1012 YONGE STREET (PHASE 1)
TRAFFIC IMPACT STUDY

Draft Plan of Subdivision and Site Plan Control
City of Barrie



Prepared For: Crown (Barrie) Communities Inc.

August 2024

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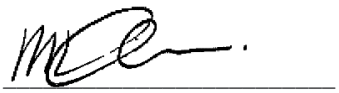

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1.0 INTRODUCTION

BA Group has been retained by Crown (Barrie) Communities Inc. (herein referred to as the "applicant") to provide transportation consulting services as part of a concurrent Draft Plan of Subdivision (DPOS) and Site Plan Control (SPC) application being made to the City of Barrie to support Phase 1 (comprising Buildings B and C) of the proposed mixed-use residential development municipally located at 1012 Yonge Street (herein referred to as the "site" or "proposed development"). The overall site (comprising Phases 1, 2, and 3) is in proximity to the northwest quadrant of the existing Yonge Street / Lockhart Road intersection, also located within the Barrie Official Plan's Hewitt's Secondary Plan area.

The overall site is bounded by Yonge Street to the east and vacant space to the west, north, and south. A series of new road connections and improvements are being planned as part of the proposed development and in conformance with the Official Plan, including a future northern road boundary of the Condo Driveway (private) and future southern road boundary of Street 'A' (public). In addition, the City's Official Plan and Transportation Master Plan specify the future road widening of Yonge Street. It is noted that the Yonge Street corridor is expected to undergo significant changes in the future adjacent to the site, between Mapleview Drive to the north and Lockhart Road to the south.

As part of the proposed development and with respect to the planned area road network, Phase 1 is located between Phase 2 (Building A) to the east and Phase 3 (Buildings D and E) to the west.

The site is currently occupied by a single detached home and farmland with a single driveway access (unpaved, all moves permitted) on Yonge Street.

The site location and context are illustrated in **Figure 1**.

1.1 Application Background

INITIAL ZONING BY-LAW AMENDMENT SUBMISSION (MARCH 2021)

An initial Zoning By-law Amendment (ZBA) application for the overall site was submitted in March 2021. As part of this application, JD Northcote Engineering Inc. prepared a Traffic Impact Study entitled, *"1012 Yonge Street, City of Barrie – Traffic Impact Study for Crown (Barrie) Developments Inc."* dated March 1, 2021. The development proposal included 1,029 residential units and 1,282 square metres of commercial gross floor area (GFA).

ZONING BY-LAW AMENDMENT RESUBMISSION (FEBRUARY 2022)

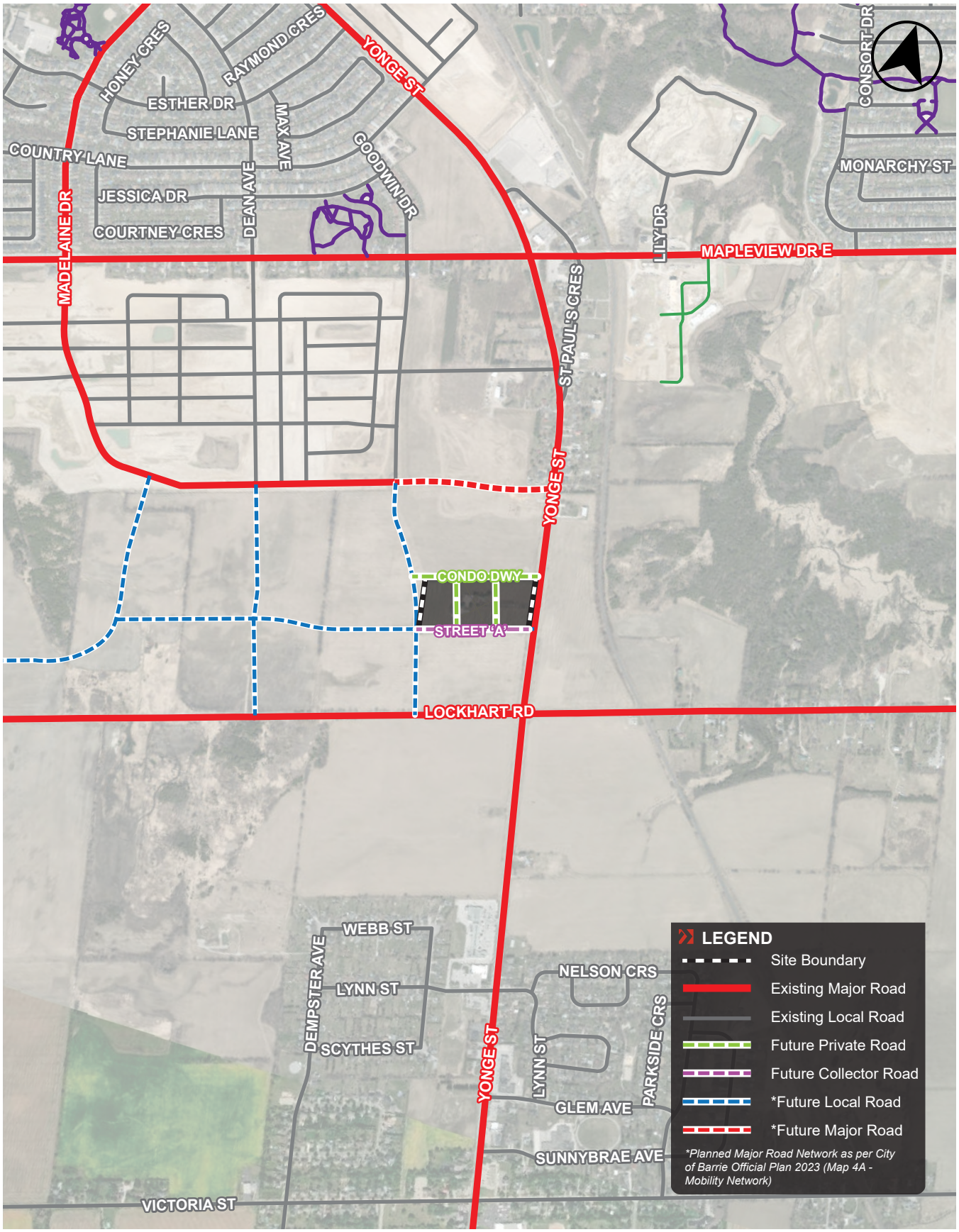
A second Zoning By-law Amendment (ZBA) application for the overall site was submitted in February 2022. As part of this application, JD Northcote Engineering Inc. prepared a Traffic Impact Study entitled, *"1012 Yonge Street, City of Barrie – Traffic Impact Study for Crown (Barrie) Developments Inc."* dated February 10, 2022. The development proposal included 1,100 residential units, and 1,180 square metres of commercial GFA across two phases.

REVISED ZONING BY-LAW AMENDMENT RESUBMISSION (AUGUST 2022)

A revised second Zoning By-law Amendment (ZBA) application for the overall site was submitted in August 2022. As part of this application, JD Northcote Engineering Inc. prepared a Traffic Impact Study entitled, *"1012 Yonge Street, City of Barrie – Traffic Impact Study for Crown (Barrie) Developments Inc."* dated August 15, 2022. The development proposal included 1,089 residential units, and 1,167 square metres of commercial GFA across two phases.

1.2 Approvals

Following the revised ZBA resubmission in August 2022, the applicant obtained rezoning approval on June 21, 2023 to permit the proposed development. Approval of the ZBA application for the overall site resulted in an amendment to Town of Innisfil Zoning By-law 054-04 and City of Barrie Zoning By-law 2009-141, legally known as Site-specific Zoning By-law 2023-068. The amendment clauses pertaining to this By-law, as applicable, and as provided in **Appendix A**, have been referenced throughout this report.



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Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographies, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

FIGURE 1 SITE LOCATION AND CONTEXT

1.3 This Study

Based on the foregoing, concurrent initial DPOS and SPC applications for Phase 1 of the site are now being submitted as part of the ongoing development and approvals process.

BA Group has undertaken this study through an assessment of the proposed development, site planning / transportation requirements and provisions, interim and ultimate functional road plans (including signage and pavement marking plans), Transportation Demand Management (TDM) plan, and traffic forecasting and analysis.

This study provides a review of various key transportation-related aspects for the SPC application of Phase 1 being submitted to the City of Barrie to permit the proposed development. In addition, Pre-Consultation Technical Review Comments for the SPC application have been received by City staff in February to March 2023, as provided in **Appendix B**, which were considered and / or addressed throughout this report.

The detailed scope of work is presented as follows:

DEVELOPMENT PLAN AND SITE PLANNING

- An overview of the proposed development programme;
- A review of the parking supply provisions of the proposed development plans;
- A review of the bicycle parking supply provisions for the proposed development plans;
- A review of the loading supply provisions for the proposed development plans;
- A review of the functionality and appropriateness of the proposed vehicle facilities incorporated into the site plan including loading / garbage collection facility arrangements;
- A review of the short-term parking supply provisions for the proposed development plans;
- A review of the development phasing for the proposed development; and
- A review of the functional road plan and pavement marking / signage designs for the proposed development plans (interim and/or ultimate).

FUNCTIONAL ROAD PLAN

- A detailed review of the interim and ultimate functional road plan for the proposed road network surrounding the proposed development;
- A detailed review of the signage and pavement marking plans for the interim and ultimate road plan conditions; and
- A review of the required stopping sight distance for the interim and ultimate road plan conditions.

TRANSPORTATION DEMAND MANAGEMENT

- An outline of the organizational framework of the TDM plan; and
- An outline of the TDM plan for residents and visitors of the proposed development.

TRAFFIC VOLUME FORECAST

- Assessment of the existing traffic activity patterns and volumes in the study area during the key weekday morning and afternoon peak periods for each development scenario; and
- A comprehensive review of traffic changes that may occur in the area in the future with the construction of other area development projects.

TRAFFIC OPERATIONS ANALYSIS

- A detailed review of the traffic operations at intersections in the area under existing and future traffic conditions including an assessment of the operational impacts of the proposed development.

The findings of our report are summarized in the following sections.

2.0 PROPOSED DEVELOPMENT

Phase 1 of the site includes primarily residential uses comprising the following:

- Building B: 213 residential units (66 1-bedroom, 97 2-bedroom, and 50 3-bedroom)
- Building C: 210 residential units (57 1-bedroom, 106 2-bedroom, and 47 3-bedroom)

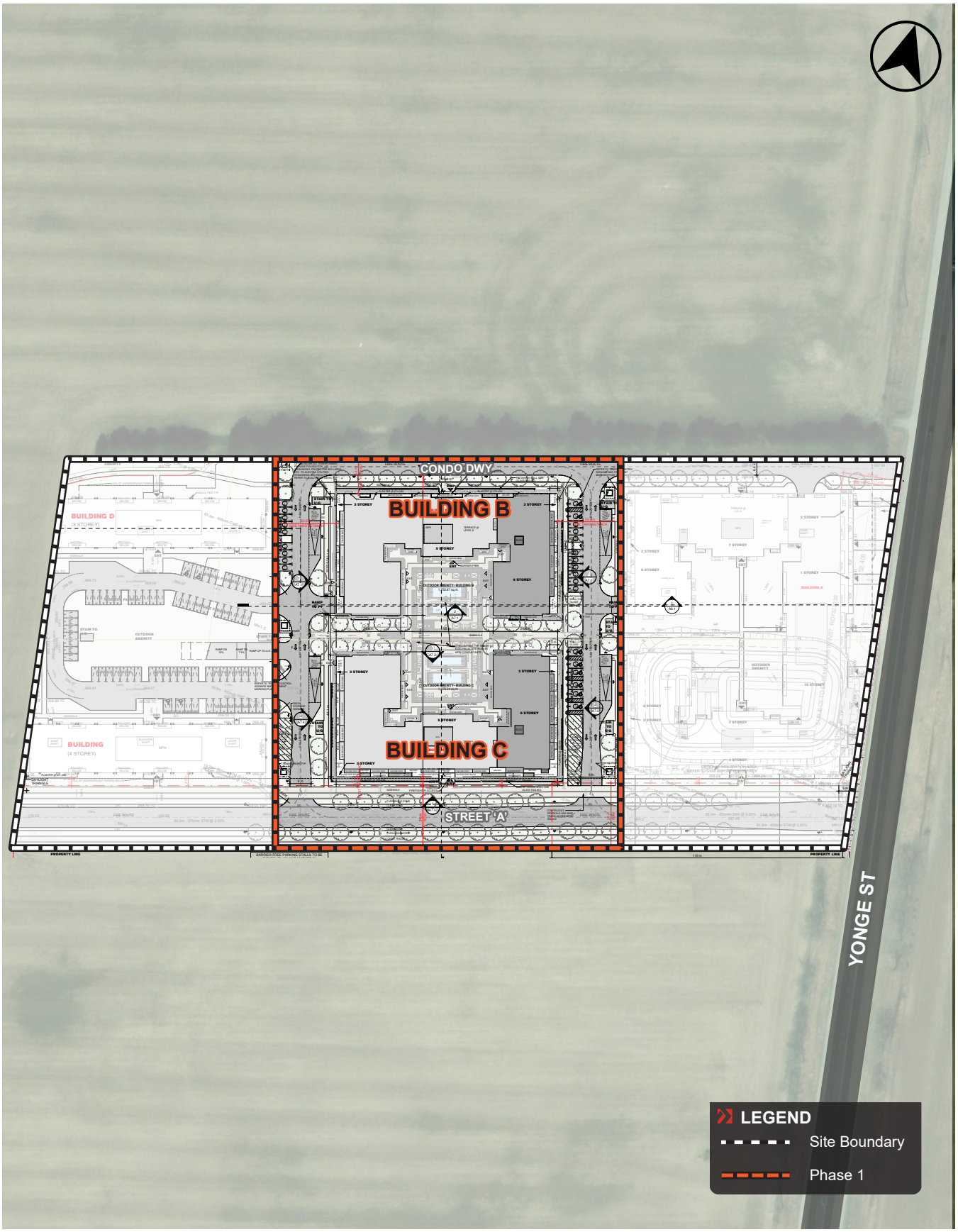
Further details on the development program, including proposed land uses and transportation facilities, are summarized in **Table 1**. The site plan is illustrated in **Figure 2**. In addition, the architectural plans are provided in **Appendix C**.

Table 1 Phase 1 Development Program

Type		Current Proposal (Buildings B and C)
Land Use Elements		
Residential		123 1-bedroom units 203 2-bedroom units 97 3-bedroom units 423 total units
Transportation Elements		
Vehicular Parking	Access	At-grade vehicle parking (east and west side) and vehicle parking ramp (west side) via driveway off Street 'A'
	Supply	461 total vehicle parking spaces (including 16 accessible spaces)
Loading	Access	Layby loading facilities via driveway off Street 'A'
	Supply	2 total loading spaces
Bicycle Parking	Access	Below-grade bicycle parking via elevators
	Supply	86 total bicycle parking spaces
Pedestrian	Access	At-grade building entrances via surrounding sidewalk network
Pick-up / Drop-off	Access	At-grade vehicle parking (east side) via driveway off Street 'A'
	Supply	At-grade parking spaces to permit short-term parking activity

Notes:
1. Based on site statistics provided by SRN Architects on August 22, 2024.

It is noted that Buildings B and C will include shared vehicle parking and bicycle parking facilities to support the overall needs of Phase 1.



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Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographies, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

FIGURE 2 SITE PLAN

3.0 PHASE 1 DRAFT PLAN OF SUBDIVISION

A copy of the DPOS boundary prepared by Krcmar Surveyors Limited is provided in **Appendix D** for reference. This survey plan has been used as the basis for the functional road plan (Phase 1) prepared as part of this report and the architectural plans being advanced through the planning process.

The Phase 1 DPOS reflects the proposed street right-of-way widths, proposed existing street widenings / realignments, and daylighting allowances developed as part of the DPOS and SPC processes for Phase 1 and identified on the functional road plans prepared by BA Group, as provided in **Appendix E**.

The Phase 1 DPOS also identifies the development blocks that are established given the proposed street network included in the Phase 1 DPOS area. These are described in more detail in the following section.

3.1 Functional Road Plan – Phase 1

The Phase 1 DPOS application is being sought for the approval of the new east-west public road known as Street 'A', the private street surrounding the proposed Phase 1 development, and establishing Building B and Building C within the Phase 1 development block.

Phase 1 will provide the following road improvements and connections:

- **Interim Road Network Condition (Full Build-out of Phase 1)** – indicates full build-out of Street 'A' (between Yonge Steet to the east and the western Condo Driveway access to the west) connecting to existing Yonge Street and full build-out of the Condo Driveway ('U'-shaped road surrounding Phase 1 with driveways connecting to Street 'A'); and
- **Ultimate Road Network Condition (Post Build-out of Phase 1)** – indicates full build-out of Street 'A' (between Yonge Steet to the east and the western Condo Driveway access to the west) connecting to the planned widening of Yonge Street and full build-out of the Condo Driveway ('U'-shaped road surrounding Phase 1 with driveways connecting to Street 'A').

An overview of the key design elements of the new or improved road connections are outlined in **Table 2** and the Ultimate Road Plan for Phase 1 is illustrated in **Figure 3**. Existing Lane configuration and traffic control is illustrated in **Figure 4**.

In addition, the functional road plans and pavement marking and signage plans are provided in **Appendix E** and **Appendix F** for further details.

Table 2 Summary of Functional Road Elements

Street	Ownership (Roadway Type)	Timing	Right-of-way Width	Key Cross Section Elements	Design Standard Reference
Yonge Street	Public (Arterial)	Interim	Tied to existing edge of pavement		
		Ultimate	34 - 41 metres[1]	• 2.0 metre sidewalks (both sides) • 2.9 metre boulevards (both sides) • 1.5 metre uni-directional cycle tracks with 0.5 metre buffers (both sides) • 3.5 metre travel lanes (2 per direction) • 4.2 metre central two-way left-turn lane	Yonge Street Transportation Improvements Project – Preferred Design Alternative
Street 'A'	Public (Minor Collector)	Interim and Ultimate	24 metres with transition to 25 metres at the intersection of Yonge Street[2]	• 2.1 metre sidewalks (both sides) • 1.8 metre uni-directional cycle tracks with 0.3 metre clear zones (both sides) • 2.0 metre furnishing zones (both sides) • 1.0 metre clear zones (both sides) • 3.5 metres travel lanes (1 per direction)	Barrie Design Standard R303 with Modifications
Condo Driveway	Private (Internal Driveway)	Interim and Ultimate	-	• 3.2 metre travel lanes (one per direction)	Barrie Zoning By-law 2009-141

Notes:

1. Required widening of Yonge Street to accommodate a maximum right-of-way width of 41.0 metres, as specified in Comment 7 of the Transportation Planning comments within the Pre-Consultation Technical Review Comments document.
2. A 25.0 metre right-of-way along Street 'A' to be maintained for a minimum of 110 metres to accommodate the required parallel storage and taper for the eastbound left turn lane, as specified in Comment 8 of the Transportation Planning comments within the Pre-Consultation Technical Review Comments document.

