	0	3			
cSH	1700	1700	471			
Volume to Capacity	0.40	0.25	0.01			
Queue Length 95th (m)	0.0	0.0	0.1			
Control Delay (s)	0.0	0.0	12.7			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	12.7			
Approach LOS			B			
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		43.8%		ICU Level of Service		A
Analysis Period (min)		15				

1: Site Access & MVD

05-07-2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑		↑
Traffic Volume (veh/h)	559	72	0	396	0	3
Future Volume (Veh/h)	559	72	0	396	0	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	608	78	0	430	0	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume		686		1077	647	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol		686		1077	647	
tC, single (s)		4.1		6.4	6.2	
tC, 2 stage (s)						
tF (s)		2.2		3.5	3.3	
p0 queue free %		100		100	99	
cM capacity (veh/h)		908		242	471	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	686	430	3			
Volume Left	0	0	0			
Volume Right	78	0	3			
cSH	1700	1700	471			
Volume to Capacity	0.40	0.25	0.01			
Queue Length 95th (m)	0.0	0.0	0.1			
Control Delay (s)	0.0	0.0	12.7			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	12.7			
Approach LOS			B			
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		43.8%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

1: Site Access & MVD

05-07-2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑		↑
Traffic Volume (veh/h)	559	72	0	396	0	3
Future Volume (Veh/h)	559	72	0	396	0	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	608	78	0	430	0	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage veh)	2		2			
Upstream signal (m)	252					
pX, platoon unblocked						
vC, conflicting volume		686		1077	647	
vC1, stage 1 conf vol				647		
vC2, stage 2 conf vol				430		
vCu, unblocked vol		686		1077	647	
tC, single (s)		4.1		6.4	6.2	
tC, 2 stage (s)				5.4		
tF (s)		2.2		3.5	3.3	
p0 queue free %		100		100	99	
cM capacity (veh/h)		908		451	471	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	686	430	3			
Volume Left	0	0	0			
Volume Right	78	0	3			
cSH	1700	1700	471			
Volume to Capacity	0.40	0.25	0.01			
Queue Length 95th (m)	0.0	0.0	0.1			
Control Delay (s)	0.0	0.0	12.7			
Lane LOS		B				
Approach Delay (s)	0.0	0.0	12.7			
Approach LOS		B				
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		43.8%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

1: Site Access & MVD

05-07-2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑		↑
Traffic Volume (veh/h)	403	87	0	664	0	16
Future Volume (Veh/h)	403	87	0	664	0	16
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	438	95	0	722	0	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage veh)	2		2			
Upstream signal (m)	252					
pX, platoon unblocked						
vC, conflicting volume		533		1208	486	
vC1, stage 1 conf vol				486		
vC2, stage 2 conf vol				722		
vCu, unblocked vol		533		1208	486	
tC, single (s)		4.1		6.4	6.2	
tC, 2 stage (s)				5.4		
tF (s)		2.2		3.5	3.3	
p0 queue free %		100		100	97	
cM capacity (veh/h)		1035		412	582	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	533	722	17			
Volume Left	0	0	0			
Volume Right	95	0	17			
cSH	1700	1700	582			
Volume to Capacity	0.31	0.42	0.03			
Queue Length 95th (m)	0.0	0.0	0.7			
Control Delay (s)	0.0	0.0	11.4			
Lane LOS		B				
Approach Delay (s)	0.0	0.0	11.4			
Approach LOS		B				
Intersection Summary						
Average Delay		0.2				
Intersection Capacity Utilization		38.3%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

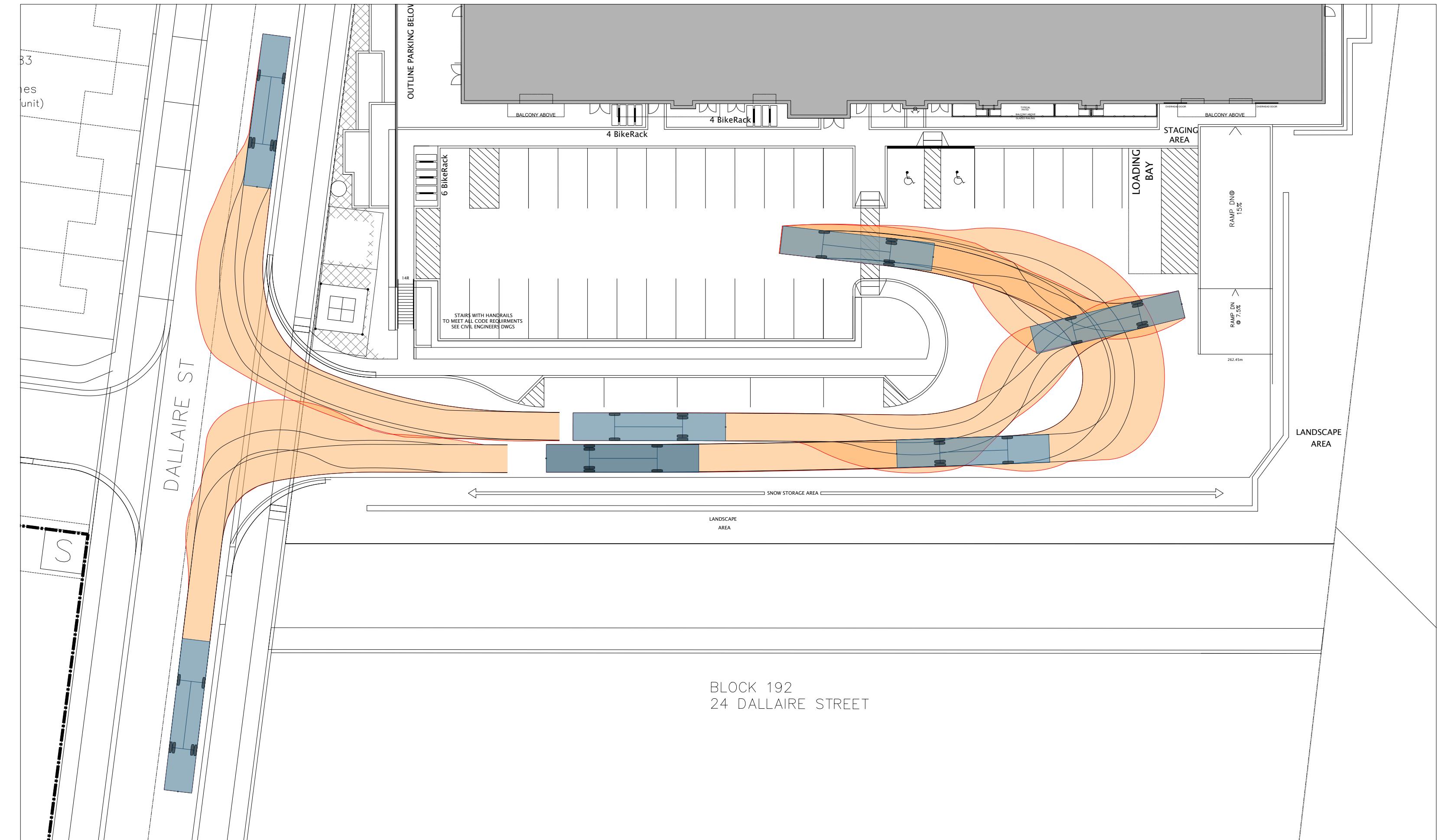
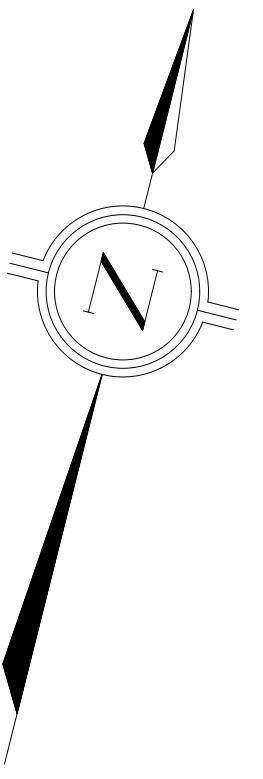
1: Site Access & MVD