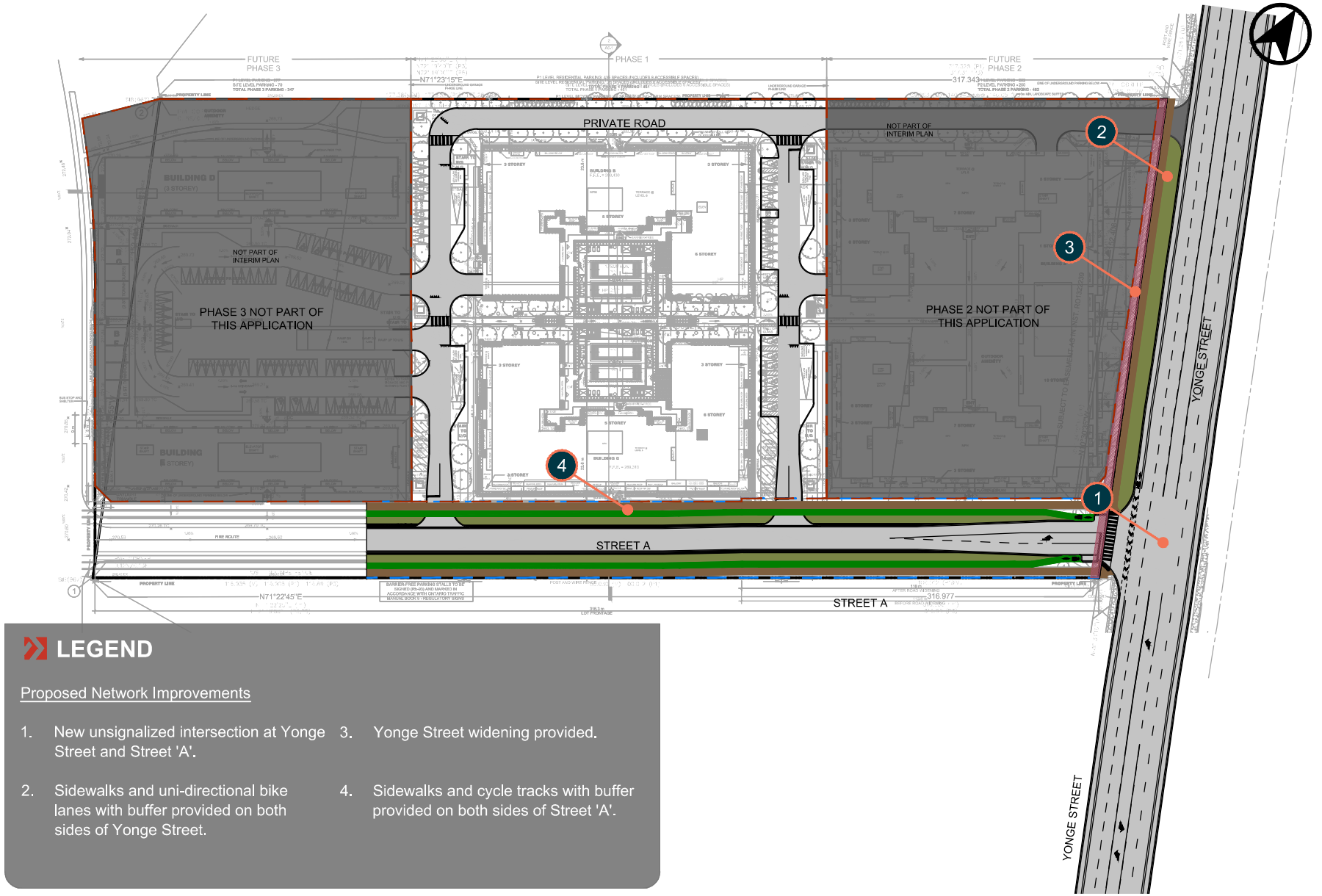

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FIGURE 3 ULTIMATE ROAD PLAN - PHASE 1

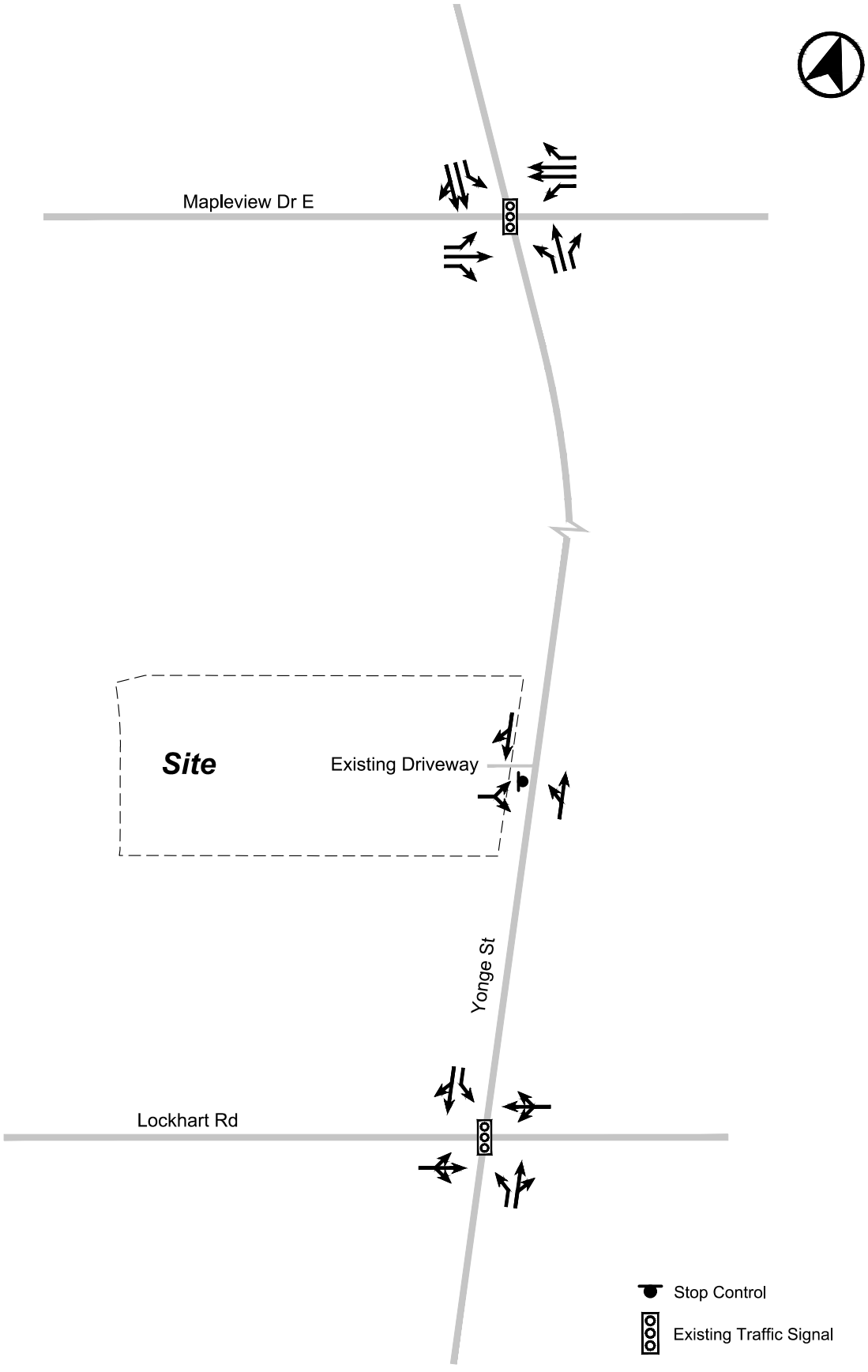

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FIGURE 4 EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL

3.2 Functional Design Standards – Phase 1

3.2.1 Design Requirements

The functional road design was prepared in consideration of the following documents:

- City of Barrie Zoning By-law 2009-141;
- City of Barrie Official Plan, 2023;
- City of Barrie Urban Design Manual, 2007 (revised 2014);
- City of Barrie Right-of-Way Infrastructure Design Standard (R300A), 2023;
    - City of Barrie Minor Collector 24.0m Cross-Section (Drawing R303), 2024;
    - City of Barrie Daylight Requirements (Drawing R323), 2023;
- Ontario Traffic Manual (OTM) Book 11, 2000 and Book 18, 2021; and
- Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads, 2017.

Application or reference of these design requirements and guidelines will be discussed in the following sections.

3.2.2 Right-of-way Widening

A 2.5 metre widening is shown along the Yonge Street frontage to accommodate a maximum right-of-way width of 41.0 metres, as required, in response to the Pre-Consultation Technical Review Comments received by City staff. Refer to **Appendix B** for further details.

3.2.3 Daylight Triangle

A 5.0 metre by 10.0 metre daylight triangle is provided at the new intersection of Street 'A' and Yonge Street, in accordance with Drawing R323 of the City of Barrie Right-of-Way Infrastructure Design Standard.

3.2.4 Curb Radii

In accordance with Drawing R323 of the City of Barrie Right-of-Way Infrastructure Design Standard, City of Barrie Urban Design Manual, 12.5 metre and 12.0 metre curb radii are provided at the new intersections of Yonge Street and Street 'A' and Yonge Street and the Condo Driveway, respectively. In addition, 6.0 metre curb radii are provided at the new intersections of Street 'A' and the Condo Driveway entrances (east and west).

3.3 Proposed Road Network – Phase 1

3.3.1 Yonge Street

Yonge Street is a public north-south arterial road under the jurisdiction of the City of Barrie, extending from the existing railway (continuing as Burton Avenue) to the north and Eighth Line in Bradford West Gwillimbury (continuing as Barrie Street) to the south.

In the Phase 1 Interim plan, the existing condition of Yonge Street will intersect with proposed Street 'A' (all-moves; unsignalized under STOP control), located to the southeast of the site, as part of the initial DPOS application. Yonge Street currently has a basic two-lane cross section (one travel lane per direction).

In the Phase 1 Ultimate plan, the Yonge Street corridor will be widened by 2.5 metres at the eastern frontage of the site to accommodate a maximum right-of-way width of 41.0 metres. In addition, Yonge Street will intersect with proposed Street 'A' (all-moves; unsignalized under STOP control), located to the southeast of the site.

Key functional design elements of future Yonge Street, in accordance with the City of Barrie's preferred design as part of the EA process, are summarized below:

34.0 Metre Right-of-Way

- 2.0 metre sidewalks (both sides);
- 2.9 metre boulevards (both sides);
- 1.5 metre uni-directional cycle tracks with 0.5 metre buffers (both sides);
- 3.5 metre travel lanes (two lanes per direction); and
- 4.2 metre central two-way left-turn lane.

3.3.2 Street 'A'

Street 'A' is a public east-west minor collector road planned under the jurisdiction of the City of Barrie, extending from Yonge Street to the east and approximately 23 metres west of the Street 'A' and western Condo Driveway access intersection (centreline to centreline) to the west in Phase 1.

In the Phase 1 Interim plan, Street 'A' will provide a 24.0 metre right-of-way width and will intersect with the existing condition of Yonge Street (all-moves; unsignalized under STOP control) as part of the initial DPOS application. It is noted that Street 'A' will transition to a 25.0 metre right-of-way and will be maintained for a minimum of 110 metres to accommodate the required parallel storage and taper for the eastbound left turn lane, in response to the Pre-Consultation Technical Review Comments. In addition, it is noted that Street 'A' will be fully developed in the Phase 1 Interim plan.

In the Phase 1 Ultimate plan, Street 'A' will intersect with the planned widening of Yonge Street (all-moves; unsignalized under STOP control).

Key functional design elements of future Street 'A', in theme with City of Barrie standards, are summarized below:

24.0 Metre Right-of-Way

- 2.1 metre sidewalks (both sides);
- 1.8 metre uni-directional cycle tracks with 0.3 metre clear zones (both sides);
- 2.0 metre furnishing zones (both sides);
- 1.0 metre clear zones (both sides); and
- 3.5 metres travel lanes (one lane per direction).

25.0 Metre Right-of-Way

- 2.1 metre sidewalks (both sides);
- 1.8 metre uni-directional cycle tracks with 0.3 metre clear zones (both sides);
- 2.0 metre furnishing zones (both sides);
- 3.5 metres travel lanes (one lane per direction); and
- 3.3 metre left-turn lane.

3.3.3 Condo Driveway

Condo Driveway is a U-shaped and east-west private road, which provides internal connections between the proposed buildings of the overall site.

In the Phase 1 Interim and Ultimate plan, the Condo Driveway will provide a U-shaped connection, surrounding Buildings B and C, with two driveway accesses from Street 'A', located approximately 12.0 metres and 23.0 metres to the west of the Yonge Street and Street 'A' intersection. The Condo Driveway will provide a two-lane cross section (one travel lane per direction), spanning a pavement width of 6.4 metres. The roadway will primarily serve local residential vehicular traffic, while reducing vehicular traffic along the surrounding major road network, with direct access to parking (at-grade and below-grade), short-term parking or pick-up / drop-off activity (at-grade), and loading (at-grade) facilities to serve Buildings B and C.

In subsequent development phases, the Condo Driveway will provide the U-shaped portion as well as an approximate 14.0 metre long east-west extension to Yonge Street (centreline to centreline), located to the northeast of the site. The northern access to Yonge Street is planned to operate as a right-in / right-out intersection and will provide a two-lane cross section (one travel lane per direction), spanning a pavement width of 6.4 metres. Further details are to be provided throughout the development process (i.e., Phases 2 and 3).

It is noted that all proposed driveways within the Phase 1 plan will be designed in accordance with the applicable City of Barrie design standards and guidelines.

4.0 PHASE 1 SIGHT DISTANCE REVIEW

BA Group conducted a sight distance review for the proposed driveway access of the site (Street 'A') as part of the Phase 1 development of the overall site. This review includes the following:

- Existing sight distance conditions at the proposed site access location;
- Adopted sight distance standards and existing vehicular travelling speed information along the subject corridor; and
- Stopping sight distance analyses at the proposed access location for both the interim and ultimate conditions.

The stopping sight distance analyses being undertaken have been assessed in compliance and reference to Chapter 2 and Chapter 9 of the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads methodology, 2017 Edition.

4.1 Proposed Site Access

As mentioned in **Section 3.3.2**, a proposed driveway access via Street 'A' will be provided as part of Phase 1 and has been designed in theme with City of Barrie standards for the interim and ultimate conditions. The proposed Street 'A' site access will permit full moves and will operate under STOP control at its intersection with Yonge Street. In addition, the proposed site access will provide a total roadway width of approximately 10.3 metres.

As per TAC (Chapter 8), minimum distances of 20 metres between driveways and 5 metres between driveways and intersections for collector roads (measured curb radius to curb radius) are required. Given the existing roadway conditions and rural nature of the immediate area, this has been satisfied based upon the location of the proposed access.

4.2 Sight Distance Design Standards

As per TAC (Chapter 2), various guidelines for sight distance standards are to be applied to the proposed site driveway. Sight distance provides motorists sufficient time to react and decide whether to preform a movement and is highly dependent on the speed of incoming vehicles. As such, the following TAC design standards have been adopted as part of the sight distance analysis, all of which comply with the minimum requirements:

- Driver's Eye Height: 1.08 metres
- Departing Vehicle setback: 4.40 metres
- Top of Car Height: 1.30 metres
- Object Height: 0.60 metres
- Design Speed of Yonge Street: 70 kilometres per hour (10 kilometres per hour above the posted speed limit of 60 kilometres per hour in vicinity of site)

4.3 Intersection / Turning Sight Distance

As mentioned, the proposed configuration for the Street 'A' site access at its intersection with Yonge Street will permit all moves for the interim and ultimate conditions. Recognizing that all vehicle types are generally permitted to and from this site access, a typical passenger vehicle will be tested for the purpose of this analysis. Evaluating the intersection / turning sight distance (ISD) at the proposed site access results in two applicable analysis scenarios, including the following:

- Left Turn from Stop (Case B1)
  This involves assessing the sight distance for a driver exiting the proposed access looking right for incoming traffic.

- Right Turn from Stop (Case B2)
  This involves assessing the sight distance for a driver exiting the proposed access looking left for incoming traffic.

The following sections provide the sight distance calculations between an incoming vehicle and exiting vehicle when approaching and at the proposed driveway access, respectively.

4.3.1 Interim Condition

Left Turn From Stop (Case B1)

As the vehicles exiting the site with a left turn from Street 'A' onto Yonge Street do not require crossing more than one travel lane, the required sight distance is evaluated based on reference Table 9.9.4. Based on the design speed of 70 kilometre per hour, the required sight distance for a left turn from stop for a passenger vehicle is **150 metres**.

Drawing SD-01B provided in **Appendix G** illustrates appropriate visibility / sightlines at the specified driveway setback distance (i.e., 4.4 metres from edge of roadway), using the calculated distance and assumptions adopted in **Section 4.2**.

As such, the intersection / turning sight distance requirement for this condition is met as per TAC standards.

Right Turn From Stop (Case B2)

As the vehicles exiting the site with a right turn from Street 'A' onto Yonge Street do not require crossing any travel lanes, the required sight distance is evaluated based on reference Table 9.9.6. Based on the design speed of 70 kilometre per hour, the required sight distance for a right turn from stop for a passenger vehicle is **130 metres**.

Drawing SD-01A provided in **Appendix G** illustrates appropriate visibility / sightlines at the specified driveway setback distance (i.e., 4.4 metres from edge of roadway), using the calculated distance and assumptions adopted in **Section 4.2**.

As such, the intersection / turning sight distance requirement for this condition is met as per TAC standards.

4.3.2 Ultimate Condition

Left Turn From Stop (Case B1)

As the vehicles exiting the site with a left turn from the Street 'A' driveway onto Yonge Street would need to cross more than one lane, an additional 0.5 seconds per lane (i.e., additional 1.5 seconds for one bike lane and two travel lanes) is added to the time gap of 7.5 seconds (referenced in Table 9.9.3 of the TAC Guidelines), resulting in a time gap of 9.0 seconds.

Applying the assumptions adopted in **Section 4.2** and substituting the parameters into Equation 9.9.1 of the TAC Guidelines results in the following minimum ISD requirement:

$$ISD = 0.278 * 70 * 9.0$$

$$ISD = 175.14 \approx \textbf{180 metres}$$

Drawing SD-02B provided in **Appendix G** illustrates appropriate visibility / sightlines at the specified driveway setback distance (i.e., 4.4 metres from edge of roadway).

As such, the intersection / turning sight distance requirement for this condition is met as per TAC standards.

Right Turn From Stop (Case B2)

As the vehicles exiting the site with a right turn from the Street 'A' driveway onto Yonge Street would need to cross more than one lane, an additional 0.5 seconds per lane (i.e., one bike lane) is added to the time gap of 6.5 seconds (referenced in Table 9.9.5 of the TAC Guidelines), resulting in a time gap of 7.0 seconds.

Applying the assumptions adopted in **Section 4.2** and substituting the parameters into Equation 9.9.1 of the TAC Guidelines results in the following minimum ISD requirement:

$$ISD = 0.278 * 70 * 7.0$$

$$ISD = 136.22 \approx \textbf{140 metres}$$

Drawing SD-02A provided in **Appendix G** illustrates appropriate visibility / sightlines at the specified driveway setback distance (i.e., 4.4 metres from edge of roadway).

As such, the intersection / turning sight distance requirement for this condition is met as per TAC standards.

4.4 Stopping Sight Distance

4.4.1 Interim and Ultimate Conditions

As per TAC (Section 2.5.3), the stopping sight distance is evaluated based on reference Table 2.5.2, indicating several roadway types and design speeds. Based on the subject roadway type and design speed of 70 kilometres per hour along Yonge Street, this results in a minimum stopping sight distance requirement of **105 metres** from the proposed site access at Street 'A'.

Drawings SD-01 and SD-02 provided in **Appendix G** illustrates that there are appropriate visibility / sightlines at the specified driveway setback distance (i.e., 4.4 metres from edge of roadway), using the calculated distance and assumptions adopted in **Section 4.2**. It is noted that the stopping sight distance for the ultimate condition is the same as the interim condition.

As such, the stopping sight distance requirements are met as per TAC standards.

5.0 VEHICLE PARKING CONSIDERATIONS

5.1 Subject Zoning By-law Vehicle Parking Requirements

The site is subject to the vehicle parking requirements as per Site-specific Zoning By-law 2023-068, which refers to the City of Barrie Comprehensive Zoning By-law 2009-141 (as amended per Zoning By-law 2015-097). A summary of the minimum vehicle parking requirements for the proposed development, including barrier free (accessible) parking requirements, is provided in **Table 3**. It is assumed that the minimum resident parking requirement is inclusive of residential visitor uses, as there is no separate requirement specified under the Zoning By-law.

Table 3 Amended Zoning By-law 2009-141 Minimum Parking Requirements

Use	Units / GFA / Category[1]	Minimum Rate	Minimum Requirement[3]
Resident			
Resident[2]	423 dwelling units	1.00 spaces / unit (inclusive of resident visitors)	423 spaces
Total Vehicle Parking Requirement			**423 spaces**
Accessible Parking Requirement[4]			
Total Required Parking	Over 100 spaces	1 + 3% of required parking spaces	14 spaces (7 Type A and 7 Type B)

Notes:
1. Based upon site statistics provided by SRN Architects on August 22, 2024.
2. City of Barrie Zoning By-law 2009-141 does not state rounding rules for the calculation of minimum parking. As such, the minimum parking requirement will be rounded to the nearest whole number.
3. As per City of Barrie Zoning By-law 2009-141 Section 4.6.4, where an odd number of barrier free parking spaces are required, the odd numbered space may be a Type B parking space.
4. The site is zoned as Neighbourhood Mixed Use – Special Provision No.636, Hold-158 and Neighbourhood Mixed Use – Special Provision No. 637, Hold 158, which falls under the Mixed Use General Provisions in the Comprehensive Zoning By-law. The development provides residential uses within a Mixed Use zone and is subject to a parking standard of 1 space per dwelling unit. As per City of Barrie Site-specific Zoning By-law 2023-068, on lands zoned Neighbourhood Mixed Use NMU, a maximum of 1 parking space per 18 square metres of gross floor area for non-residential uses shall be permitted.

Application of the Zoning By-law 2009-141 (as amended per Zoning By-law 2015-097) vehicle parking standards results in a minimum requirement of 423 resident parking spaces (inclusive of residential visitors). In addition, 14 spaces of the total parking requirement must be accessible, consisting of 7 Type A and 7 Type B accessible spaces.

As per the Zoning By-law 2009-141 (as amended per Zoning By-law 2015-097), the standard parking spaces of the proposed development require a minimum width of 2.7 metres and a minimum length of 5.5 metres and shall include such additional area (aisle) with a minimum width of 6.4 metres as required. Type A accessible parking spaces require a minimum width of 3.4 metres and an access aisle width of 1.5 metres. Type B accessible parking spaces require a minimum width of 3.1 metres and an access aisle width of 1.5 metres.

An additional 0.3 metres will be provided for parking space widths when obstructions occur between the front and rear 1 metre for standard parking spaces. An additional 1.5 metres will be provided for parking space widths when obstructions occur between the front and rear 1 metre for accessible parking spaces. Both standard and accessible parking spaces are proposed to have a drive aisle with a minimum width of 6.4 metres.

5.2 Proposed Vehicle Parking Supply and Strategy

The architectural plans illustrate the provision of 461 resident parking spaces to serve the parking needs for Phase 1 of the proposed development. Of the total parking supply, 435 parking spaces are located on the P1 level for residential uses and 26 parking spaces are located at-grade. It is noted that the surface parking spaces are to be reserved for subsequent phases. Recognizing potential pick-up / drop-off needs associated with the proposed residential uses on-site, the at-grade spaces near the main building entrances may be used for short-term parking in the interim (i.e., prior to completion of Phases 2 and 3) to accommodate small deliveries or passenger pick-up / drop-off activity for Phase 1.

In addition, the total parking supply incorporates 16 accessible parking spaces, including 8 accessible spaces located at-grade and 8 accessible spaces located below-grade.

Access to the P1 level is provided from the driveway via vehicular parking ramp, located to the southwest of Building B.

The proposed parking supply meets and exceeds the minimum requirements outlined in Site-specific Zoning By-law 2023-068 (in reference to City of Barrie Comprehensive Zoning By-law 2009-141) and is considered suitable to accommodate Phase 1.

6.0 BICYCLE PARKING CONSIDERATIONS

6.1 Subject Zoning By-law Bicycle Parking Requirements

The site is subject to the bicycle parking standards as per Site-specific Zoning By-law 2023-068, which refers to the City of Barrie Comprehensive Zoning By-law 2009-141. A summary of the minimum general bicycle parking requirements for the proposed development is provided in **Table 4**.

Table 4 Barrie Zoning By-law 2009-141 Minimum Bicycle Parking Requirements

Use	Units / GFA[1]	Minimum Rate	Minimum Requirement[2]
Resident			
Resident (Indoor)	423 dwelling units	0.20 spaces / unit	85 spaces
Resident (Outdoor)	423 dwelling units	No requirement	0
Total Bicycle Parking Requirement			**85 spaces**

Notes:
1. Based upon site statistics provided by SRN Architects on August 22, 2024.
2. City of Barrie Zoning By-law 2009-141 does not state rounding rules for the calculation of minimum parking. As such, the minimum parking requirement will be rounded to the nearest whole number.

Application of the Zoning By-law 2009-141 (as amended per Zoning By-law 2015-097) bicycle parking standards results in a minimum requirement of 85 resident (indoor) bicycle parking spaces.

It is noted that, in reference to the Pre-Consultation Technical Review Comments received by City staff, the provision of surface (i.e., short-term) bicycle parking should be considered in addition to the minimum required long-term bicycle parking requirement. Refer to **Appendix B** for further details.

6.2 Proposed Bicycle Parking Supply and Strategy

The architectural plans illustrate a total bicycle parking supply of 86 bicycle parking spaces located on the P1 level to serve the bicycle parking needs of Phase 1.

Access to the bicycle parking spaces will be provided through elevators to access the below-grade facility.

As such, the proposed bicycle parking supply meets and exceeds the minimum bicycle parking requirements specified in Site-specific Zoning By-law 2023-068 (in reference to Comprehensive Zoning By-law 2009-141). Overall, the proposed bicycle parking supply is expected to accommodate the needs of Phase 1.

7.0 LOADING CONSIDERATIONS

7.1 Subject Zoning By-law Loading Requirements

The site is primarily subject to the loading standards as per Site-specific Zoning By-law 2023-068, which refers to the City of Barrie Comprehensive Zoning By-law 2009-141. A summary of the minimum loading requirements for the proposed development, which results in no minimum requirement, is provided in **Table 5**.

Table 5 Barrie Zoning By-law 2009-141 Loading Requirements

Building	Use	GFA / Units[1]	Category	Minimum Requirement
Phase 1 (Buildings B and C)	Residential	423	No requirement	0
Total Loading Requirement				**0**

Notes:
1. Based upon site statistics provided by SRN Architects on August 22, 2024.
2. As per City of Barrie Zoning By-law 2009-141 Section 4.7.1.2, each loading space shall have a minimum width of 3.0 metres, minimum length of 9.0 metres, and minimum vertical clearance of 4.0 metres.

7.2 Proposed Loading Supply and Strategy

The architectural plans illustrate a total loading supply of 2 spaces located at-grade, indicated as loading truck zones, to the south of the concrete garbage pads.

7.2.1 Residential Garbage and Refuse Collection

In accordance with the City's multi-unit residential waste collection standards and in discussions with City staff, a 20.25 square metre bin staging pad (i.e., 4.5 metre by 4.5 metre area) has been provided to accommodate the minimum requirements of 7 to 8 garbage bins (i.e., 1 cubic yard bin per 10 residential units), 30 to 31 recycling bins (i.e., 1 bin per 7 residential units), and 11 organic bins (i.e., 1 bin per 20 units) for Buildings B and C.

Waste storage and garbage rooms are to be provided within each building adjacent to the loading spaces, with the intent that property / building management would arrange the bins to the designated collection area on the day of waste pick-up. Additionally, the spaces will service deliveries, moving vans, and retail-related loading activities as necessary. Further, to appropriately manage the different types of loading activities anticipated on the site, it is recommended that scheduling be provided to assist with facilitating key residential activity, including garbage collection.

7.2.2 Vehicle Manoeuvring Diagrams

Vehicle manoeuvring diagrams illustrating appropriate inbound and outbound movements for the Simcoe County Refuse Collection Vehicle is provided in **Appendix H**.

7.2.3 Loading Summary

As such, the proposed loading supply, dimensions, and strategy meet or exceed the minimum Zoning By-law requirements and is suitable to accommodate Phase 1.

8.0 TRANSPORTATION DEMAND MANAGEMENT

Based upon the City of Barrie's Transportation Impact Study Guidelines (2021), a Transportation Demand Management (TDM) Plan is required to support the proposed development based on the following threshold characteristics:

- Residential unit count of 50 or greater;
- Site area of 2,000 square metres or greater; and
- Auto-trip generation reduction via multi-modal trip distribution.

A TDM Plan comprises a variety of strategies to reduce congestion, minimize the number of single-occupant vehicle trips, encourage non-auto modes of travel, and reduce vehicle dependency to create a sustainable transportation system based on current and emerging plans and policy directives.

8.1 TDM Objectives

A TDM Plan has been developed for the proposed development to support the following key objectives:

- Reducing demand on road infrastructure and encouraging efficient use of existing infrastructure, thereby minimizing road and parking capital expenditures;
- Increasing travel efficiency;
- Reducing climate change emissions;
- Shifting travel behaviour and encouraging mode shift by providing greater mobility choice;
- Supporting the modal split targets outlined in the City's Transportation Impact Study Guidelines (2021);
- Improving air quality; and
- Improving overall health.

8.2 Proposed TDM Plan Strategies and Checklist

The proposed TDM Plan is catered to a multi-residential development and will support and encourage the use of the existing and planned sustainable transportation infrastructure within the vicinity of the site to reduce dependence on private automobiles. The continuously evolving network of pedestrian and cycling facilities within the area, based on local policies and plans, makes the site location a strong candidate for a mixed-use intensified development with alternative non-auto travel options. The creation and operation of a TDM Plan for the proposed development will be an important goal of the development process to facilitate and manage future transportation demands in the area going forward.

In addition, the TDM Plan indicates implementation measures including "hard" or "soft" types (i.e., infrastructure or program-based), responsibility or involvement (i.e., Applicant and / or City), and approximate timing of each proposed strategy. It is noted that details pertaining to cost estimates will be further reviewed throughout the SPC process.

Table 6 summarizes the proposed TDM strategies considered as part of the initial SPC application. As mentioned, these TDM strategies are to be continuously monitored and refined throughout the development process and upon further discussion with City staff.

Table 6 Proposed TDM Strategies

Proposed TDM Strategy	Description	Responsibility	Cost Estimate	Approximate Timing
Hard (Infrastructure-based) Strategies				
Unbundled Vehicle Parking from Units	Vehicle parking spaces to be separated or "unbundled" from each residential unit, benefiting those who do not need or want a parking space.	Applicant / Sales and Marketing	N/A	Initial Unit Purchase / Occupancy
Electric Vehicle (EV) Ready Parking	Provision of 30% of the total parking supply to be EV ready spaces to support Level 2 charging (i.e., 208 to 240-volt power source with minimum 40-amp breaker) dedicated circuit up to 60 amps) designed as per the Green Development Standards (GDS) (2020) by the Clean Air Partnership.	Applicant	N/A	Development Construction
Bicycle Parking	Provision of on-site bicycle parking spaces, meeting and exceeding Comprehensive Zoning By-law standards. Please refer to **Section 6.2** for further details.	Applicant	N/A	Development Construction
Cycling and Pedestrian Connections	Provision of accessible and direct pedestrian and cycling connections to building entrances, an internal network system, amenity areas, bicycle parking facilities, nearby transit stops, and the external / public network (e.g., along Yonge Street, Street 'A', and Condo Driveway).	Applicant	N/A	Development Construction
Wayfinding / Signage	The provision of wayfinding / signage on-site to guide site users to active transportation infrastructure and services.	Applicant	N/A	Development Construction
Soft (Program-based) Strategies				
Transit Passes	Provision of a pre-paid transit pass for each initial (first-time) residential unit owner.	Applicant	N/A[1]	Initial Building Occupancy
Travel Information Packages	Provision of travel-related information packages on nearby services, maps, and schedules to each initial residential unit owner to provide an overview of existing and new mobility options in the area.	Applicant / City (informational website)	N/A[1]	Initial Building Occupancy
Travel Information Screen	Provision of a screen display with travel information (e.g., bicycle maps and local transit map and schedule) in a central location of the residential building lobby.	Applicant	N/A[1]	Development Construction / Initial Building Occupancy

Notes:
1. Details on estimated cost to be determined at a later date.

9.0 TRAFFIC VOLUME FORECAST

9.1 Analysis Horizons

Based on discussions with City of Barrie staff, traffic analysis has assumed a 5-year build-out for Phase 1 of the site. Traffic analyses have been completed for the following scenarios for the weekday morning and afternoon peak hours:

- Existing Traffic (2024) – traffic volumes on the road network under existing conditions
- Future Background Traffic (2029) – traffic volumes on the road network in 2029 prior to the buildout of the site, considering the addition of area background growth;
- Future Total Traffic (2029) – traffic volumes in 2029 after the buildout of the site, inclusive of site traffic and area background growth.

9.2 Existing Traffic Volumes

Existing baseline traffic volumes were established at the intersections within the study area for the weekday morning and afternoon peak traffic periods using traffic count information obtained from surveys undertaken by Spectrum Traffic Data Inc. on Wednesday, January 31st, 2024. A listing of the count data and sources is provided in **Table 7**.

Table 7 Traffic Count Information

Intersection	Control Type	Count Date	Source
Yonge Street / Mapleview Drive East	Signalized	Wednesday, January 31st, 2024	Spectrum Traffic Data Inc.
Yonge Street / 1012 Yonge Driveway	Yield		
Yonge Street / Lockhart Road	Signalized		

The existing turning movement volumes were rounded to the nearest five (5) vehicles and reviewed in detail to ensure a general consistency in traffic volumes on links between intersections. Where necessary and appropriate, minor volume adjustments were made to conservatively balance (i.e. balance upwards) traffic volumes between intersections to provide a balanced and representative traffic volume base for the purpose of the traffic operations analyses.

Existing balanced, baseline area traffic volumes for the weekday morning and afternoon peak hours are illustrated in **Figure 5**. Turning movement counts are attached in **Appendix I**.

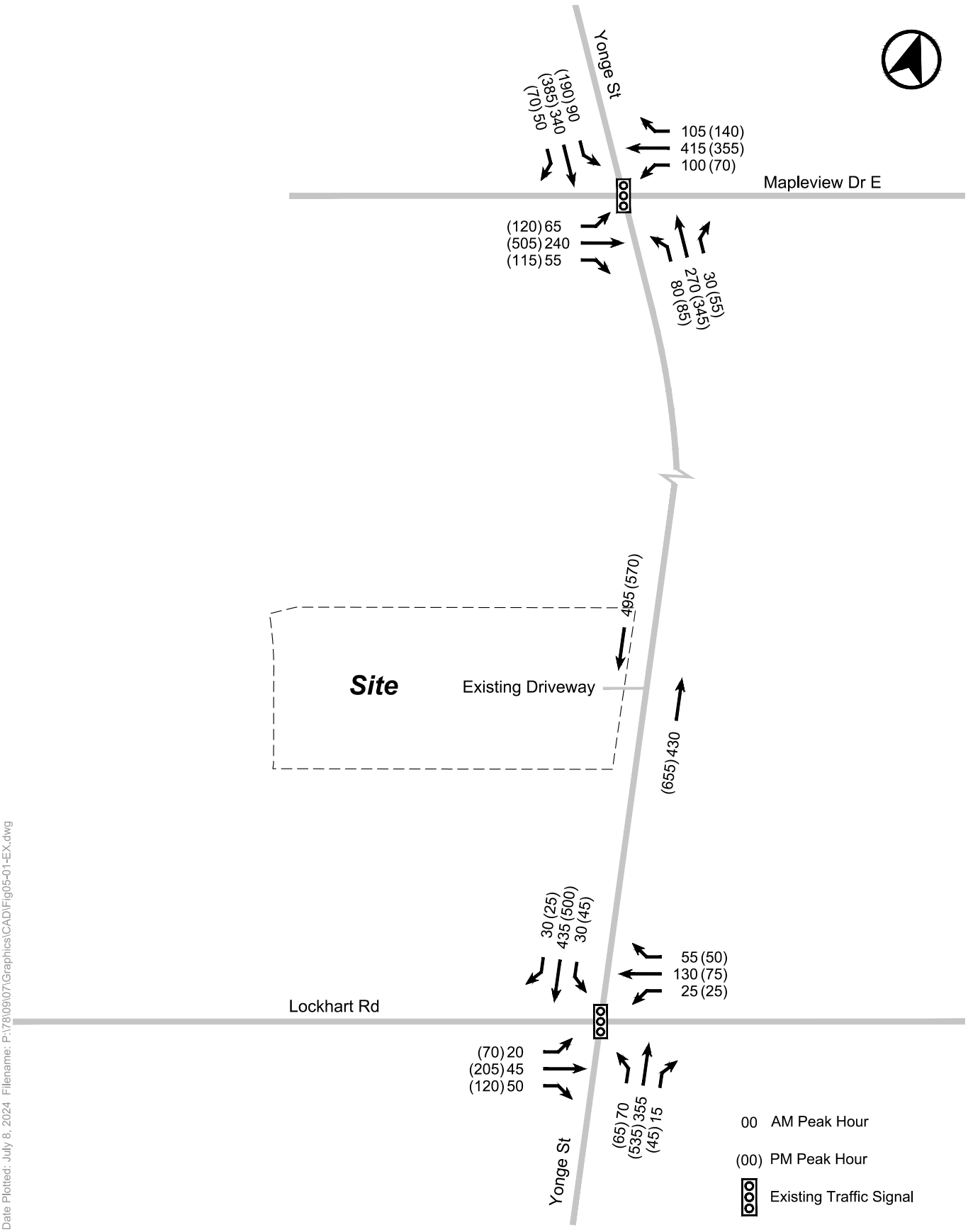

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FIGURE 5 EXISTING TRAFFIC VOLUMES

9.3 Future Background Traffic Volumes

Allowances for new traffic from general area growth and other specific area developments have been established based on a review of other area development applications and considers traffic activity that would be generated by these developments that are either approved but not yet constructed or are currently in the City's approval process.