05-07-2024

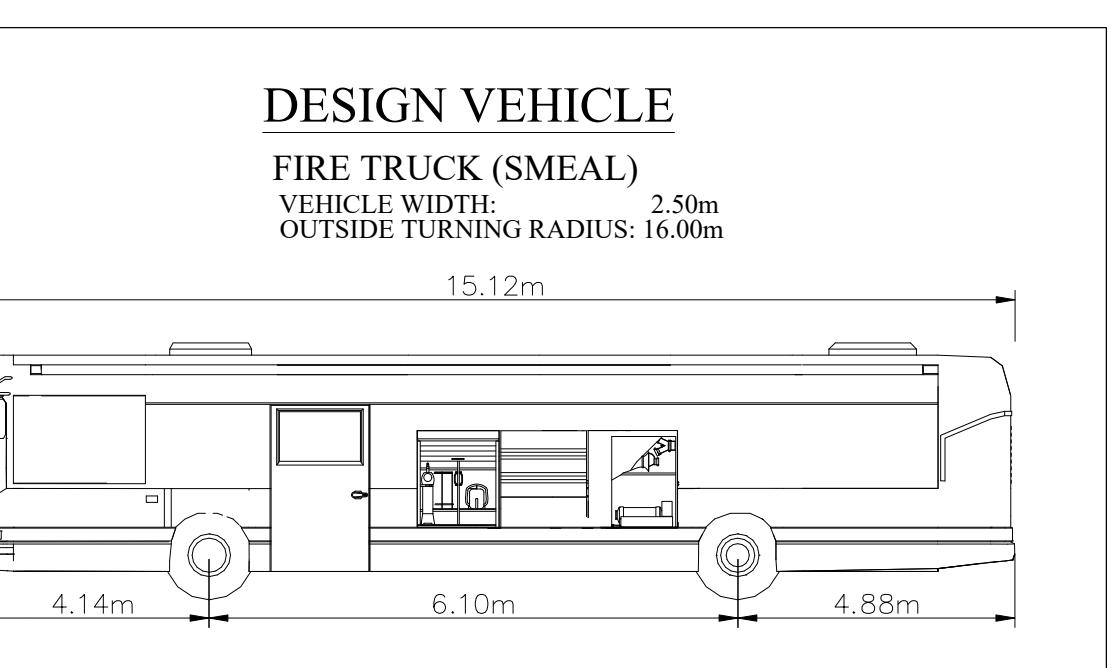


Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑		↑
Traffic Volume (veh/h)	542	255	0	515	0	12
Future Volume (Veh/h)	542	255	0	515	0	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	589	277	0	560	0	13
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage veh)	2		2			
Upstream signal (m)	252					
pX, platoon unblocked						
vC, conflicting volume		866		1288	728	
vC1, stage 1 conf vol				728		
vC2, stage 2 conf vol				560		
vCu, unblocked vol		866		1288	728	
tC, single (s)		4.1		6.4	6.2	
tC, 2 stage (s)				5.4		
tF (s)		2.2		3.5	3.3	
p0 queue free %		100		100	97	
cM capacity (veh/h)		777		395	424	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	866	560	13			
Volume Left	0	0	0			
Volume Right	277	0	13			
cSH	1700	1700	424			
Volume to Capacity	0.51	0.33	0.03			
Queue Length 95th (m)	0.0	0.0	0.7			
Control Delay (s)	0.0	0.0	13.8			
Lane LOS		B				
Approach Delay (s)	0.0	0.0	13.8			
Approach LOS		B				
Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		54.1%		ICU Level of Service		A
Analysis Period (min)		15				