9.3.1 Corridor Growth Considerations

To account for the significant amount of development currently proposed and to be proposed in the future within the Hewitt MTS and more widely in the City of Barrie, a general corridor growth rate has been considered in this analysis, in line with the TIS prepared for the previously approved ZBA application. This corridor growth allowance will account for developments that are not currently public but may occur in the next 5 years. A growth rate of 1.57% and 1.62%, (compounded) per annum, for the weekday morning and afternoon peak hours, respectively, has been added to all movements at the intersection of Yonge Street and Mapleview Drive East intersection and to the northbound through, southbound through and right, and eastbound through and left movements at the intersection of Yonge Street and Lockhart Road, as per direction from City of Barrie transportation staff. Corridor growth volumes are illustrated in **Figure 6**.

9.3.2 Area Background Developments

Allowances for new traffic from other area developments have been established based upon a review of development proposals that are expected to contribute to vehicle traffic at the 2029 analysis horizon. The considered developments represent approximately 9,070 residential units, and 5,433 m^2 retail GFA. Area background developments are summarized in **Table 8**. The locations of the background development considered in this analysis are illustrated in **Figure 7**.

Background Development volumes are illustrated in **Figure 8**.

Table 8 Area Background Developments

ID	Address	Development Statistics	Source	Date	Status
1	989 Yonge Street	1,158 residential units	JD Northcote Engineering Inc.	March 2020	Conditionally Approved
2	750 Lockhart Road	160 residential units (2029 horizon)	TMIG	March 2024	Under Review
3	Part Lot 6, Plan 98	67 residential units	--[1]	April 2019	Conditionally Approved
4	793 Mapleview Drive East	1,523 residential units	--[1]	July 2017	Under construction, partially occupied
5	947 Mapleview Drive East	96 residential units, 293 m^2 commercial GFA	JD Northcote Engineering Inc.	March 2022	ZBA Approved
6	953 Mapleview Drive East	466 residential units	JD Northcote Engineering Inc.	September 2021	Under Review
7	969 Mapleview Drive East	73 residential units	--[1]	February 2022	Fully Approved
8	1004 Mapleview Drive East	127 residential units (2029 horizon)	JD Northcote Engineering Inc.	June 2023	Conditionally Approved

Continued on next page..

ID	Address	Development Statistics	Source	Date	Status
9	1000 Mapleview Drive East	39 residential units	JD Northcote Engineering Inc.	May 2023	Under Review
10	667-675 Yonge Street	176 residential units	JD Northcote Engineering Inc.	April 2022	ZBA Approved
11	700-750 Mapleview Drive East	849 residential units	--[1]	July 2022	Under Construction, partially occupied
12	723 Mapleview Drive East	346 residential units	JD Northcote Engineering Inc.	February 2021	Under Review
13	658 Mapleview Drive East	4064 m^2 grocery GFA	Tatham Engineering Inc.	December 2023	Fully Approved
14	908 Yonge Street	480 residential units	--[1]	October 2023	Under construction, partially occupied
15	680 Lockhart Road	480 residential units	JD Northcote Engineering Inc.	February 2022	ZBA Approved
16	620 Lockhart Road	613 residential units	JD Northcote Engineering Inc.	August 2021	Under Review
17	560 Lockhart Road	190 residential units	JD Northcote Engineering Inc.	October 2021	Under Review
18	460 Lockhart Road	394 residential units	JD Northcote Engineering Inc.	October 2021	Under Review
Total		**9,070 residential units, 5,433 m^2 non-residential GFA**			

Notes:

1. Where no traffic study was available, trips were generated for the proposed unit numbers based on the methodologies applied in this report to generate site traffic, as described in Section 9.4.2. Site traffic for these developments were assigned to the road network based on the traffic assignment summarized in Table 10.

Future Background traffic, which represents the sum of existing, corridor growth, and background development traffic, is illustrated in **Figure 9**.

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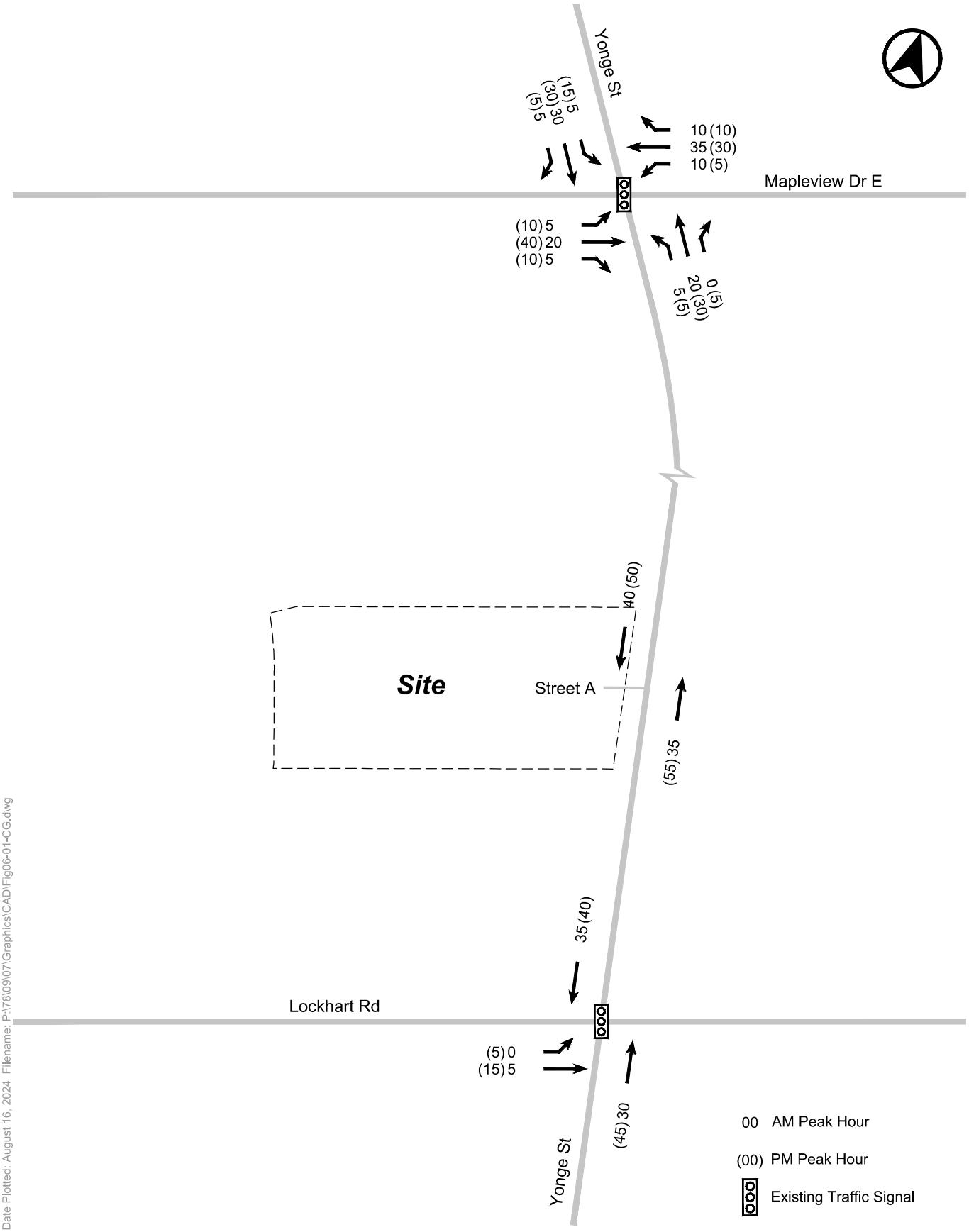

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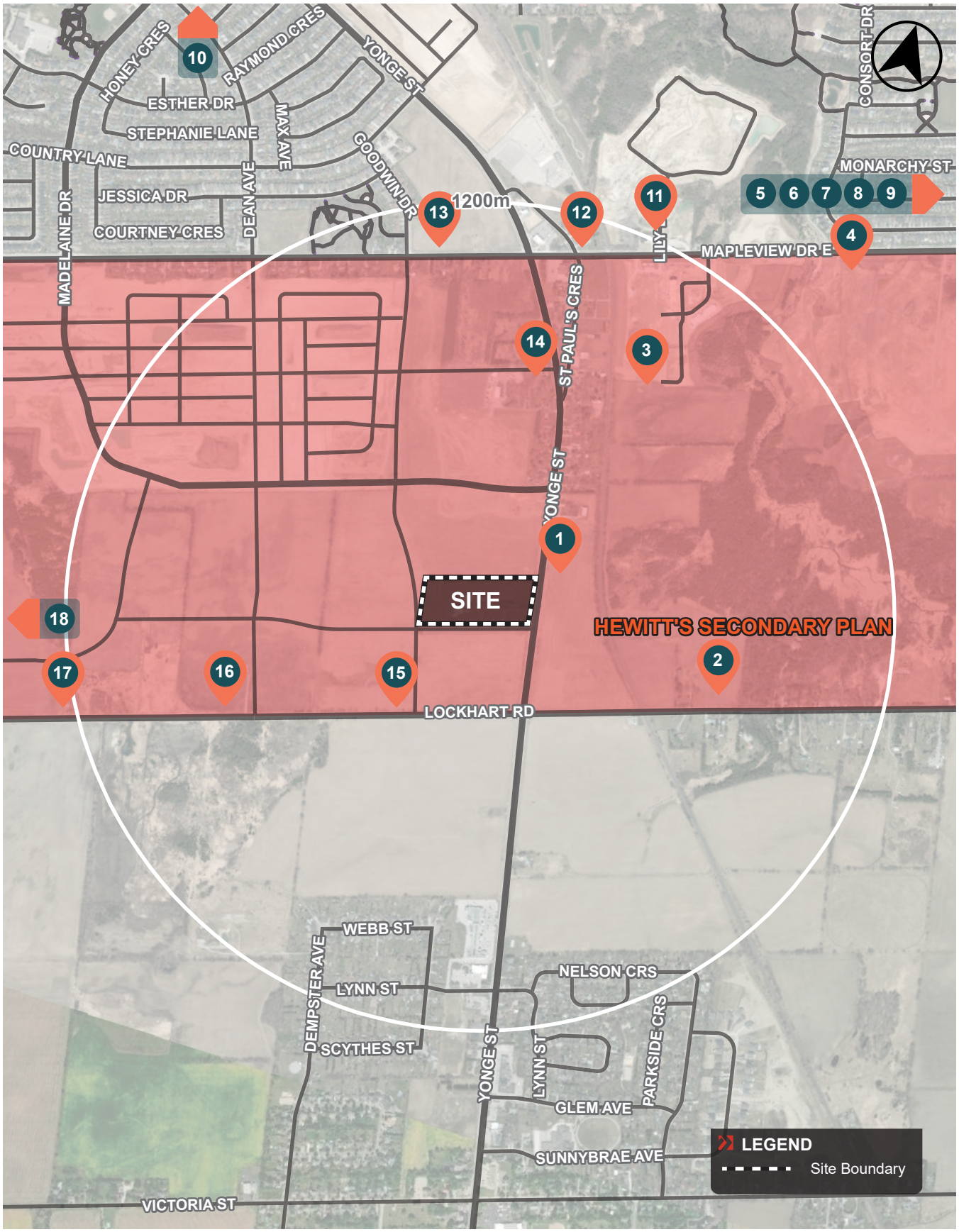
FIGURE 6 CORRIDOR GROWTH VOLUMES



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Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographies, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

FIGURE 7 BACKGROUND DEVELOPMENTS

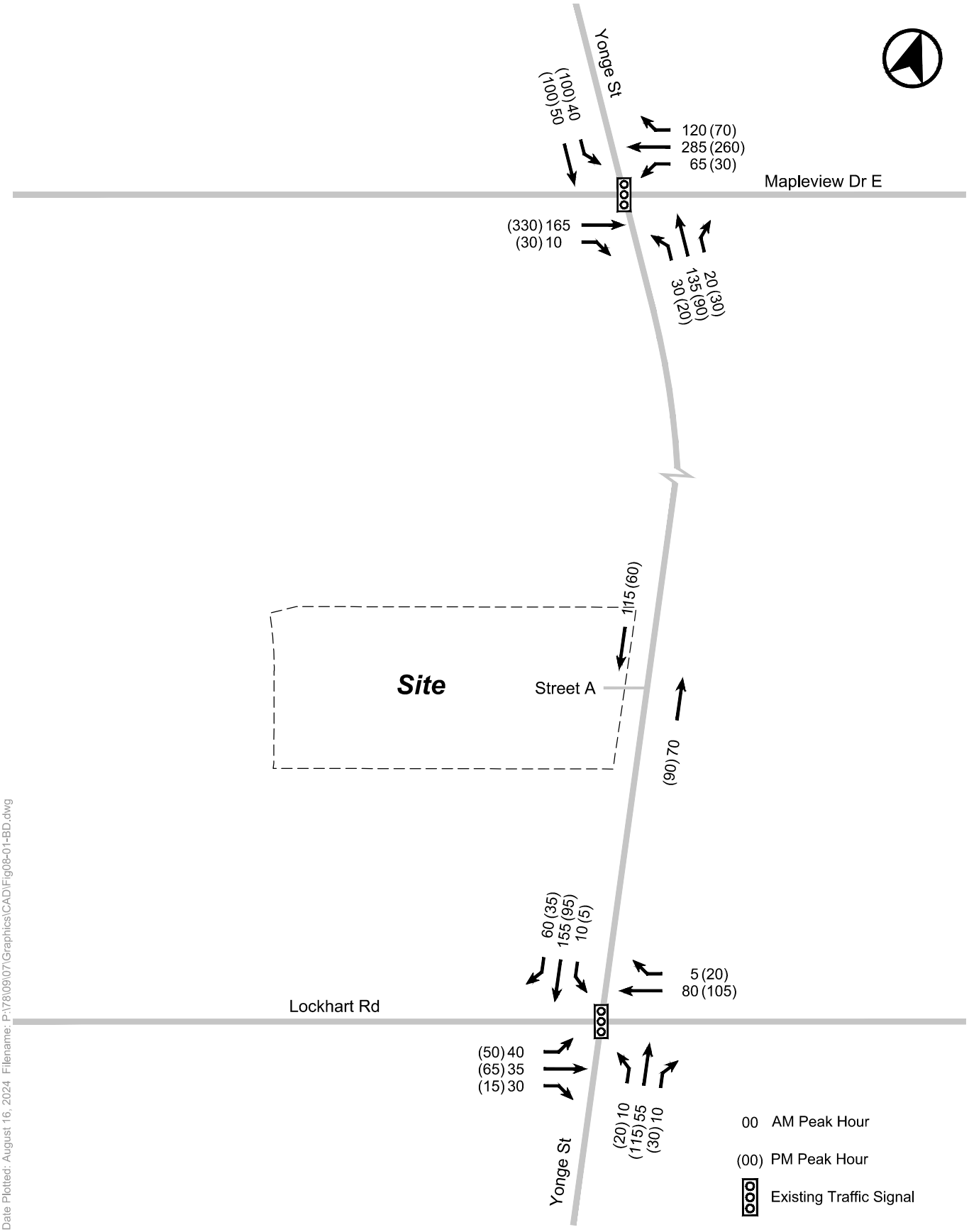

FIGURE 8 BACKGROUND DEVELOPMENT VOLUMES

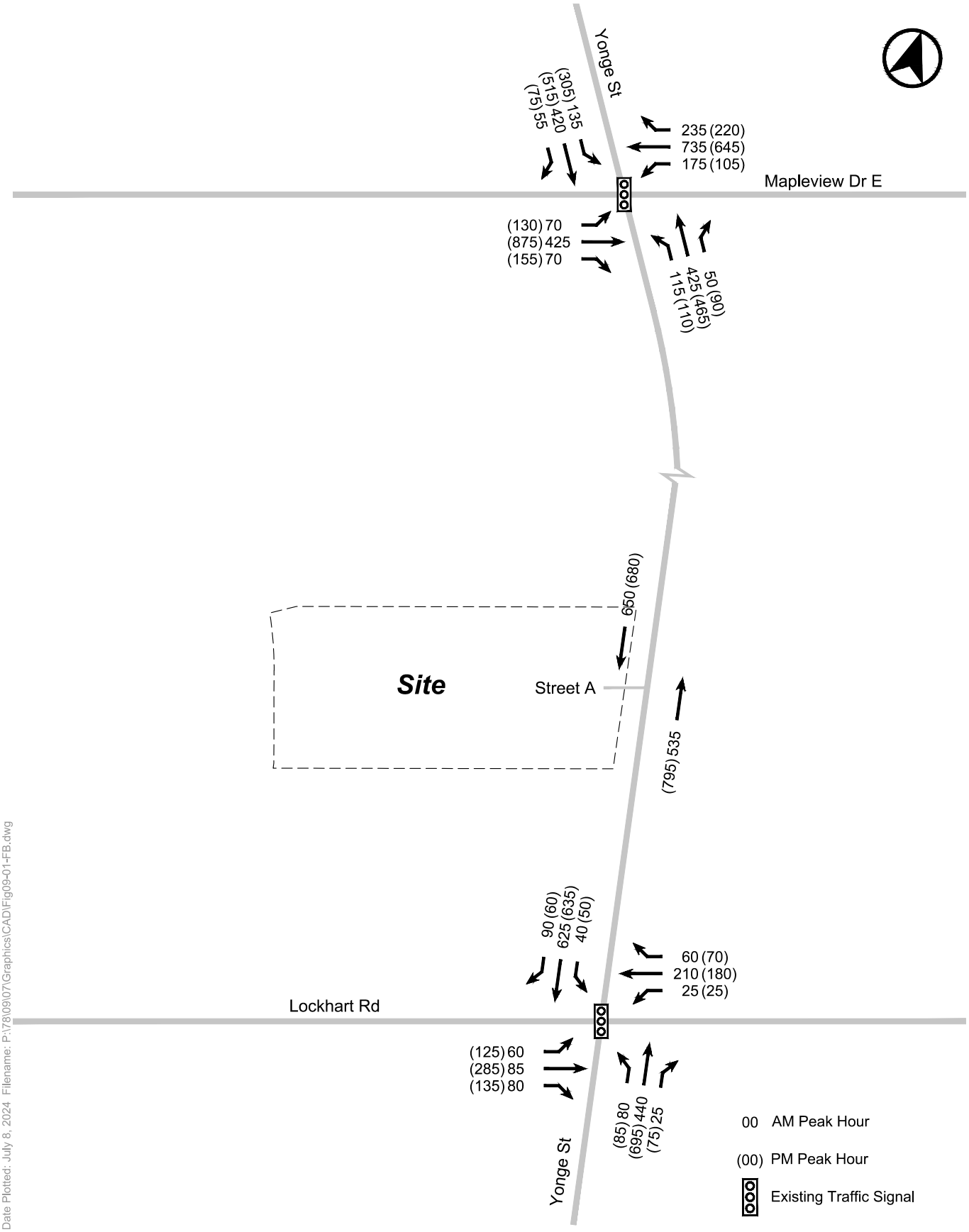

FIGURE 9 FUTURE BACKGROUND TRAFFIC VOLUMES

9.4 Site Traffic

9.4.1 Existing Site Traffic

The site is currently occupied by a single-detached home and farm buildings. The existing site driveway was surveyed during the weekday morning and afternoon peak hours, with no significant site traffic volumes reported during either peak hours. As such, no existing site traffic was removed from the road network.

9.4.2 Vehicle Trip Generation

Site traffic has been estimated for the proposed development by applying the average trip generation rate, per unit, for the morning and afternoon peak hours reported for Land Use Code 221 (Mid Rise Multifamily Housing) in the 11th Edition of the ITE Trip Generation Manual. This methodology has remained consistent with the Zoning application process, which has been approved by City staff.

The anticipated vehicle trips to be generated by the proposed development during the weekday morning and afternoon peak hours are summarized in **Table 9**.

Table 9 Site Vehicle Trip Generation

Source	Description	AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
ITE 11th Edition	Land Use Code 221: Multifamily Housing (Mid-Rise)	0.09	0.28	0.37	0.24	0.15	0.39
Site Residential Vehicle Trips (423 units)		**40**	**120**	**160**	**100**	**65**	**165**

Notes:
1. Trips have been rounded to the nearest five (5) trips.

The site is anticipated to generate 160 and 165 two-way vehicle trips during the weekday morning and afternoon peak hours, respectively.

9.4.3 Traffic Assignment

Site traffic has been assigned onto the area road network based on a review of travel information provided by the 2016 Transportation Tomorrow Survey (TTS) and existing road network and connectivity (i.e. site traffic has only been distributed onto existing roads). Site traffic distribution is summarized in **Table 10**. Detailed TTS output information is provided in **Appendix J**.

Table 10 Site Traffic Distribution

Direction	Outbound[1]	Inbound[2]
To / From the North on Yonge Street	25%	25%
To / From the South on Yonge Street	15%	15%
To / From the East on Mapleview Drive East	0%	0%
To / From the West on Mapleview Drive East	30%	45%
To / From the East on Lockhart Road	5%	5%
To / From the West on Lockhart Road	25%	15%
Total	**100%**	**100%**

Notes:
1. Based upon outbound home-based trips during the morning peak period (6:00 a.m. – 8:59 a.m.) from 2006 TAZs 8529 and 8530
2. Based upon inbound home-based trips during the afternoon peak period (3:00 p.m. – 5:59 p.m.) to 2006 TAZs 8529 and 8530

Site traffic volumes are illustrated in **Figure 10**.

9.5 Future Total Traffic

Future total traffic volumes for the weekday morning and afternoon peak hours were established by adding site-generated traffic to future background traffic volumes and are illustrated in **Figure 11**.

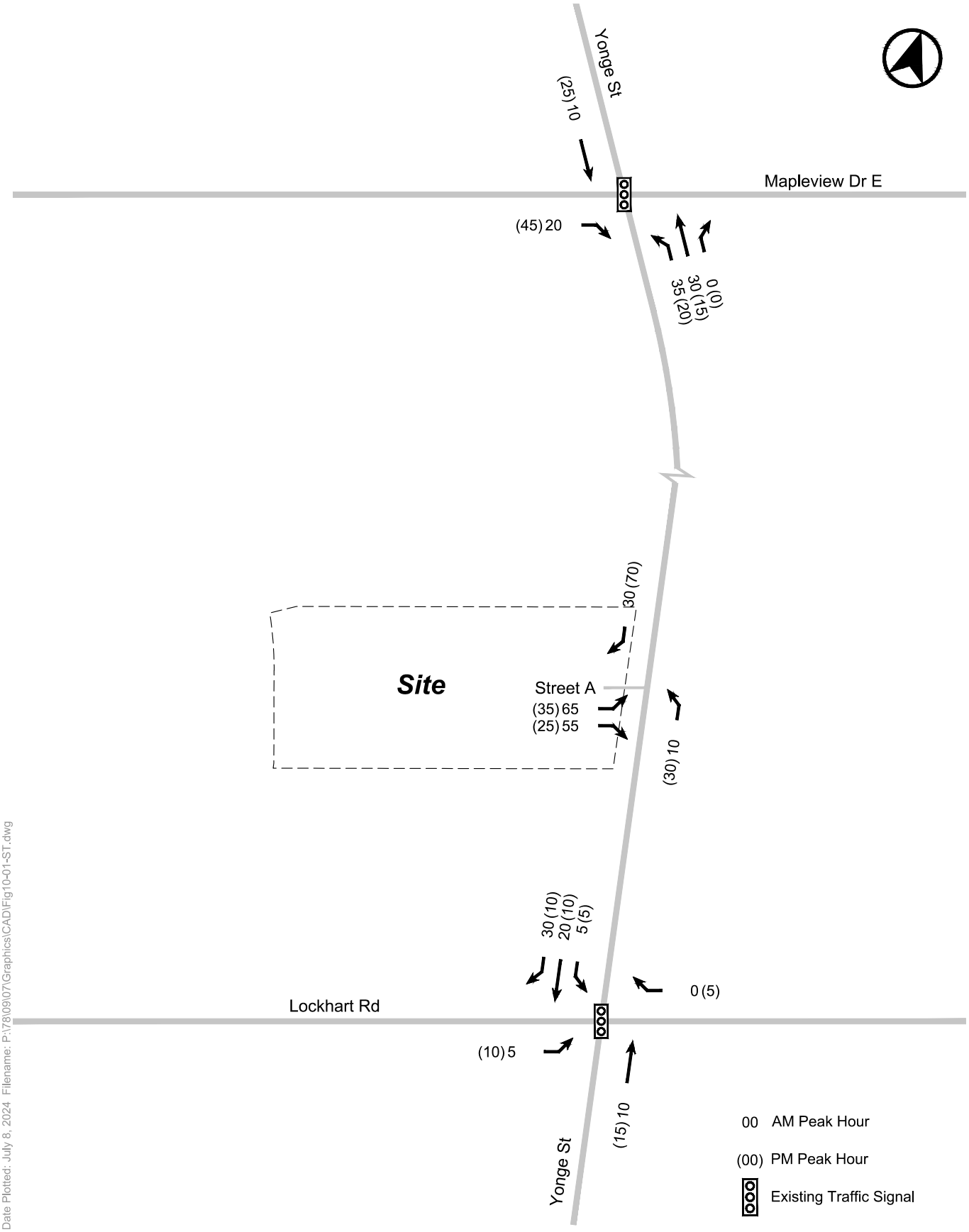

FIGURE 10 SITE TRAFFIC VOLUMES

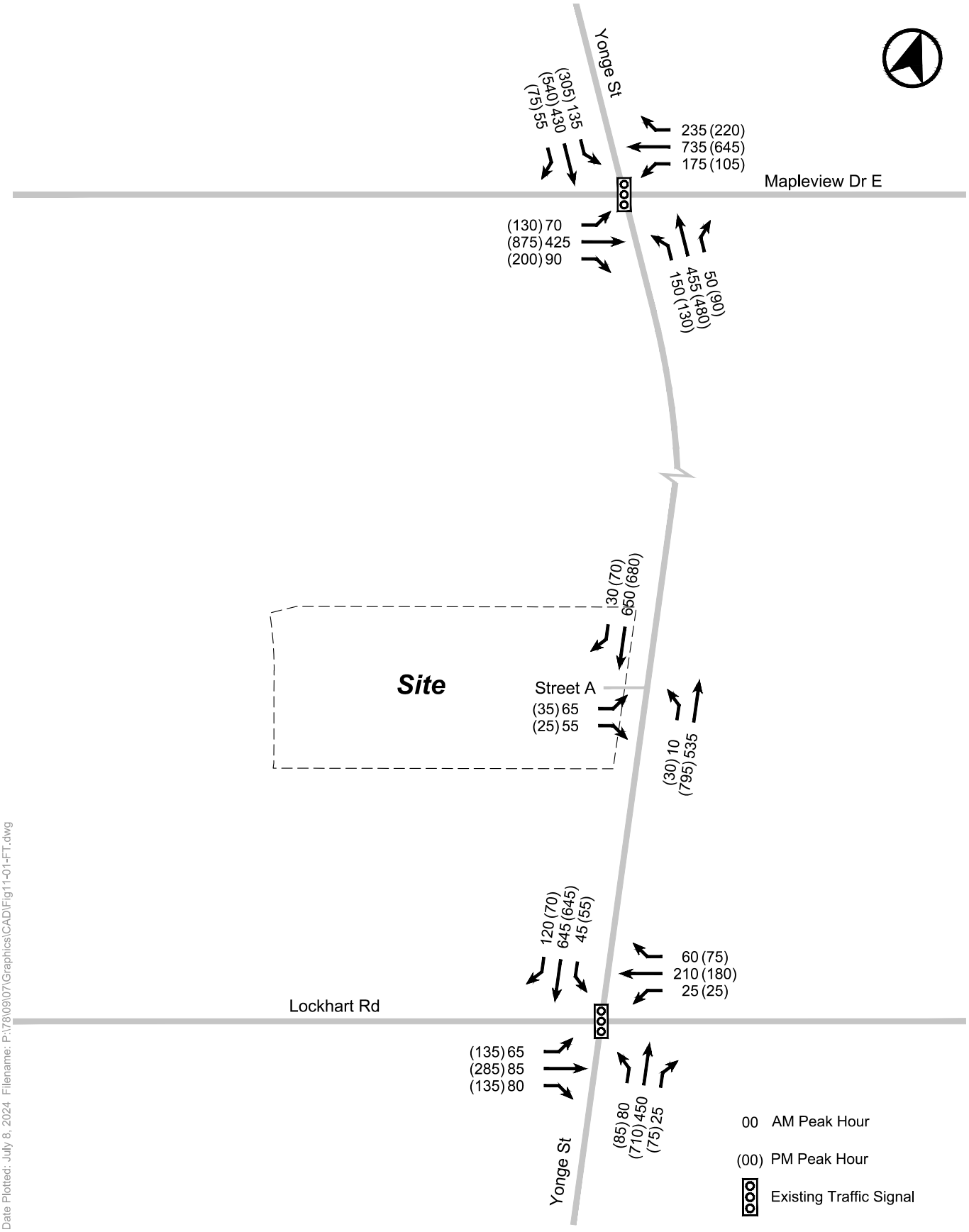

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FIGURE 11 FUTURE TOTAL TRAFFIC VOLUMES

10.0 TRAFFIC OPERATIONS ANALYSIS

10.1 Analysis Methodology

Traffic operation analyses have been undertaken at the area intersections using standard capacity analysis procedures as follows:

Signalized Intersections

Analyses undertaken at intersections operating under traffic signal control have been undertaken using the methodologies and procedures outlined in the Highway Capacity Manual (HCM) 2000 and in accordance with the City of Barrie's guidelines for analyses undertaken using Synchro 11.0 (or newer) software. The product of the signalized intersection evaluation is an intersection performance index (volume to capacity ratio or v/c), where a v/c index of 1.00 indicates 'at or near capacity' conditions.

HCM level of service (LOS) criteria for signalized intersections are as follows:

- LOS A: Control Delay ≤ 10s
- LOS B: 10s < Control Delay ≤ 20s
- LOS C: 20s < Control Delay ≤ 35s
- LOS D: 35s < Control Delay ≤ 55s
- LOS E: 55s < Control Delay ≤ 80s
- LOS F: Control Delay > 80s

Unsignalized Intersections

Unsignalized intersection analyses have been carried out using standard capacity procedures for intersections operating under "Two-way" and "All-way" STOP control and in accordance with the methodologies outlined in the Highway Capacity Manual 2000 (HCM 2000).

The product of these analyses is a level of service (LOS) designation, ranging from LOS A to F, which provides a relative indication of the level of delay experienced by motorists completing a turning manoeuvre at an intersection. LOS A represents conditions under which motorists would experience little delay and LOS F reflects conditions where more extended delays can be expected.

HCM level of service (LOS) criteria for unsignalized intersections are as follows:

- LOS A: Control Delay ≤ 10s
- LOS B: 10s < Control Delay ≤ 15s
- LOS C: 15s < Control Delay ≤ 25s
- LOS D: 25s < Control Delay ≤ 35s
- LOS E: 35s < Control Delay ≤ 50s
- LOS F: Control Delay > 50s

10.2 Network-Wide Parameters

Key analysis parameters were assumed based on requirements contained in the City of Barrie's Transportation Impact Study Guidelines (January 2021), summarized as follows:

Existing Signal Timing

Existing signal timings, phasing plans, and cycle lengths were obtained from the City of Barrie. Existing signal timings adopted as the basis for the traffic operations analyses are provided in **Appendix K**. Where necessary, signal phases were modified to improve intersection operations, while maintaining existing cycle lengths. Phase adjustments are detailed in intersection specific sections.

Heavy Vehicle Assumptions

Heavy and medium truck percentages incorporated into the analysis were based on information provided as a part of intersection turning movement counts.

Base Saturation Flow Rates

The City of Barrie specifies a maximum saturation flow rate of 1,900 passenger car units per hour per lane green (pcuphplg). This default value was adopted in the analysis.

Peak Hour Factors

Peak hour factors were calculated based on the existing traffic volume data extracted from the traffic counts utilized in this study.

Lost Time Adjustments

The City of Barrie specifies that 2.0 left turn "sneakers" per cycle can be assumed at typical intersections and 2.5 left turn "sneakers" per cycle can be assumed at congested intersections.

Lane Utilization Factors

The lane utilization factor (LUF) takes into consideration the distribution of individual lane usage within each movement group. Default Synchro lane utilization factors were adopted for all movements in the study area.

10.3 Signalized Intersection Analysis Results

Traffic operations analysis results and discussion for the area signalized intersections are summarized in the following sections. Synchro worksheets including detailed input parameters and output results are attached in **Appendix L**.

10.3.1 Yonge Street / Mapleview Drive East

The Yonge Street / Mapleview Drive East intersection operates under traffic signal control with a cycle length of 120 seconds during the weekday morning and afternoon peak periods. The existing cycle length was maintained in all analysis scenarios. The signal timings were optimized in the future analysis scenarios. The traffic analysis results undertaken for this intersection are summarized in **Table 11**.

Table 11 Yonge Street / Mapleview Drive East Capacity Analysis

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	0.22 (0.36)	C (C)	0.34 (0.48)	C (C)	0.34 (0.48)	C (C)
EBT	-- (--)	-- (--)	0.50 (0.92)	D (D)	0.50 (0.92)	D (D)
EBR	-- (--)	-- (--)	0.05 (0.25)	C (C)	0.06 (0.34)	C (C)
EBTR	0.46 (0.76)	D (D)	-- (--)	-- (--)	-- (--)	-- (--)
WBL	0.27 (0.32)	C (C)	0.52 (0.62)	C (C)	0.52 (0.65)	C (D)
WBT	0.59 (0.47)	D (D)	0.79 (0.76)	D (D)	0.79 (0.76)	D (D)
WBR	0.09 (0.10)	C (C)	0.42 (0.39)	C (D)	0.42 (0.39)	C (D)
NBL	0.14 (0.18)	A (B)	0.25 (0.31)	B (B)	0.33 (0.38)	B (B)
NBT	0.31 (0.46)	B (C)	0.28 (0.36)	C (C)	0.30 (0.37)	C (C)
NBR	0.02 (0.04)	B (B)	0.04 (0.07)	B (C)	0.04 (0.07)	B (C)
SBL	0.15 (0.39)	A (B)	0.28 (0.73)	B (C)	0.29 (0.74)	B (C)
SBTR	0.24 (0.30)	B (B)	0.33 (0.46)	C (C)	0.33 (0.47)	C (C)
Overall	**0.36 (0.53)**	**C (C)**	**0.49 (0.67)**	**C (D)**	**0.50 (0.68)**	**C (D)**

Notes:
1. 00 (00): Weekday morning peak hour (Weekday afternoon peak hour)

Under existing conditions, the intersection operates at an acceptable capacity, with overall v/c (volume-to-capacity) ratios of 0.36 and 0.53 during the weekday morning and afternoon peak hours, respectively.

Under future background conditions, with the addition of corridor growth and traffic from area background developments, the intersection continues to operate at an acceptable capacity, with overall v/c ratios of 0.49 and 0.67 during the weekday morning and afternoon peak hours, respectively. It should be noted that the planned widening of Mapleview Drive East to two through lanes to the east of Yonge Street, as well as, planned improvements to the Yonge Street / Mapleview Drive East intersection have been included as part of the future analysis as per City of Barrie's request.

Under future total conditions, with the addition of site traffic, the intersection continues to operate at an acceptable capacity, with overall v/c ratios of 0.50 and 0.68 during the weekday morning and afternoon peak hours, respectively.

The addition of site related traffic presents minimal impact of approximately 1% to 2% increase on the overall intersection operations. All individual movements are expected to operate with good level of service and under capacity. No additional mitigation measures or improvements are recommended at this intersection.

10.3.2 Yonge Street / Lockhart Road

The Yonge Street / Lockhart Road intersection operates under traffic signal control with a cycle length of 71 seconds during the weekday morning and afternoon peak periods. The existing cycle length and signal timings were maintained in all analysis scenarios. The traffic analysis results undertaken for this intersection are summarized in **Table 12**.

Table 12 Yonge Street / Lockhart Road Capacity Analysis

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBTL	0.21 (0.68)	B (C)	0.58 (0.91)	C (D)	0.60 (0.93)	C (D)
EBR	0.03 (0.10)	B (B)	0.06 (0.17)	B (B)	0.06 (0.17)	B (B)
WBTLR	0.53 (0.32)	C (B)	0.66 (0.51)	C (B)	0.66 (0.51)	C (B)
NBL	0.14 (0.20)	A (A)	0.28 (0.66)	A (C)	0.30 (0.75)	A (C)
NBT	0.37 (0.63)	A (B)	0.49 (0.96)	A (D)	0.50 (0.99)	A (D)
NBR	0.01 (0.03)	A (A)	0.02 (0.05)	A (B)	0.02 (0.05)	A (B)
SBL	0.05 (0.15)	A (A)	0.09 (0.52)	A (B)	0.09 (0.53)	A (B)
SBT	0.45 (0.59)	A (B)	0.70 (0.88)	B (C)	0.72 (0.90)	B (C)
SBR	0.02 (0.02)	A (A)	0.10 (0.05)	A (B)	0.13 (0.08)	A (B)
Overall	**0.48 (0.65)**	**B (B)**	**0.68 (0.93)**	**B (C)**	**0.70 (0.96)**	**B (C)**

Notes:
1. 00 (00): Weekday morning peak hour (Weekday afternoon peak hour)

Under existing conditions, the intersection operates at an acceptable capacity, with overall v/c ratios of 0.48 and 0.65 during the weekday morning and afternoon peak hours, respectively.