Appendix E – Swept Path Analysis

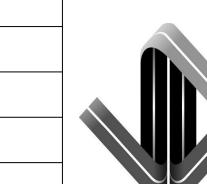


BLOCK 192
24 DALLAIRE STREET



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1.	JUNE 2024	JN	FIRST SUBMISSION
NO.	DATE	APPROVED	REVISIONS



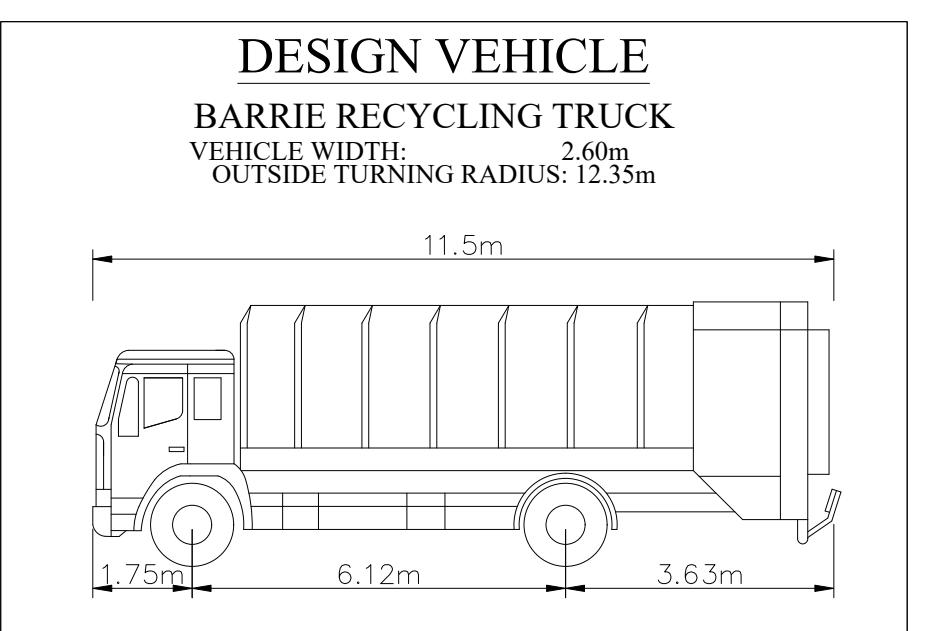
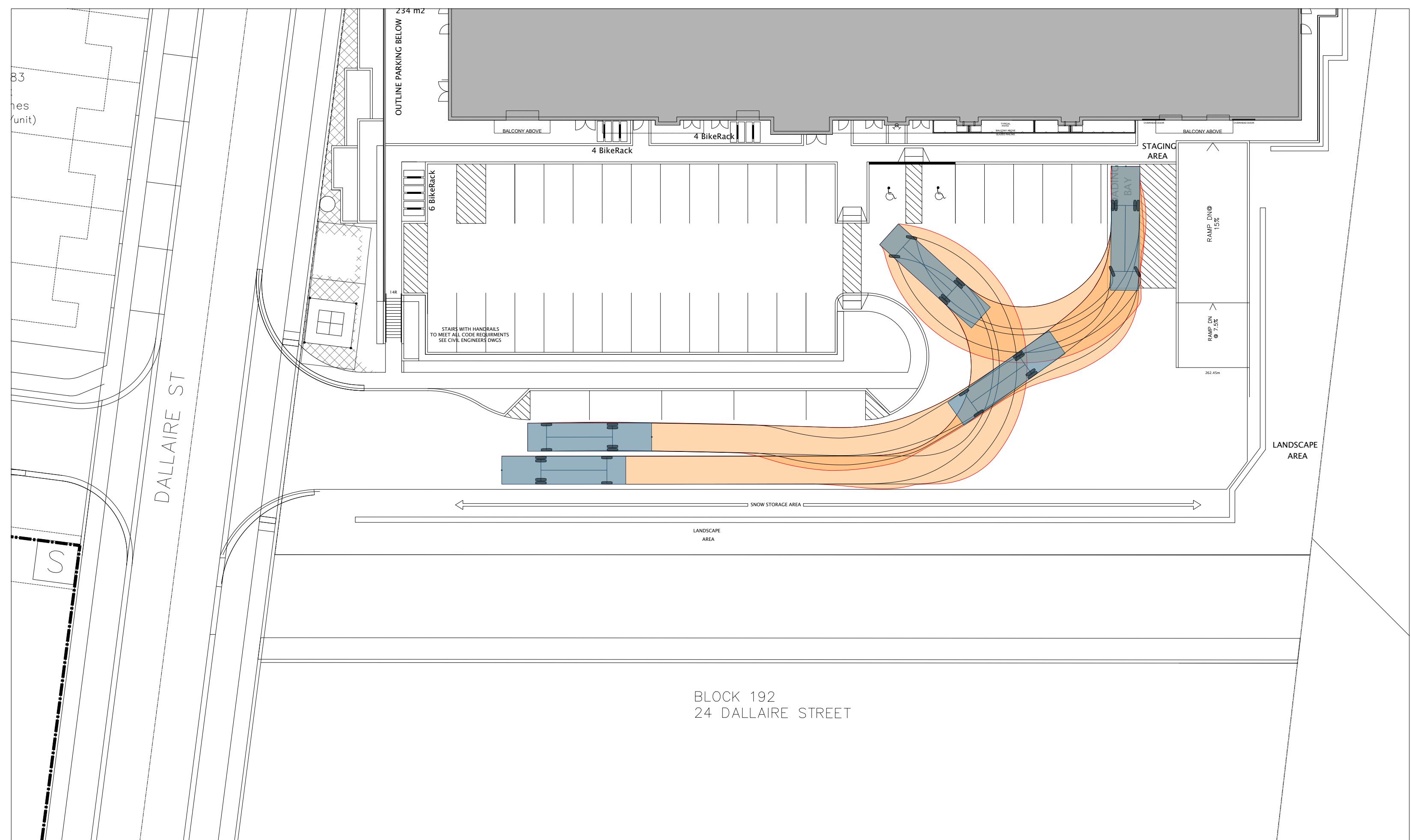
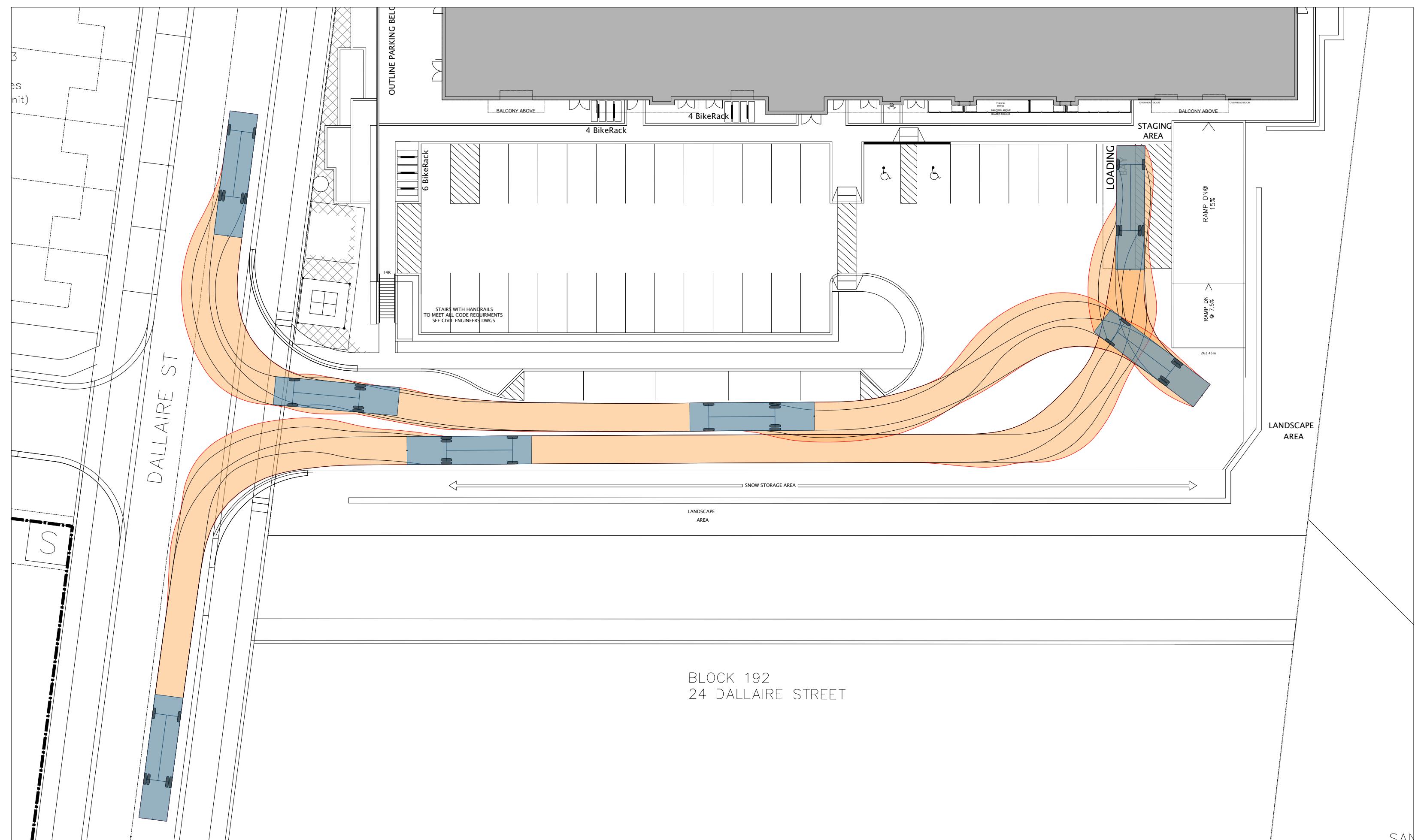
JD Northcote Engineering Inc.
Phone: 705.725.4035
86 Cumberland Street
Barrie, ON L4N 2P6
www.JDEngineering.ca

DESIGN: JN	DATE: 06/24
DRAWN: JN	DATE: 06/24
REVIEWED: JN	DATE: 06/24
SCALE HOR.	SCALE VERT.
1:300	N/A
SHEET NO.	1302 - TURN 1

953 MAPLEVIEW DRIVE EAST
BLOCK 193

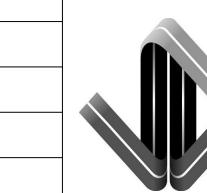
AREA MUNICIPALITY
CITY OF BARRIE

EMERGENCY VEHICLE
TURNING MOVEMENTS



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NO.	DATE	APPROVED	REVISIONS
1.	JUNE 2024	JN	FIRST SUBMISSION



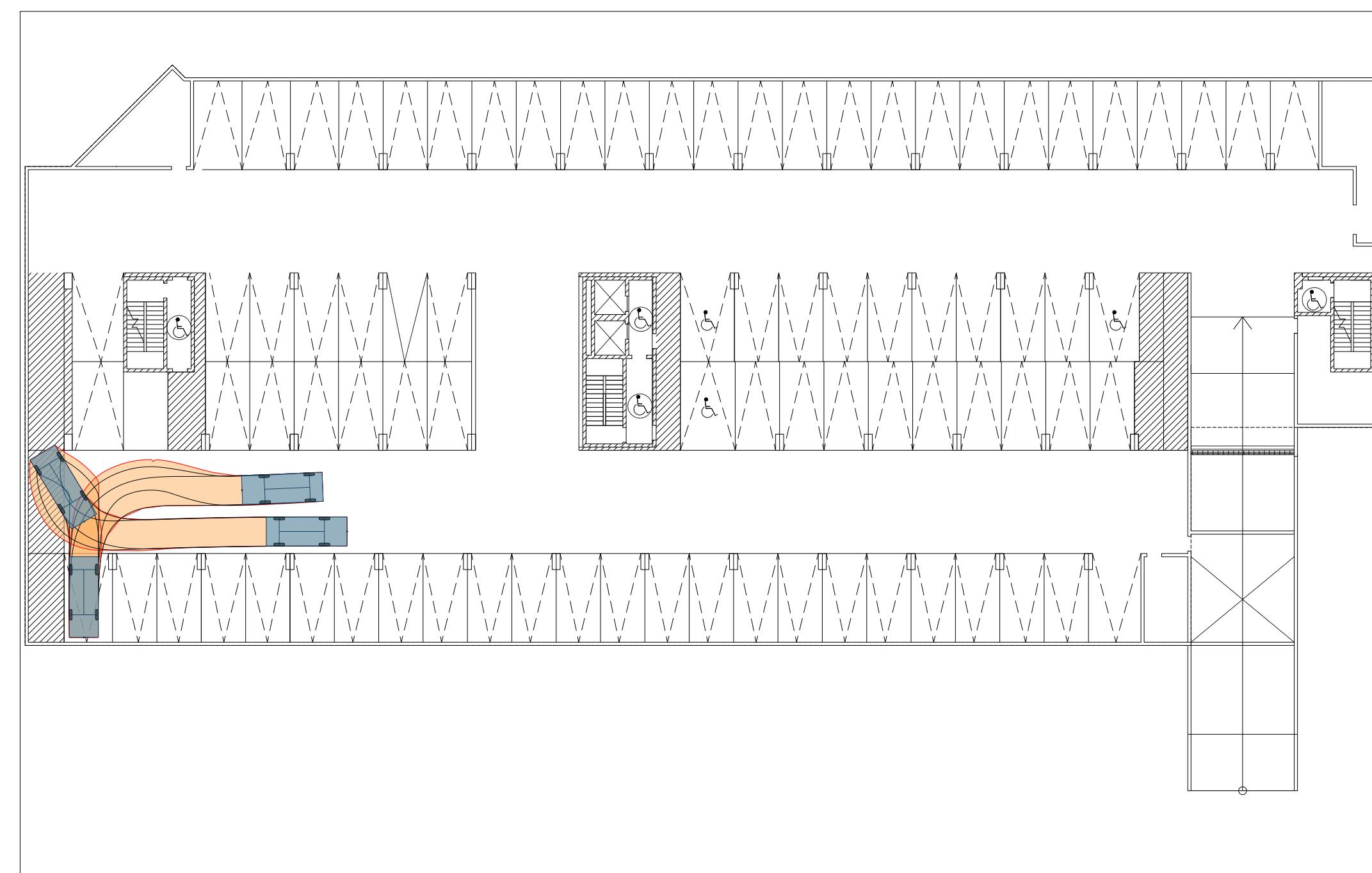
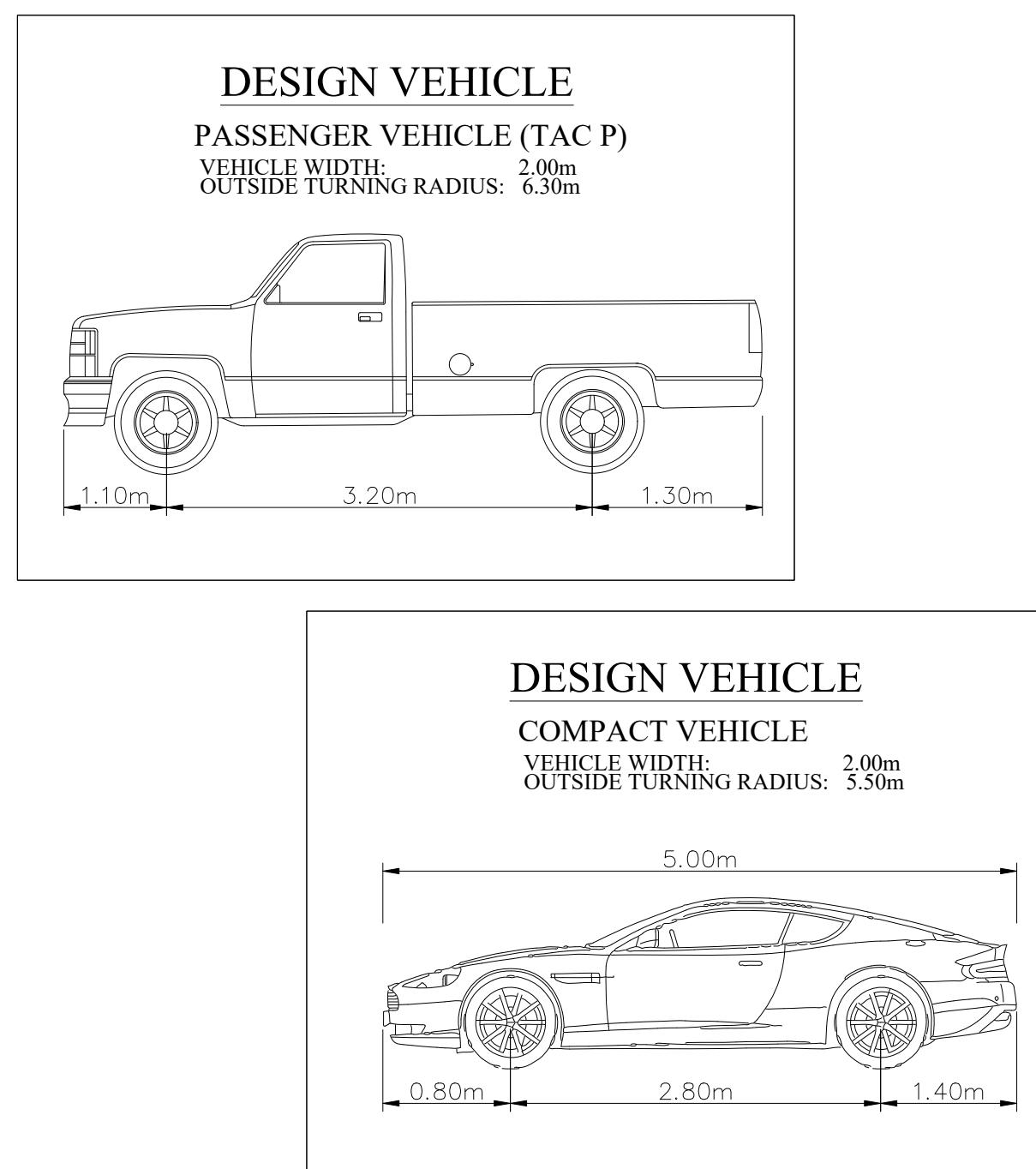
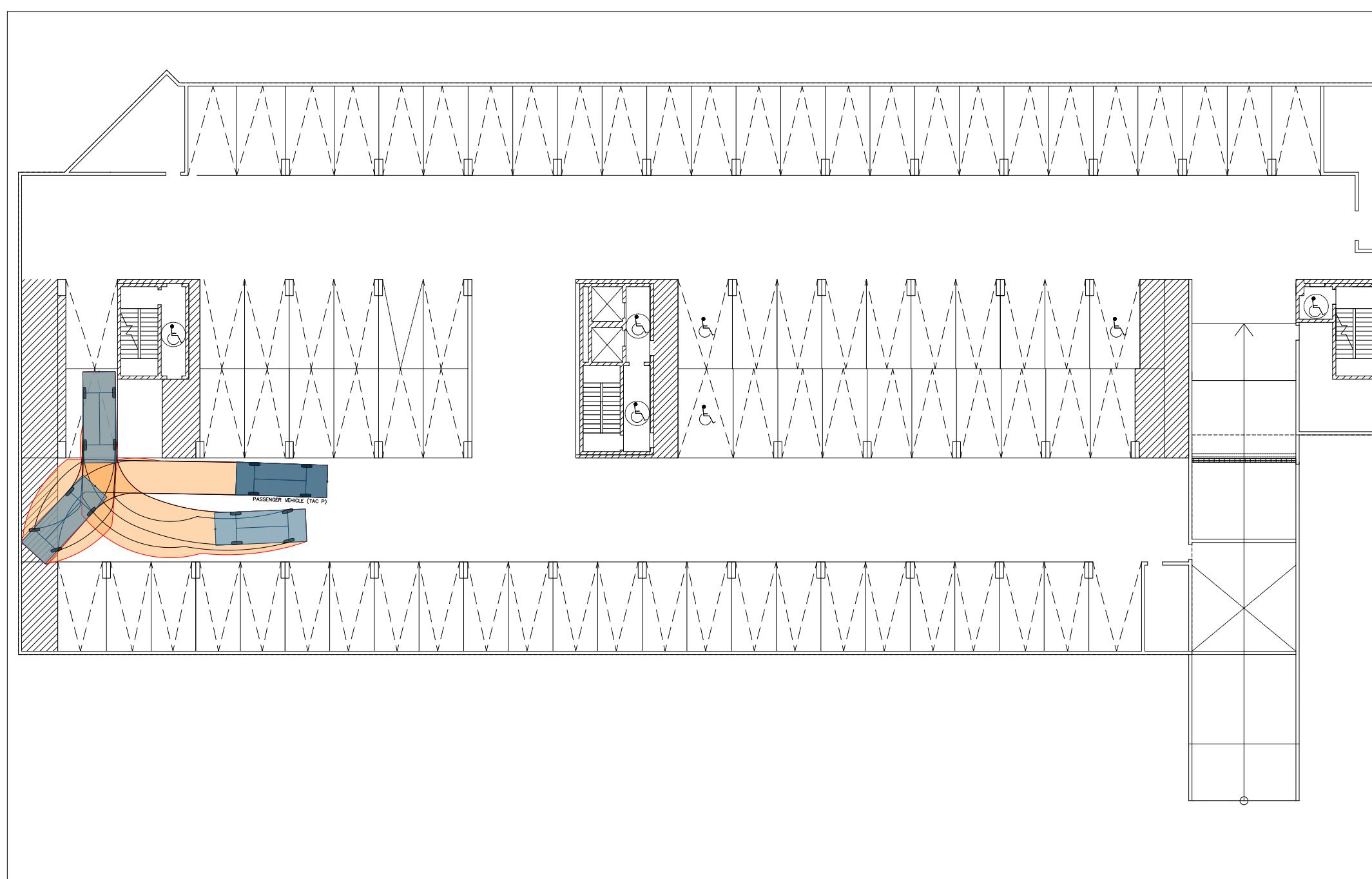
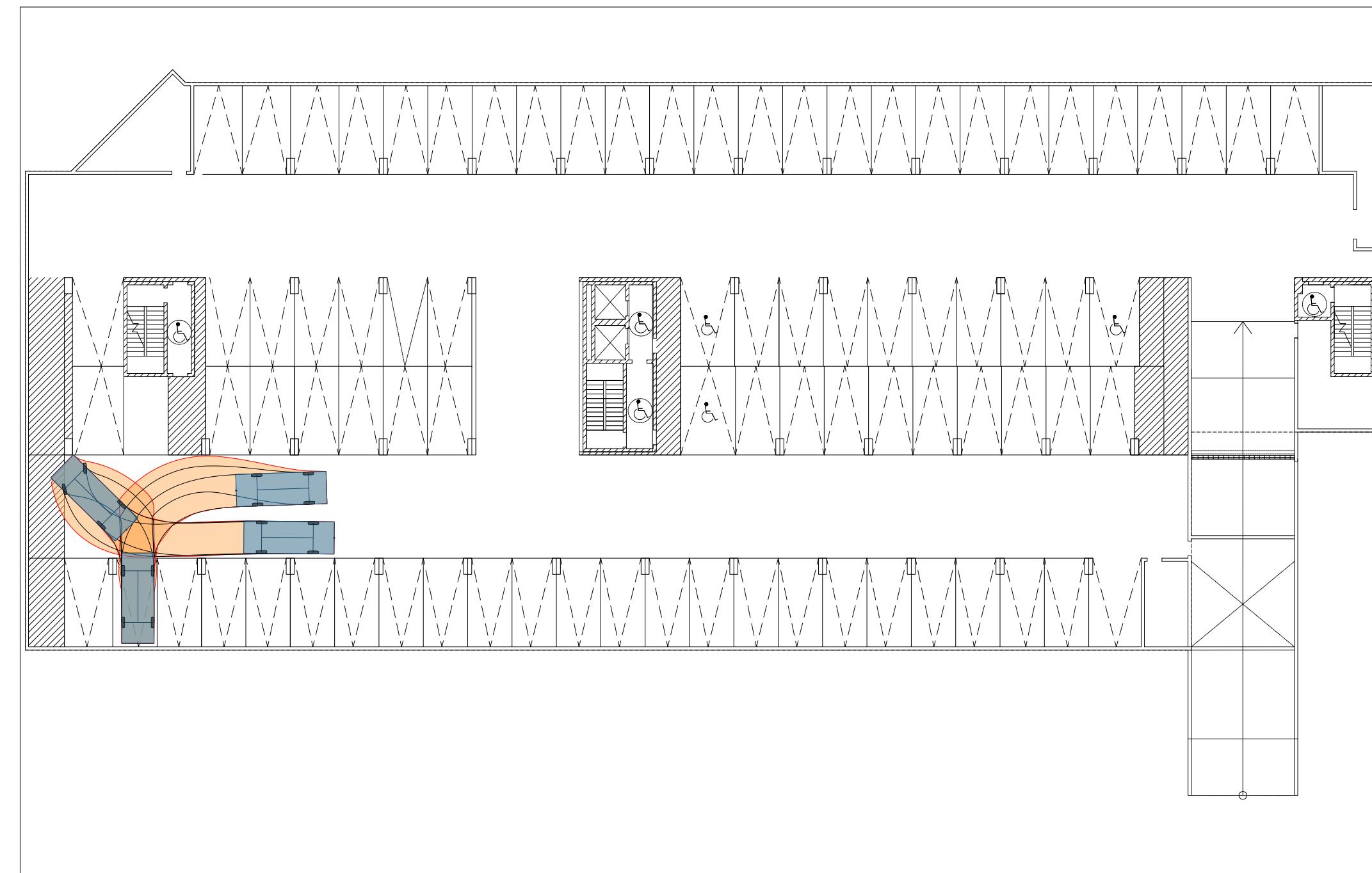