Under future background conditions, with the addition of corridor growth and traffic from area background developments, the intersection begins to operate at a busy, yet acceptable capacity, with overall v/c ratios of 0.68 and 0.93 during the weekday morning and afternoon peak hours, respectively.

Under future total conditions, with the addition of site traffic, the intersection continues to operate at a busy, yet acceptable capacity, with overall v/c ratios of 0.70 and 0.96 during the weekday morning and afternoon peak hours, respectively. It should be noted that certain critical movements, northbound and southbound through movements, are approaching theoretical capacity in the future conditions during the weekday afternoon peak hour. The operation of these critical movements is anticipated to be improved in long-term horizon with the implementation of the planned widening of Yonge Street.

The addition of site related traffic presents minimal impact of approximately 2% to 3% increase on the overall intersection operations. All individual movements are expected to operate with acceptable level of service and under capacity. No additional mitigation measures or improvements are recommended at this intersection.

10.4 Unsignalized Intersection Analysis Results

Traffic operations at the proposed unsignalized intersection within the study area is expected to operate at an acceptable level of service without any need for road improvements or mitigation measures. All individual movements will function at LOS A to LOS E with the exception of the eastbound left movement at Street 'A', which will operate at LOS F during the weekday afternoon peak hour.

It should be noted that the Synchro model of this intersection for the eastbound left movement was not calibrated to a delay or traffic gap study given that the intersection currently does not exist and assumed default critical and follow-up gap acceptance times, which are overly conservative in most scenarios. A calibrated model would likely predict lower average vehicle delays at this intersection. In addition, outside of the analyzed peak hours, eastbound left turn vehicle delays at the intersection are anticipated be significantly less.

The results of the capacity analysis undertaken at the proposed unsignalized intersection in the study area are summarized in **Table 13**.

Table 13 Yonge Street / Street 'A' Capacity Analysis

	Existing		Future Background		Future Total	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
EBL	--				E (F)	47.1 (136.8)
EBR					B (B)	14.3 (14.2)
NBL					A (A)	9.2 (9.6)
SBR					A (A)	0.0 (0.0)

Notes:
1. 00 (00): Weekday morning peak hour (Weekday afternoon peak hour)

While the eastbound left delay is elevated in the afternoon peak hour in the future total scenario, it is expected that drivers will accept lower critical gap values than the default values provided in the Highway Capacity Manual (HCM). As mentioned above, as this intersection is proposed and presently does not exist, it is not possible to perform a typical delay study, which would record average delays for outbound movements at the driveway to provide information with which to calibrate the critical gap and follow-up time values in Synchro to more accurately model expected conditions. The critical gap and follow-up times of 6.4 and 3.5 seconds, respectively, as provided by the HCM are considered conservative values, and critical gap and follow-up times of 5 seconds and 3.5 seconds, respectively, are commonly observed at stop control intersections along corridors where there is a high volume of vehicles travelling along the major street.

Calibrating the eastbound left turn maneuver with the aforementioned typical critical gap and follow up times results in an average eastbound left turn delay of 49 seconds, as summarized in **Table 14**.

Table 14 Yonge Street / Street 'A' Calibrated Capacity Analysis

	Existing		Future Background		Future Total	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
EBL	--				E (E)	47.1 (49.4)
EBR					B (B)	14.3 (14.2)
NBL					A (A)	9.2 (9.6)
SBR					A (A)	0.0 (0.0)

The traffic generated by the site is not significant in comparison to the growth proposed by the Hewitt MTS. The delay condition expected to be experienced by drivers at this intersection is expected to be temporary until the Yonge Street Widening is complete, as is planned in the longer-term future. The widening of Yonge Street to two lanes in each direction will provide more gaps to drivers making maneuvers onto Yonge Street as northbound and southbound traffic volumes will distribute across two through lanes and will increase the available gaps between vehicles.

11.0 SUMMARY AND CONCLUSIONS

A summary of key transportation-related findings is provided below:

INTRODUCTION

1. BA Group has been retained by Crown (Barrie) Communities Inc. to provide transportation consulting services as part of a concurrent DPOS and SPC application being made to the City of Barrie to support Phase 1 (Buildings B and C only) of the proposed mixed-use residential development municipally located at 1012 Yonge Street.

2. The overall site is bounded by Yonge Street to the east and greenfields to the west, north, and south. Phase 1 (Buildings B and C) is located between Phase 2 (Building A) to the east and Phase 3 (Buildings D and E) to the west.

3. A series of new road connections and improvements are being planned as part of the proposed development and in conformance with the Official Plan, including a future northern road boundary of the Condo Driveway (private) and future southern road boundary of Street 'A' (public). In addition, the City's Official Plan and Transportation Master Plan specify the future road widening of Yonge Street (public). It is noted that the Yonge Street corridor is expected to undergo significant changes in the future adjacent to the site, between Mapleview Drive to the north and Lockhart Road to the south.

4. The applicant obtained rezoning approval in June 2023 to permit the overall site, resulting in an amendment to Town of Innisfil Zoning By-law 054-04 and City of Barrie Zoning By-law 2009-141, legally known as Site-specific Zoning By-law 2023-068.

5. Pre-Consultation Technical Review Comments for the SPC application were received in February to March 2023 and have been considered and / or addressed throughout this report.

PROPOSED DEVELOPMENT

6. Phase 1 proposes two residential buildings, known as Building B and Building C, which includes a total of 423 units.

7. A network of new road connections will be provided to support the construction of Phase 1 (and subsequent phases), which include the provision of Street 'A' (public), Condo Driveway (private), and the future widening of Yonge Street (public).

8. Vehicle parking, bicycle parking, pedestrian and loading facilities, and various site accesses will be provided to support Phase 1 of the overall site.

DRAFT PLAN OF SUBDIVISION

9. Approval for the initial DPOS application is being sought for the east-west public road known as Street 'A', which is proposed to be delivered as part of Phase 1 of the overall site.

10. The functional road plan for Phase 1 comprises two key conditions:

    - Interim Road Network Condition (Full Build-out of Phase 1) – indicates full build-out of Street 'A' (between Yonge Steet to the east and the western Condo Driveway access to the west) connecting to existing Yonge Street and full build-out of the Condo Driveway ('U'-shaped road surrounding Phase 1 with driveways connecting to Street 'A'); and

    - Ultimate Road Network Condition (Post Build-out of Phase 1) – indicates full build-out of Street 'A' (between Yonge Steet to the east and the western Condo Driveway access to the west) connecting to the planned widening of Yonge Street and full build-out of the Condo Driveway ('U'-shaped road surrounding Phase 1 with driveways connecting to Street 'A').

11. The functional road design was prepared in consideration of relevant design standard documents developed by the City of Barrie, Ontario Traffic Manual, and Transportation Association of Canada.

12. Right-of-way widths, daylight triangles, curb radii, and driveway accesses were designed in accordance with the subject requirements, guidelines, and policies provided by agencies specified above.

13. Yonge Street is a public north-south arterial road under the jurisdiction of the City of Barrie:

    - In the Phase 1 Interim plan, the existing condition of Yonge Street will intersect with proposed Street 'A' (all-moves; unsignalized under STOP control).

    - In the Phase 1 Ultimate plan, the Yonge Street corridor will be widened by 2.5 metres at the eastern frontage of the site to accommodate a 41.0 metre right-of-way width and will intersect with proposed Street 'A' (all-moves; unsignalized under STOP control). Key cross section elements of the widened corridor will include ample sidewalks, boulevards, cycle tracks with buffers, four travel lanes, and a central two-way left-turn lane.

14. Street 'A' is a public east-west minor collector road planned under the jurisdiction of the City of Barrie that will extend from Yonge Street to approximately 23 metres west of the Street 'A' and western Condo Driveway access intersection (centreline to centreline):

    - In the Phase 1 Interim plan, Street 'A' will provide a 24.0 metre right-of-way width and will intersect with the existing condition of Yonge Street (all-moves; unsignalized under STOP control). Key cross section elements of the new street will include ample sidewalks, furnishing zones, cycle tracks with clear zones, two travel lanes, and clear zones. The right-of-way width of Street 'A' will transition to 25 metres for a minimum distance of 110 metres at its intersection with Yonge Street, which will accommodate an additional left-turn lane onto Yonge Street.

    - In the Phase 1 Ultimate plan, Street 'A' (to be fully developed in the Phase 1 Interim plan) will intersect with the planned widening of Yonge Street (all-moves; unsignalized under STOP control).

15. The Condo Driveway is a private road that will provide internal connections between the proposed buildings of the overall site.

    - In the Phase 1 Interim and Ultimate plan, the Condo Driveway will provide a U-shaped connection, surrounding Buildings B and C, with two driveway accesses from Street 'A'. The Condo Driveway will provide two travel lanes with access to parking (at-grade and below-grade) and loading (at-grade) facilities to serve Buildings B and C.

    - In subsequent development phases, the Condo Driveway will provide the U-shaped portion and an additional east-west extension to Yonge Street located to the northeast of the site. This extension is planned to operate as a right-in / right-out intersection at Yonge Street with two travel lanes. Further details are to be provided throughout the development process (i.e., Phases 2 and 3).

SIGHT DISTANCE REVIEW

16. A sight distance review for the site driveway access at Street 'A' was conducted, including intersection (turning) and stopping sight distance, as per TAC Guidelines.

17. The proposed driveway access at Street 'A' will be provided as part of Phase 1 and has been designed in theme with City of Barrie standards for the interim and ultimate conditions. The proposed Street 'A' site access will permit full moves and will operate under STOP control at its intersection with Yonge Street.

18. The minimum requirements for intersection (turning) sight distance, as indicated per the TAC Guidelines, are satisfied for both the interim and ultimate conditions.

19. The minimum requirements for stopping (turning) sight distance, as indicated per the TAC Guidelines, are satisfied for both the interim and ultimate conditions.

VEHICLE PARKING

20. The site is subject to the vehicle parking requirements as per Site-specific Zoning By-law 2023-068, which refers to the City of Barrie Comprehensive Zoning By-law 2009-141 (as amended per Zoning By-law 2015-097). As such, this results in a minimum vehicle parking requirement of 423 resident spaces (inclusive of residential visitors). In addition, 14 spaces of the total supply must be accessible, including 7 Type A and 7 Type B accessible spaces.

21. The architectural plans illustrate the provision of 461 resident parking spaces to serve the parking needs of Phase 1. There are 435 resident parking spaces located on the P1 level and 26 parking spaces are located at-grade to be reserved for subsequent phases of the site. The supply further incorporates 16 accessible parking spaces, including 8 spaces located at-grade and 8 spaces located on the P1 level.

22. Access to the P1 level is provided from the Condo Driveway via parking ramp located to the southwest of Building B.

23. Recognizing the potential pick-up / drop-off needs associated with the proposed residential uses on-site, the at-grade spaces may be used in the interim (i.e., prior to completion of Phases 2 and 3) for short-term parking to accommodate small deliveries or passenger pick-up / drop-off activity in Phase 1.

24. The proposed parking supply meets and exceeds the minimum requirements outlined in Site-specific Zoning By-law 2023-068 (in reference to City of Barrie Comprehensive Zoning By-law 2009-141) and is considered suitable to accommodate Phase 1.

BICYCLE PARKING

25. The site is subject to the bicycle parking standards as per Site-specific Zoning By-law 2023-068, which refers to the City of Barrie Comprehensive Zoning By-law 2009-141. As such, this results in a minimum requirement of 85 resident (indoor) bicycle parking spaces. It is noted that no outdoor bicycle parking spaces are required.

26. The architectural plans illustrate a total bicycle parking supply of 86 bicycle parking spaces located on the P1 level to serve the bicycle parking needs of Phase 1.

27. Access to the bicycle parking spaces will be provided via elevators to access the below-grade facility.

28. The proposed bicycle parking supply meets and exceeds the minimum bicycle parking requirements specified in Site-specific Zoning By-law 2023-068 (in reference to Comprehensive Zoning By-law 2009-141) and is expected to accommodate the needs of Phase 1.

LOADING

29. The site is primarily subject to the loading standards as per Site-specific Zoning By-law 2023-068, which refers to the City of Barrie Comprehensive Zoning By-law 2009-141. This results in no minimum loading requirement for the proposed residential use.

30. The architectural plans illustrate a total loading supply of 2 spaces located at-grade, indicated as loading truck zones, to the south of the concrete garbage pads.

31. Waste storage rooms are provided within each building adjacent to the loading spaces, with the intent that property / building management would arrange the bins to the designated collection area on the day of waste pick-up. To appropriately manage the different types of loading activities anticipated on the site, it is recommended that scheduling be provided to assist with facilitating key residential activity, including garbage collection.

32. The proposed bin staging area of 20.25 square metres meets the minimum requirements based on discussions with City staff and in accordance with the City's multi-unit residential waste collection standards.

33. The proposed loading supply meets or exceeds the minimum Zoning By-law requirements and is suitable to accommodate Phase 1.

TRANSPORTATION DEMAND MANAGEMENT

34. Based upon the City of Barrie's Transportation Impact Study Guidelines (2021), a TDM Plan is required to support the proposed development.

35. The following TDM measures are being considered as part of the initial SPC application for the overall site:

    - Provision of unbundled vehicle parking and EV-ready spaces;
    - Provision of ample bicycle parking;
    - Provision of new pedestrian and cycling connections on-site and within the public realm;
    - Provision of wayfinding and signage to key transit and active transportation facilities;
    - Provision of paid transit passes for each initial unit occupant; and
    - Provision of travel information packages and travel screens for new residents.

TRAFFIC VOLUME FORECAST

36. Traffic analysis has assumed a 5-year buildout for Phase 1 of the site. Traffic analyses have been completed for the 2024, 2029 future background and 2029 future total scenarios.

37. Existing traffic volumes were collected on Wednesday, January 31st, 2024 for the intersections in the study area.

38. General corridor growth rates of 1.57% and 1.62% in the morning and afternoon peak hours, respectively, have been applied to specific movements as per direction from City of Barrie transportation staff.

39. The background developments accounted for in this analysis represent approximately 9,070 residential units and 5,433 m^2 of retail GFA.

40. Site traffic has been generated based on trip rates provided in the 11th Edition of the ITE Trip Generation Manual for mid-rise multifamily housing. The site is expected to generate 160 and 165 two-way vehicle trips during the morning and afternoon peak hours, respectively.

41. Site traffic has been distributed onto the area road network based on a review of travel information provided by the 2016 TTS and existing road network and connectivity.

TRAFFIC OPERATIONS ANALYSIS

42. Traffic operations have been assessed using Synchro 11 software, and in accordance with the City of Barrie's guidelines for analyses undertaken using Synchro 10.0 (or newer) software.

43. The intersection of Yonge Street and Mapleview Drive East is expected to operate under acceptable conditions in the existing, future background and future total scenarios, with all movements operating under capacity. The addition of site related traffic presents minimal impact on the overall intersection operations.

44. The intersection of Yonge Street and Lockhart Road is expected to operate under acceptable conditions in the existing, future background and future total scenarios, with all movements operating under capacity. The addition of site related traffic presents minimal impact on the overall intersection operations.

45. The unsignalized intersection of Yonge Street and Street ‘A’ will operate with acceptable delays under the future total scenario. Delays experienced by the eastbound left movement during the afternoon peak hour are expected to improve with the planned widening of Yonge Street to two lanes in each direction.

Appendix A:
Site-specific Zoning By-law 2023-068

Bill No. 071

BY-LAW NUMBER 2023-068

A By-law of The Corporation of the City of Barrie to amend Town of Innisfil By-law 054-04 and City of Barrie By-law 2009-141, land use control by-laws to regulate the use of land, and the erection, use, bulk, height, location and spacing of buildings and structures, formerly in the Town of Innisfil, now in the City of Barrie.

WHEREAS the Council of The Corporation of the City of Barrie deems it expedient to amend Town of Innisfil By-law 054-04 and City of Barrie By-law 2009-141 to rezone lands being Part of Lot 15, Concession 11, Formerly Town of Innisfil and known municipally as 1012 Yonge Street, Barrie, shown on Schedule "A" to this By-law from 'Agricultural General' (AG) and 'Neighbourhood Residential Multiple' (RM3) to 'Neighbourhood Mixed Use – Special Provision No. 636, Hold-158' (NMU)(SP-636)(H-158) and 'Neighbourhood Mixed Use – Special Provision No. 637, Hold-158' (NMU)(SP-637)(H-158).

AND WHEREAS the Council of The Corporation of the City of Barrie adopted Motion 23-G-140.

NOW THEREFORE the Council of The Corporation of the City of Barrie enacts the following:

1. **THAT** the zoning map is amended to change the zoning of the lands from 'Agricultural General' (AG) in Town of Innisfil By-law 054-04 and 'Neighourhood Residential Multiple' (RM3) in Zoning By-law 2009-141 to 'Neighbourhood Mixed Use – Special Provision No. 636, Hold-158' (NMU)(SP-636)(H-158) and 'Neighbourhood Mixed Use – Special Provision No. 637, Hold-158' (NMU)(SP-636)(H-158) in City of Barrie By-law 2009-141, in accordance with Schedule "A" attached to this By-law.

2. **THAT** lands zoned 'Neighbourhood Mixed Use – Special Provision No. 636, Hold-158' (NMU)(SP-636)(H-158) and 'Neighbourhood Mixed Use – Special Provision No. 637, Hold-158' (NMU)(SP-637)(H-158) shall be considered one property, collectively, for the purposes of calculating residential density and general floor space index.

3. **THAT** lands zoned 'Neighbourhood Mixed Use – Special Provision No. 636, Hold-158' (NMU)(SP-636)(H-158) and 'Neighbourhood Mixed Use – Special Provision No. 637, Hold-158' (NMU)(SP-637)(H-158) shall be developed generally in accordance with the Conceptual Site Plan attached as Schedule "B" to this By-law, as it relates to building height, placement and setbacks, the location and configuration of amenity areas, and the location and configuration of landscape strips, drive aisles and parking areas.

4. **THAT** notwithstanding any provisions set out in By-law 2009-141, the lot line abutting Yonge Street shall be considered the front lot line in the 'Neighbourhood Mixed Use – Special Provision No. 636, Hold-158' (NMU)(SP-636)(H-158) zone.