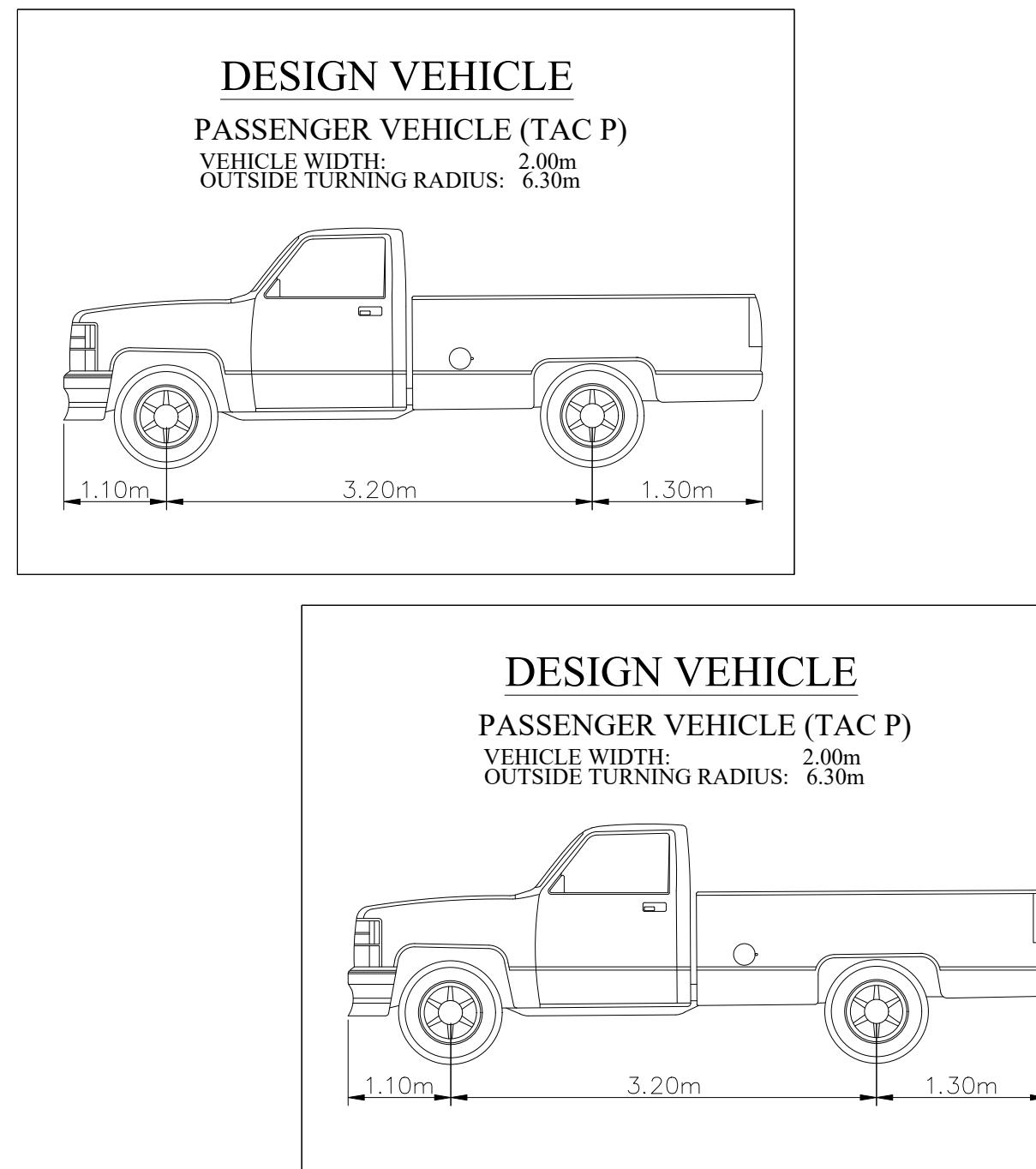
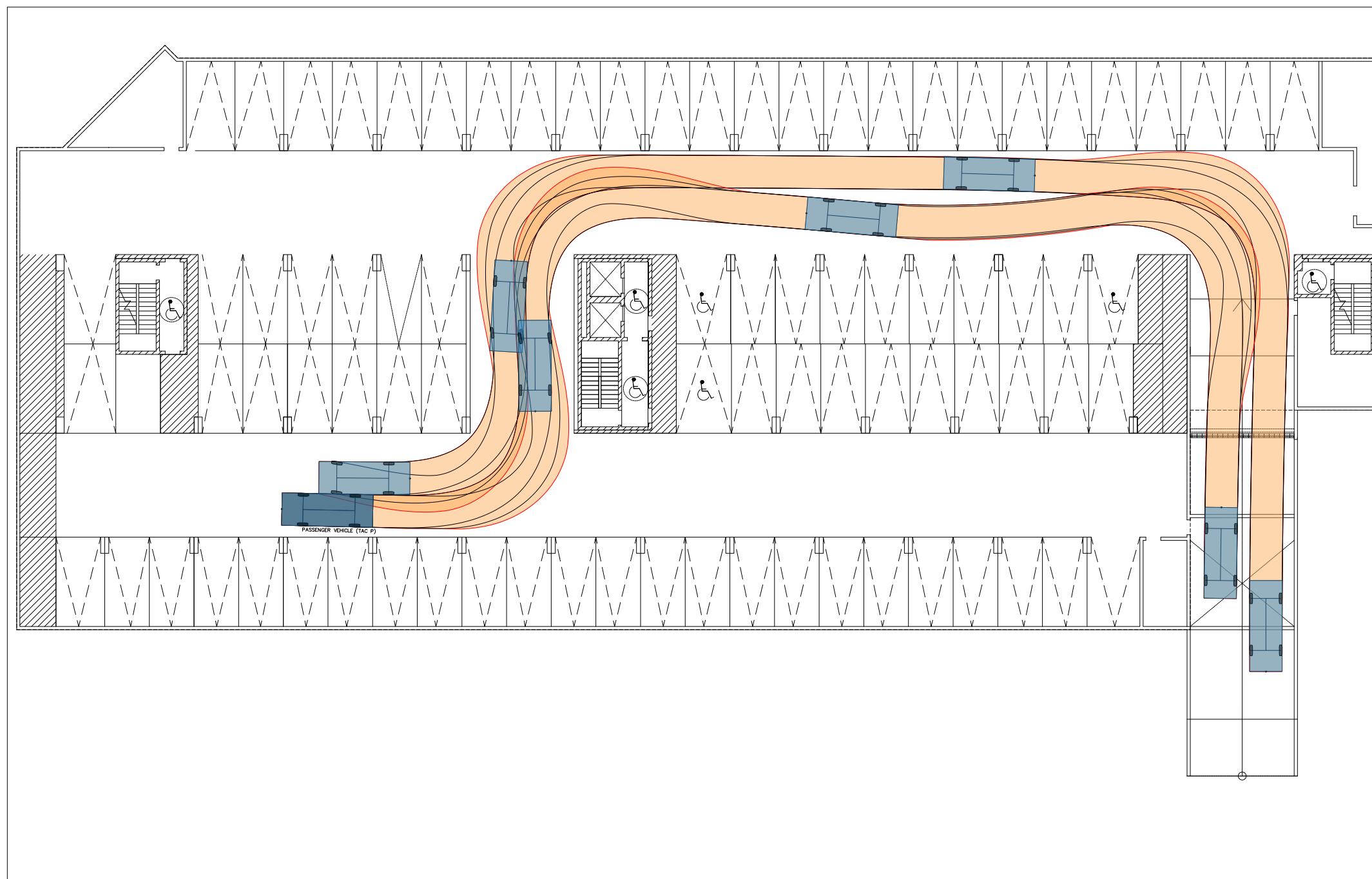
JD Northcote Engineering Inc.
 Phone: 705.725.4035
 86 Cumberland Street
 Barrie, ON L4N 2P6
www.JDEngineering.ca