5. **THAT** notwithstanding any provisions set out in By-law 2009-141, a minimum exterior side yard setback of 0.5 metres to a daylight triangle is required in the 'Neighbourhood Mixed Use – Special Provision No. 636, Hold-158' (NMU)(SP-636)(H-158) zone.

6. **THAT** notwithstanding any provisions set out in By-law 2009-141, a minimum exterior side yard setback of 1 metre is required for underground parking structures in the 'Neighbourhood Mixed Use – Special Provision No. 636, Hold-158' (NMU)(SP-636)(H-158) zone.

7. **THAT** the minimum setback requirements for an underground parking structure in sections 4.6.5.2 and 14.6.3 of the By-law shall not apply to daylight triangles in the 'Neighbourhood Mixed Use – Special Provision No. 636, Hold-158' (NMU)(SP-636)(H-158) zone.

8. **THAT** notwithstanding any provisions set out in By-law 2009-141, a maximum of 70 percent of the lot frontage and lot flankage, measured collectively, shall have buildings within 5 metres of the front and exterior side lot lines in the 'Neighbourhood Mixed Use – Special Provision No. 636, Hold-158' (NMU)(SP-636)(H-158) zone.

9. **THAT** notwithstanding section 14.6.3, buildings exceeding 3 storeys in height shall include 3 metre step-backs above the third storey along a façade that abuts a public street in the 'Neighbourhood Mixed Use – Special Provision No. 636, Hold-158' (NMU)(SP-636)(H-158) zone.

10. **THAT** notwithstanding section 14.6.3, buildings exceeding 3 storeys in height shall include 3 metre step-backs above the third storey along a rear façade that directly abuts a private laneway or drive aisle in the 'Neighbourhood Mixed Use – Special Provision No. 636, Hold-158' (NMU)(SP-636)(H-158) zone.

11. **THAT** notwithstanding any provisions set out in By-law 2009-141, a minimum street level floor height of 4 metres is required for ground floor commercial uses in the 'Neighbourhood Mixed Use – Special Provision No. 636, Hold-158' (NMU)(SP-636)(H-158) zone.

12. **THAT** notwithstanding any provisions set out in By-law 2009-141, landscape planters may encroach a maximum of 1.3 metres into a required exterior side yard setback, adjacent to a daylight triangle, in the 'Neighbourhood Mixed Use – Special Provision No. 637, Hold-158' (NMU)(SP-637)(H-158) zone.

13. **THAT** the minimum setback requirements for an underground parking structure in sections 4.6.5.2 and 14.6.3 shall not apply to daylight triangles in the 'Neighbourhood Mixed Use – Special Provision 637, Hold-158' (NMU)(SP-637)(H-158) zone.

14. **THAT** notwithstanding any provisions set out in By-law 2009-141, a maximum of 90 percent of the lot frontage and lot flankage, measured collectively, shall have buildings within 5 metres of the front and exterior side lot lines in the 'Neighbourhood Mixed Use – Special Provision No. 637, Hold-158' (NMU)(SP-637)(H-158) zone.

15. **THAT** notwithstanding any provisions set out in By-law 2009-141, a minimum rear yard setback of 1 metre is required in 'Neighbourhood Mixed Use – Special Provision No. 637, Hold-158' (NMU)(SP-637)(H-158) zone.

16. **THAT** notwithstanding any provisions set out in By-law 2009-141, landscape planters may encroach a maximum of 1 metre into a required rear yard setback in the 'Neighbourhood Mixed Use – Special Provision No. 637, Hold-158' (NMU)(SP-637)(H-158) zone.

17. **THAT** notwithstanding section 14.6.3, buildings exceeding 4 storeys in height shall include 3 metre step-backs above the third storey along a façade that abuts a public street in the 'Neighbourhood Mixed Use – Special Provision No. 637, Hold-158' (NMU)(SP-637)(H-158) zone.

18. **THAT** notwithstanding section 14.6.3, buildings exceeding 4 storeys in height shall include 3 metre step-backs above the third storey along a front and rear façade that directly abuts a private laneway or drive aisle in the 'Neighbourhood Mixed Use – Special Provision No. 637, Hold-158' (NMU)(SP-637)(H-158) zone.

19. **THAT** notwithstanding section 14.6.3, buildings exceeding 3 storeys in height fronting onto Moberly Drive shall include a 3 metre step-back above the third storey along the front façade in the 'Neighbourhood Mixed Use – Special Provision No. 637, Hold-158' (NMU)(SP-637)(H-158) zone.

20. **THAT** the Holding Provision (H-158) be removed from the site-specific zoning on the subject lands, municipally known as 1012 Yonge Street, once the Director of Development Services is satisfied that:

    a. The municipal water and sanitary services, stormwater management facilities and transportation infrastructure required for the development of the subject lands is available and fully operational.

21. **THAT** the remaining provisions of By-law 2009-141, as amended from time to time, applicable to the above-described lands shown in Schedule "A" to this by-law shall apply to the said lands except as varied by this By-law.

22. **THAT** this By-law shall come into force and effect immediately upon the final passing thereof.

READ a first and second time this 21st day of June, 2023.

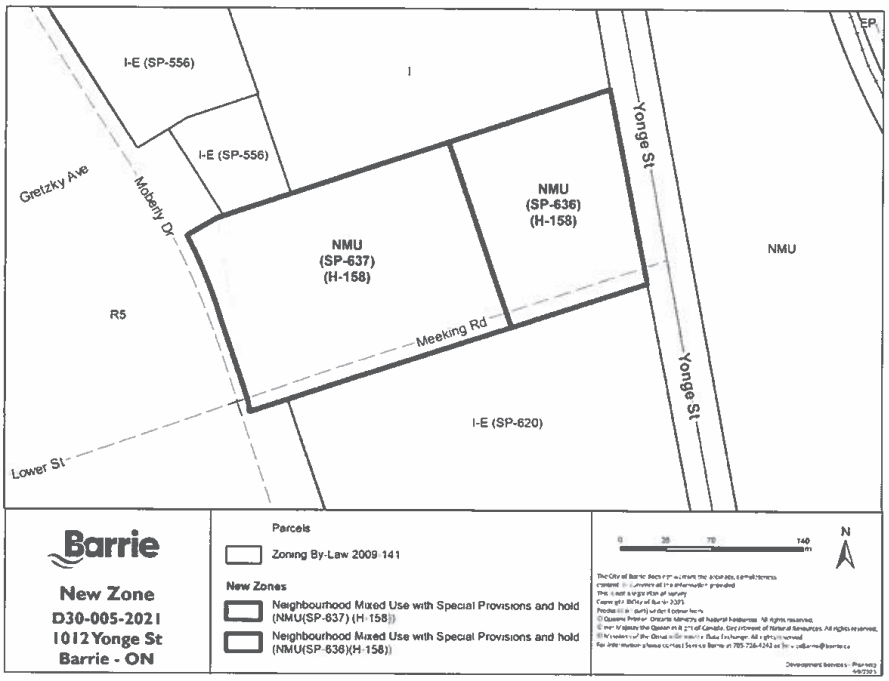
READ a third time and finally passed this 21st day of June, 2023.

THE CORPORATION OF THE CITY OF BARRIE

MAYOR – ALEX NUTTALL

CITY CLERK – WENDY COOKE

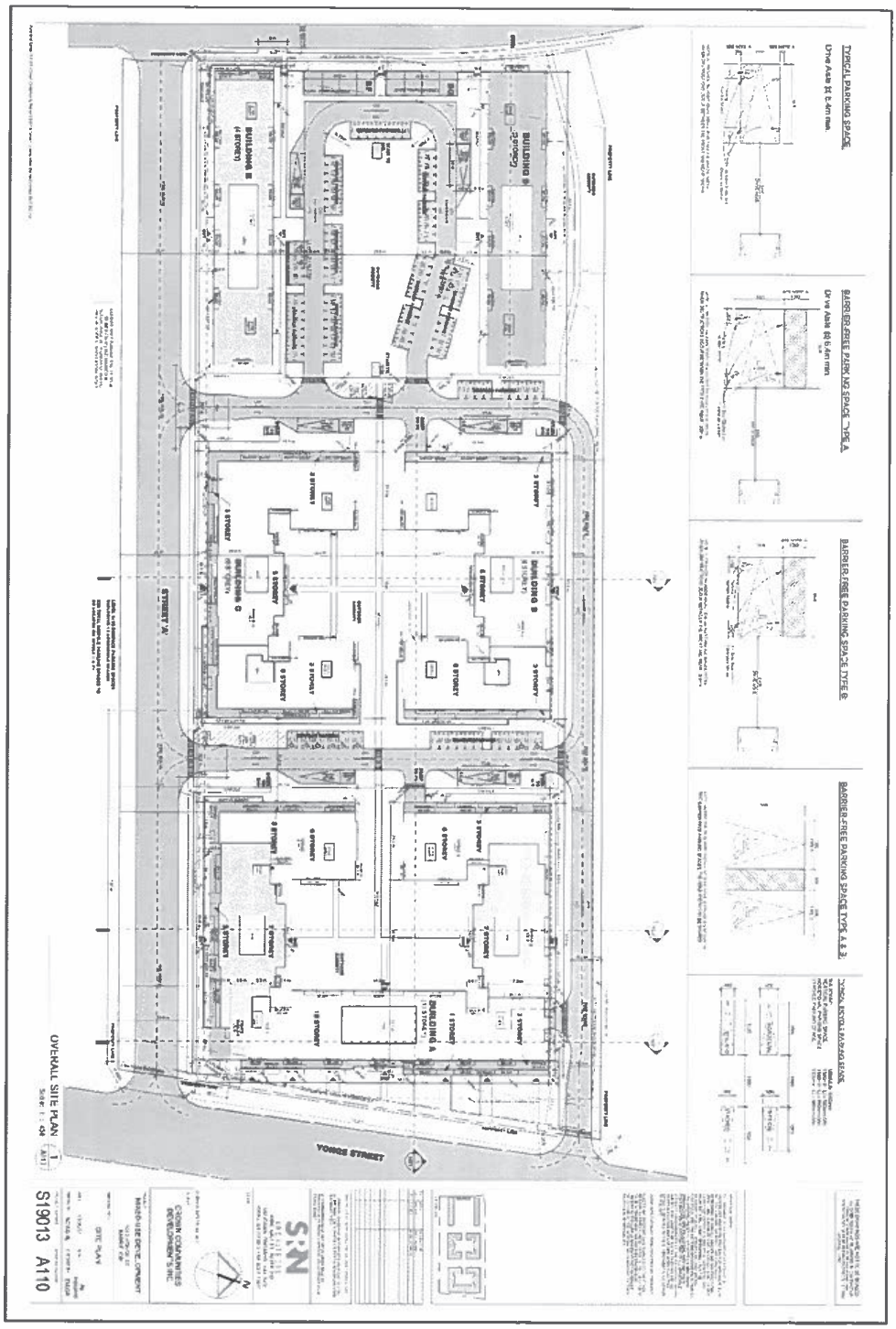
Schedule "A" to attached By-law 2023-068



MAYOR – ALEX NUTTALL

CITY CLERK – WENDY COOKE

Schedule "B" to attached By-law 2023-068



MAYOR – ALEX NUTTALL

CITY CLERK – WENDY COOKE

Appendix B:
Pre-Consultation Technical Review Comments

City Hall
70 COLLIER STREET
TEL (705) 726-4242
FAX (705) 739-4270

P.O. Box 400
BARRIE, ON
L4M 4T5

THE CORPORATION OF THE CITY OF BARRIE
DEVELOPMENT SERVICES DEPARTMENT

SITE PLAN CONTROL – PRE-CONSULTATION REVIEW PLANNING COMMENTS

File: D28-002-2023

To: Darren Vella, Innovative Planning Solutions

From: Andrew Gameiro, Senior Planner

Date: Thursday March 2nd, 2023 – 10:30 am to 12:00 pm

Subject: Proposed Site Plan Control Application – 1012 Yonge Street
Mixed-Use Development – 1,100 Residential Units & 1,167 m^2 of Commercial Space

Technical Meeting Date: March 2nd, 2023 – 10:30 am to 12:00 pm, Virtual Meeting – Microsoft Teams

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The Development Services Department has completed a preliminary review of the policy and technical implications of the proposed Site Plan Control Application to implement the concept plan submitted. The following comments are for consideration only and do not represent a full technical review of a formal application under the *Planning Act*.

Please note that these comments are valid for one year from the date of issuance and Planning staff reserves the opportunity to provide further comments on any revised submissions.

Comments

1.	Official Plan Designation – Hewitt's Secondary Plan Area	'Yonge Street Mixed Use Corridor' (80%) & 'Residential Area' (20%) The property is subject to an active Official Plan Amendment Application (File: D30-012-2022) to create a defined policy area to permit a density in excess of 120 units per hectare (267 units per hectare proposed).
2.	Zoning	**Existing:** 'Agricultural General' (AG) pursuant to Zoning By-law 054-04 (Innisfil) **Proposed:** 'Neighbourhood Mixed Use – Special Provision No. XXX' (NMU)(SP-XXX), 'Neighbourhood Residential Multiple – Special Provision No. XXX' (RM3)(SP-XXX) and Neighbourhood Residential Multiple – Special Provision No. YYY' (RM3)(SP-YYY) The property is subject to an active Zoning by-law Amendment Application (File: D30-012-2022), which is anticipate to be considered by Council in the second quarter of 2023.

		Should Council make any changes to the site-specific provisions that result in changes to the concept plan, a subsequent pre-consultation application for Site Plan Control may be required. See the Zoning comments attached for more information.
3.	Applications required:	
	OPA	☒ Submitted and under review (File: D30-012-2022). Anticipated to be considered by Council in the second quarter of 2023.
	Zoning	☒ Submitted and under review (File: D30-012-2022). Anticipated to be considered by Council in the second quarter of 2023. The applicant shall take this opportunity to confirm the list of site-specific provision being requested for this site. Please send the list of site-specific provisions via email to Andrew.gameiro@barrie.ca in the next resubmission for the OPA/ZBA and Draft Plan of Subdivision. It is recommended that the proposed zone limits correspond to the block limits on the Draft Plan of Subdivision required for the proposed development. This will ensure that zoning provisions can be applied correctly and will simplify the interpretation and implementation of the zoning by-law. The Planning Justification Report (Addendum), dated February 15th, 2022, that was submitted in support of the proposed OPA/ZBA (File: D30-005-2021) appears to identify site- specific provisions based on the limits of future blocks, however, this was not made clear on the conceptual site plan. Please update the plan to reflect block limits. In this regard, the zoning matrix on the plan shall be updated to correctly reflect zoning standards. Setbacks from the block limits shall also be identified on the site plan.
	Consent/Minor Variance	☐
	Site Plan	☒ Should the applicant be successful with the proposed OPA/ZBA application, Site Plan Approval will be required prior to the submission of a building permit in accordance with By-Law 99-312.
	Deeming By-law	☐
	Plan of Subdivision	☒ Draft Plan of Subdivision Application is required to establish the proposed east-west collector road, identified as Street “A” on the concept plan. Additionally, the Draft Plan is required to establish separate development blocks for the respective zones proposed for the site. Additionally, the applicant shall confirm through their solicitor if a subdivision application is required prior to a plan of condominium being registered over the subject lands (i.e. how to create a registerable description for purposes of condominium).
	Part Lot Control	☐
	Condominium Exemption	☒ Applicant to confirm tenure of the proposed development. If condominium, a Condo Exemption request may be made at the time of Site Plan Approval and addressed through the conditions of same.
	Holding Provision	☐

	Other	☐
4.	Development Limits – Boundary Trees	The development limits of the site, as it relates to protecting shared boundary trees shall be established to the satisfaction of the City. Consideration shall be given to retaining the existing boundary and/or private vegetation, alternatively, approval from adjacent landowners may be required to remove/impact same. In this regard, written consent to harm and/or remove shared boundary trees shall be provided. Otherwise, boundary trees are required to be protected in accordance with City standards. This includes tree protection fencing at the drip line of any shared boundary tree, with an additional 5 metre development setback (i.e. area of non-disturbance).
5.	Site Layout and Design	Planning staff are generally satisfied with the development as it relates to the built-form and building and site design. However, there are a few technical and design-related matters, as identified in the staff comments attached, which shall be addressed and/or taken into consideration by the property owner through the submission of a formal Site Plan Control Application. <u>Pedestrian Circulation</u> The sidewalk connections to Street “A” located adjacent to the rear facades of Buildings A and C should be extended further north to provide connections to the central walkway which runs through the centre of the site in and east-west direction. The sidewalk connection between Townhouse Blocks BG and BF does not provide a connection to an internal walkway. The applicant is encouraged to provide a pedestrian walkway along the rear of the townhouse blocks, internal to the site, with connections to the walkways adjacent to buildings D and E. All barrier-free parking spaces proposed as surface parking shall be provided with connections to the internal walkway system. The barrier-free spaces located south of Building D do not have direct access to the proposed walkway. <u>Streetscape – Front Yard (Yonge Street)</u> The applicant is encouraged to provide a private amenity area in the northern portion of the front yard area along Yonge Street to compliment the ground floor commercial uses. The inclusion of a private amenity space would enhance the public realm and foster a warm and welcoming environment for pedestrians. The amenity area could include a mix of hardscaping (i.e. pavers), planters, landscaping and street furniture, with direct walkway connections to the municipal sidewalk. <u>Streetscape – Exterior Side and Rear Lot Lines</u> Landscaping and walkway connections from the sidewalk to the proposed buildings shall be provided along the rear and exterior side lot lines. Walkway connections between the sidewalk and the proposed townhouse units should be provided.