953 MAPLEVIEW DRIVE EAST
 BLOCK 193

AREA MUNICIPALITY
 CITY OF BARRIE

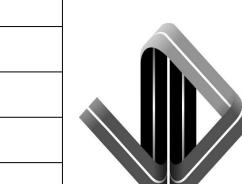
WASTE VEHICLE
 TURNING MOVEMENTS

DESIGN: JN DATE: 06/24
 DRAWN: JN DATE: 06/24
 REVIEWED: JN DATE: 06/24
 SCALE HOR. 1:300
 SCALE VERT. N/A
 SHEET NO. 1302 - TURN 2



GENERAL NOTES
1. THIS DRAWING IS NOT INTENDED FOR CONSTRUCTION.
2. DO NOT SCALE DRAWINGS.
3. THE DRAWINGS ARE THE PROPERTY OF JD ENGINEERING AND MUST BE RETURNED ON COMPLETION OF THE PROJECT.
4. BASE DRAWING PROVIDED BY S&C ARCHITECTS INC. ON JUNE 7, 2024.

1. JUNE 2024	JN	FIRST SUBMISSION	



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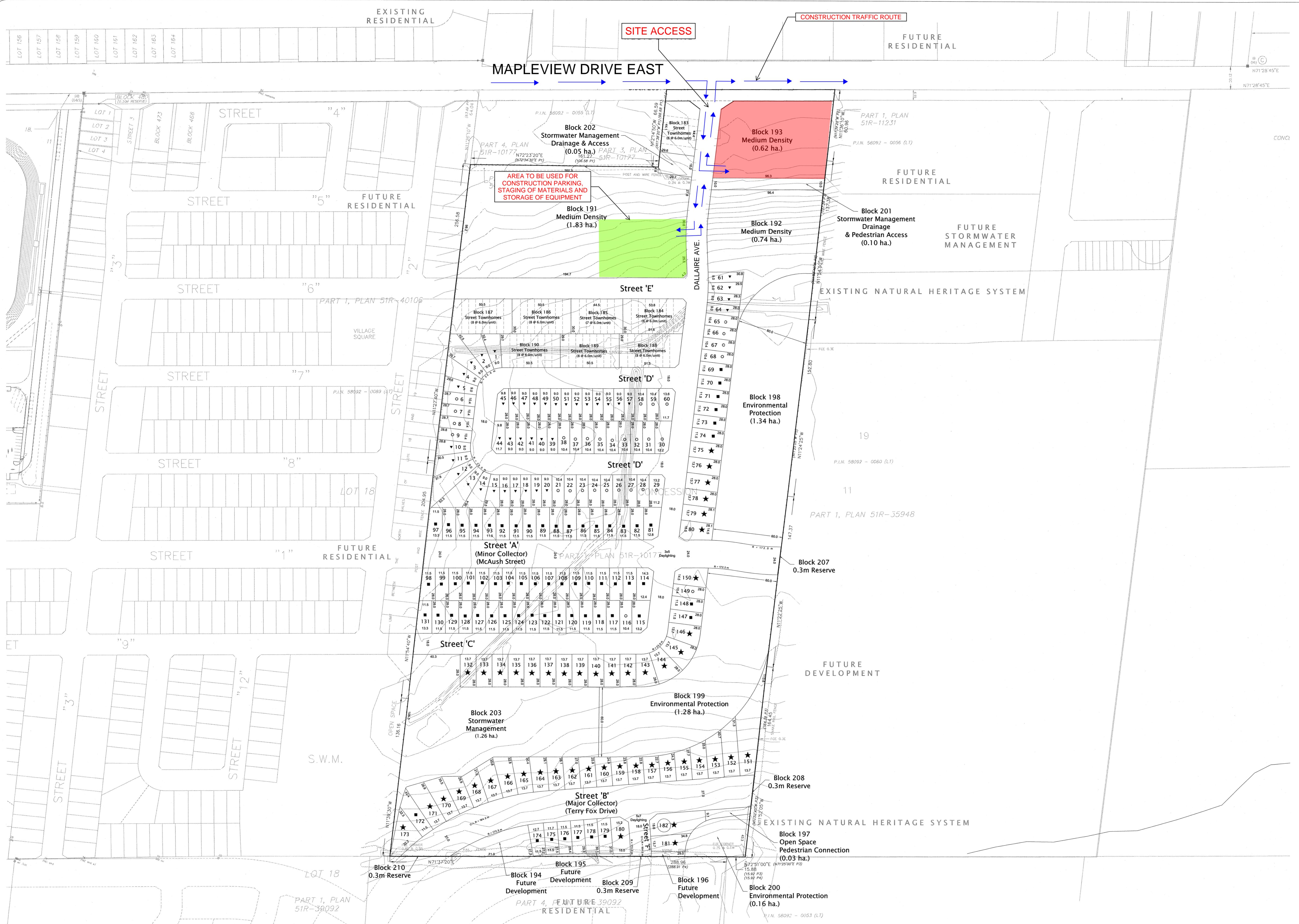
953 MAPLEVIEW DRIVE EAST
BLOCK 193

AREA MUNICIPALITY
CITY OF BARRIE

PASSENGER VEHICLE
TURNING MOVEMENTS

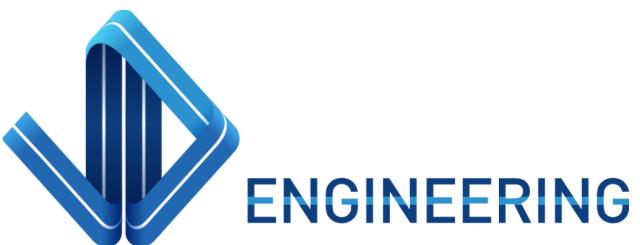
DESIGN: JN DATE: 06/24
DRAWN: JN DATE: 06/24
REVIEWED: JN DATE: 06/24
SCALE HOR: N/A
SCALE VERT: N/A
SHEET NO. 1302 - TURN 3

Appendix F – Construction Traffic Management Plan



CONSTRUCTION TRAFFIC MANAGEMENT PLAN

DATE: JUNE 14, 2024



**MAPLEVIEW SOUTH (INNISFIL) LTD.
953 MAPLEVIEW DRIVE BARRIE, ONTARIO**