		Internal Amenity Areas Further detail regarding the design and programming of the private amenity areas is required. The expectation is that these areas will include a combination of hardscaping and plant material(s), accessory structures (i.e. gazebos, shade structures, etc.), planters, and street furniture for the enjoyment of future residents. Building Step-backs The proposed building step-backs will be required as site-specific provisions in the implanting zoning by-law associated with File No. D30-005-2021. As such, they shall be incorporated into the building design at the time of filing a site plan application.
6.	Road Widenings	Please identify any required road widenings/daylighting triangles as per the Transportation Planning Branch's comments attached, and any plan modifications required as a result of same (i.e. relocate building, signage, etc.) to comply with the City's Zoning by-law. Should Council approve the proposed rezoning, the required road widenings would be required to be conveyed to the City at the time of draft plan of subdivision or site plan approval, at the City's discretion.
7.	City Communication Systems	Buildings (and cranes) exceeding a height of 4 storeys have the potential to interfere with the City's communication system. If the proposed development interferes with the City's communications system, the applicant shall: - be responsible for paying the costs associated with re-routing the City's communications system; or, - be responsible for purchasing and installing a communications antenna on the rooftop of the proposed building to maintain the City's existing communications system; and, - grant an easement in favour of the City on the rooftop of the building to accommodate a communications antenna in the future Through the review of the OPA/ZBA applications, the City's IT Department confirmed that the proposed building will not interfere with the City's communications systems.
8.	Boundary Fencing	All fencing shall be identified on the plans in accordance with the Zoning By-law and City of Barrie BSD standards.
9.	Building Elevations	Provision of detailed building elevations which clearly identify all building materials, colour, architectural form and detailing to establish a prominent streetscape appeal. In this regard, all exterior building finishes shall: - demonstrate high quality workmanship, durability and ease of maintenance. Building materials shall be used as they are intended (i.e. colour, texture, etc.) and should not be used to mimic other materials; - finished materials shall extend to all sides of the building, including building projections and mechanical penthouses;

		- building materials and finishes on building facades shall not include synthetic siding systems, mirror/heavily tinted glass panels, and/or unadorned concrete block; - blank walls or unfinished materials along property lines or adjacent to parking lots shall be avoided; - have regard for the existing built form in the area. Please be advised that synthetic siding systems (i.e. vinyl siding and/or EIFS exterior finishing products) will not be accepted by Planning staff. All building dimensions and materials shall be referenced on the plans and all elevations are to be labelled with the appropriate directions (north/south/east/west). All railing/guard details shall be identified on plans. In this regard, decorative metal, aluminum and/or glass railings/guards would be considered acceptable and shall be referenced on the plans. Pressure treated wood will not be permitted.
10.	Loading Spaces	As per the City's Zoning By-law, a minimum of 1 loading space is required for commercial uses with a GFA greater than 999 m^2. Planning staff are pleased to see that multiple loading spaces have been provided. The provision of said spaces will improve the overall functionality of the site, as the spaces will service both the commercial and residential uses, including waste collection. Loading spaces shall be located to the rear of the proposed buildings and screened from view of the street. Landscaping may be utilized to screen loading spaces.
11.	Active Transportation - Bicycle Racks	Provision of bicycle racks for residents and visitors of the site to encourage active transportation.
12.	Transit	Direct connection to municipal sidewalks leading to transit stops, as well as requirements for bus platforms and shelters will be reviewed at the time of detailed design.
13.	Pedestrian Connections	Provision of appropriate pedestrian connections within the development to access all units, amenity areas, waste areas and the municipal sidewalks.
14.	Waste Management	The applicant is advised that all waste/recycling/organics is required to be stored within the main building or an accessory building constructed of similar materials to the main building(s), fully enclosed with a roof and roll-up door and shall comply with all minimum zoning standards (setbacks/size/height). The size and location of any proposed indoor waste storage areas shall be reflected on the plans. In-ground waste enclosures may also be accepted, provided they are screened from view of the street. Municipal waste collection may be considered, please refer to the Waste Reduction Comments attached. If private collection is proposed, please advise and note such on the site plan.

15.	Fire Route & Connections	All proposed Fire Department connections, hydrants and access route/radii shall be identified on the plans and provided in accordance with the attached comments provided by the Fire and Emergency Services Department.
16.	Service Utilities	All utilities (i.e. fire hydrants, transformers, gas/hydro metres, air conditioning units, etc.) shall be clearly identified on the plans. In this regard, the applicant shall demonstrate that there are no location conflicts between utilities. The applicant shall also demonstrate that utilities will be appropriately screened from public view without prohibiting access to operate and maintain said utilities. Provision of appropriate landscape screening of all transformers in accordance with Alectra guidelines. The owner shall comply with all requirements of Alectra Utilities Corporation as related to electrical servicing for the development, as stated in their "Conditions of Service" document. In this regard, the Owner shall submit an application for hydro service, receive approval from and execute an Offer to Connect agreement with Alectra Utilities Corporation prior to the issuance of site plan approval to ensure that the location of the hydro transformer does not change.
17.	Rooftop Mechanical Equipment	Any proposed rooftop mechanical units shall be identified on the plans and shall be appropriately screened by way of a parapet building extension and/or placement on the roof such that they are not visible.
18.	Snow Storage	Adequate snow storage areas shall be identified and labelled in appropriate locations on the plans.
19.	Dark Sky Lighting	An Electrical Site Plan shall be submitted, including details of all exterior parking lot lighting and wall mounted fixtures to ensure dark sky compliance. A photometric plan will be required to ensure there is no light pollution on adjacent properties or streets. The lighting plan is to use full "cut-off" light fixtures for exterior parking lot lighting and fully shielded fixtures for wall mounted exterior lighting to eliminate glare and light spillage on neighbouring properties and streets. Feature lighting to high-light building relief, landscape features, and monuments is encouraged. The applicant shall provide full details on the make, model, and manufacturer of all proposed light fixtures to ensure dark sky compliance.
20.	Signage	The location and setbacks of all proposed signage is required to be identified on the plans. This includes building signage and any proposed free standing/pylon and entry feature signage. Signage will not be permitted to encroach within any required widenings(s)/day lighting triangle(s). Detailed elevations (including dimensions) of all proposed signage shall be provided. Appropriate landscaping shall also be provided at the base in accordance with the City's Sign By-law.

21.	Community Mailbox Location	Provision of community mailbox location(s) to the satisfaction of Canada Post. For apartment buildings, the preference is to have all mail delivery to be located internal to the building. Planning staff acknowledge that an internal mail room is proposed.
22.	Crane Swing and Tiebacks	If applicable, the applicant shall submit drawings which identify the crane swing on the subject property and the encroachment of any required tiebacks within the ROW. The drawings will be reviewed and approved by staff, and form part of Schedule "C" of the Site Plan Agreement. Additionally, the applicant will be required to enter into an agreement with the City to address the crane swing and tie back encroachments. If required, the applicant shall enter into private agreements with abutting landowners to permit tieback encroachments and/or access onto adjacent lands during construction.
23.	Construction and Traffic Management Plan	The applicant shall submit a Construction and Traffic Management Plan, which identifies the following: - Parking for tradespersons; - Road and Sidewalk Closures/Encroachments and Interim Access Solutions (i.e. sidewalk access, traffic management for road closures, etc.); - Storage of Building Materials; - Staging Areas; - Location of Hoarding Fencing; - On-site Lighting; - Impacts to Street Lighting, Hydro Poles and associated Infrastructure (shall include interim solutions for lighting, hydro, etc.); - Location of mud mats; and - Location of construction trailer(s).
24.	Municipal Aquifer	Deep drilling and the undertaking of deep construction activities (piles, caissons, excavations, underground parking etc.) can create a transport pathway for contaminant migration to the deep municipal supply aquifer. The applicant will be required to provide the following information to screen for risk management requirements: • Maximum Expected Depth of Excavation (masl or m below current grade) • Maximum Expected Depth of Foundation (masl or m below current grade) i.e. piles, caissons, etc. • Percentage of site to be developed
25.	Comments/Response Matrix	Subsequent submissions, if required, shall be accompanied by a comment/response matrix which clearly identifies how each City/Agency comment has been addressed. This shall be submitted digitally through the City's APLI system.

Urban Design Manual Compliance

The Site Plan Application submission is to be provided in accordance with the Urban Design Manual. Highlights of matters to be identified and addressed are as follows:

- legal boundary survey and any easements
- roof top mechanical units and screening

- external garbage bin enclosure (materials to match main building, with roll up door and roof)
- internal garbage room
- loading area – screen wall and details
- retaining walls and cross section details (with decorative rail)
- dark sky lighting and no light spillage on electrical plan
- transformer and landscape screening
- pylon sign and base landscaping – one per property
- Agency circulation (CA, MTO, Metrolinx, etc.)

Attachments

Comments received from departments:

Department	Date Received
Development Services Zoning Addressing	February 24, 2023 (A. Gameiro) February 28, 2023 (0. Sanchez)
Development Services Approvals Parks Planning (Landscape) Transportation Planning	February 23, 2023 (N. Rush) February 24, 2023 (A. Mills) February 27, 2023 (J. MacDonald)
Water Operations	January 20, 2023 (A. Miller)
Building	February 24, 2023 (J. Vanderpost)
Fire	February 9, 2023 (D. Lalonde)
Finance	February 24, 2023 (N. Myers)
Transit	February 28, 2023 (R. Mennie)
MLEO	No comments.
Risk Management Official	February 16, 2023 (L. Roberts)
Infrastructure Technology (IT) – City Communications	No comments. Comments provided through the review of OPA/ZBA File D30-005-2021.
Business Performance and Environmental Sustainability Environmental Services Waste Reduction	February 23, 2023 (D. Jeffery) February 24, 2023 (R. Stephens)
Lake Simcoe Region Conservation Authority (LSRCA)	February 21, 2023 (E. Dias)
Alectra Utilities	January 23, 2023 (S. Cranely)

The **Urban Design Manual** and **Site Plan Application Manual** are available for purchase or download from the City of Barrie's website at:

www.Barrie.ca under Doing Business, link to Planning & Development and Development Review

https://www.barrie.ca/City%20Hall/Planning-and-Development/Pages/Development-Review-Process.aspx

Site Plan Control – Pre-consultation
Zoning Comments

February 24, 2023

Site: 1012 Yonge Street, Barrie

File: D28-002-2023

Zoning: Present: 'Agricultural General' (AG) – Innisfil Zoning By-law 054-04

Proposed: NMU(SP-XXX), RM3(SP-XXX) & RM3(SP-YYY)

Standards

BUILDINGS A, B & C	**Required by By-law NMU**	**Proposed**
Lot Area (min.)	-	4.12 Ha (Overall Site)
Lot Frontage (min.)	-	128.1 m (Yonge St) 213.5 m (Street 'A') **Yonge Street shall be considered the lot frontage for the purpose of zoning interpretation**
Minimum Front Yard Setback (min.)	0 m A maximum of 50% of the frontage shall have buildings within 5m of the front lot line except on corner lots this shall be measured along the cumulative lot frontage and exterior lot line. Pedestrian oriented access required for ground floor ICI uses.	1.5 m (Yonge Street)
Side or Rear Yard Abutting a Street or Laneway (min.)	1.5 m	2.5 m - building (Street 'A') 1.5 m - planters (Street 'A') 122 m – west/rear *laneway to the north is private, so this provision does not apply*
Side or Rear Yard (min.) **Non-residential buildings**	5 m	**15.5 m (north/interior side)**

and residential buildings more than four storeys abutting a Residential, Open Space or Environmental Protection Zone		
Side or Rear Yard (min.) **Residential buildings four storeys and less abutting a Residential, Open Space or Environmental Protection Zone**	1.2 m	N/A
Front, Side & Rear Façade Step-back (min.)	No step-back is required for a four-storey building. No step-back is required for five storeys and up to six storeys if the building is setback 3 m or more from the property line. In all other cases, a 45-degree angular plane at height above 80% equivalent of right of way using 3m minimum step backs.	**3 m step-back required above the 3rd storey on the front, exterior side and rear façades of buildings exceeding 5 storeys (Buildings A, B & C)** **This will be recommended as a site-specific provision for the NMU(SP-XXX) Zone**
Street level floor height for commercial uses (min.)	4.5 m	4.5 m
Building Height – Commercial (min.)	5 m	N/A
Building Height (min. & max.) – Residential and Mixed Use	3 storeys (min.) to 12 storeys (max.)	5 storeys (min.) 10 storeys (max.)
Dwelling Unit Area (min.)	$35m^2$ + 10 m^2/bedroom	$35m^2$ + 10 m^2/bedroom
Floor Space Index (min. to max.)	0.5 (min.) to 2.5 (max.)	2.04
Residential Density (min. to max.)	50 to 120 UPH (OP – max. 120 UPH) (ZBL – min. 50 UPH)	**267 UPH (Overall Site)** **Site-specific provision will be required to permit an overall residential density of 267 UPH on the entire site combined**

Drive Aisle Width (min.)	6.4 m	6.4 m
Continuous Landscape Buffer Strip (min.)	3 m along side & rear lot lines abutting R5 Residential Zone (R5 proposed to the south and west)	3 m (north/interior side) **1.5 m (exterior side)** **1.5 m (rear)** It is recommended that a site-specific provision be implemented to permit a landscape strip width of 1.5 m adjacent to planters. This is recommended to avoid any potential conflicts with zoning interpretation. The provision can be easily justified, as the planters serve the same purpose, which is to accommodate planting.
General Amenity Area (min.)	-	15, 903 m^2 (entire site)
Loading space (min.)	1 space @ 3 m x 9 m x 4 m	4 spaces @ 4.5 m x 13 m x >4 m
BUILDINGS D & E	**Required by By-law RM3**	**Proposed**
Lot Area (min.)	N/A	4.12 Ha (Overall Site)
Lot Frontage (min.)	18 m	128.1 m (Yonge St) 213.5 m (Street 'A') **Yonge Street shall be considered the lot frontage for the purpose of zoning interpretation**
Front Yard Setback (min.)	3 m A building, porch or balcony without a foundation, may encroach into the front yard setbacks or exterior side yard setback up to 1 m of the daylight triangle	215 m (Yonge Street)
Exterior Side Yard Setback (min.)	2 m Can encroach up to 1 m from the daylight triangle	3 m (building) 2.2 m (building to daylight triangle) **0.2 m (planters to daylight triangle)**
Interior Side Yard Setback (min.)	1.2 m (standard) 5 m for buildings with balconies & terraces facing the side lot line	14 m (north)

	0 m where units are attached	
Rear Yard Setback (min.)	5 m (does not apply where a property line separates 2 attached units)	2.2 m (Bldg. E to daylight triangle) **0.2 m (Bldg. E planters to daylight triangle)** **1 m (Bldg. E planters to lot line)** **2.3 m (Bldg. D)**
Landscaped Open Space (min.)	25%	45% (entire site)
General Amenity Area (min.)	10 m^2 per unit TOTAL – 1,470 m^2	15, 903 m^2 (entire site)
Dwelling Unit Floor Area (min.)	35m2 + 10 m2/bedroom	>/= 35m2 + 10 m2/bedroom
Lot Coverage (max.)	50%	38.5% (entire site)
Gross Floor Area (max. % of lot area)	250%	**Appears to comply – please confirm**
Building Height (max.)	4 Storeys	4 storeys
Building Step-backs (min.)	-	**3 m step-back required above the 3rd storey on the façade of a building which fronts onto a street, for buildings exceeding 3 storeys in height (Building E)** **This will be recommended as a site-specific provision for the NMU(SP-XXX) Zone**
BUILDINGS BG & BF	**Required by By-law (RM3)**	**PROPOSED**
Lot Frontage (min.)	11 m	128.1 m (Yonge St) 213.5 m (Street 'A') **Yonge Street shall be considered the lot frontage for the purpose of zoning interpretation**
Front Yard Setback (min.)	3 m A building, porch or balcony without a foundation, may encroach into the front yard setbacks or exterior side yard	>3 m (Yonge Street)

	setback up to 1 m of the daylight triangle	
Exterior Side Yard Setback (min.)	2 m A building, porch or balcony without a foundation, may encroach into the front yard setbacks or exterior side yard setback up to 1 m of the daylight triangle	30 m
Interior Side Yard Setback (min.)	0 m (between units) 1.2 m (end unit)	43 m
Rear Yard Setback (min.)	5 m	3 m
Landscaped Open Space (min.)	25%	45% (entire site)
General Amenity Area (min.)	10 m^2 per unit	15, 903 m^2 (entire site)
Lot Coverage (max.)	50%	38.5% (entire site)
Gross Floor Area (max. % of lot area)	250%	**Appears to comply – please confirm**
Building height (max.)	3 storeys	3 storeys
Number of Contiguous units in a row (max.)	8 units	4 units

Parking Standards	Required	Proposed
Parking (min.) **(Overall Site)**	1.0 space per unit @ 2.7m x 5.5 m (res.) = 1,100 spaces (incl. 34 BF spaces) Max. 1 space/24 m^2 of GFA (Commercial) = 49 spaces (incl. 2 BF spaces) Tandem parking not permitted 233 bicycle spaces - 0.2 bicycle spaces per unit (apartments). Additional spaces shall be provided for all non-residential uses in the NMU at a rate of one bicycle parking space for every 7% of	1,106 Res. spaces – 1.005 spaces/unit (incl. 34 BF spaces) 49 commercial spaces incl 2 BF spaces) 47 visitor spaces **220 bicycles spaces – please provide additional spaces to meet the by-law requirement.**

	required non-residential vehicular parking spaces in the Neighbourhood Mixed Use Zone	
Barrier Free (min.)	18 Type A space @ 3.4 m x 5.5 m & 18 Type B spaces @ 3.1 m x 5.5 m Each barrier-free space shall contain a 1 .5 m access aisle. Based on 1 space + 3% of over parking – developments with >100 spaces	18 Type A space @ 3.4 m x 5.5 m & 18 Type B spaces @ 3.1 m x 5.5 m
Parking Structure Setbacks (min.)	The minimum setback from the street line to the nearest part of a parking structure underground shall be 1.8m, except where the minimum yard setback for the applicable zone is less than 1.8m, in which case the minimum setback shall be the same as the minimum required yard setback.	N/A to front and exterior side lot lines, as setback is less than 1.8 m in the NMU Zone. **1m & 0.9 m proposed along rear lot line in the RM3 Zones**

Comments and Notes

- The zoning deficiencies noted in the table above are anticipated to be considered by Council in the second quarter of 2023, provided all comments related to OPA/ZBA File D30-005-2021 are addressed by the applicant. If approved, the deficiencies noted above will be site-specific zoning provisions for the subject property. Should Council make any changes to the proposed zoning provisions, further review may be required through a subsequent pre-consultation application, depending on the magnitude of said changes.
    - The applicant shall take this opportunity to confirm the list of site-specific provision being requested for this site. Please send the list of site-specific provisions via email to Andrew.gameiro@barrie.ca.
    - It is recommended that the proposed zone limits correspond to the block limits on the Draft Plan of Subdivision required for the proposed development. This will ensure that zoning provisions can be applied correctly and will simplify the interpretation and implementation of the zoning by-law.
        - The Planning Justification Report (Addendum), dated February 15th, 2022, that was submitted in support of the proposed OPA/ZBA (File: D30-005-2021) appears to identify site-specific provisions based on the limits of future blocks, however, this was not made clear on the conceptual site plan. Please update the plan to reflect block limits. In this regard, the zoning matrix on the plan shall be updated to correctly reflect zoning standards. Setbacks from the block limits shall also be identified on the site plan.

Prepared by: Andrew Gameiro, RPP
Senior Planner

ADDRESSING COMMENTS

TO: Andrew Gameiro, Senior Planner

FROM: Olga Sanchez, Planning Services Technical Coordinator

DATE: February 28, 2023

SUBJECT: **D28-002-2023 – Pre-Consultation Application – 1012 Yonge St – Barrie - ON**

The property subject to the proposal described in the concept plan submitted for the **Pre-Consultation Application D28-002-2023** is municipally known as **1012 YONGE STREET, Barrie-ON**

The documents submitted for this application have been reviewed and the following are the addressing comments for the proposed development:

Street names and street numbers shall be assigned by the City of Barrie in accordance with the Municipal Naming Policy, Private Street Naming Policy and Street Addressing Policy as follows:

Street Names

- Local Streets/Laneways shall be named by the City, in consultation with the Ward Councillor(s), utilizing names approved on the Municipal Names Registry or names recommended by the developer, in accordance with the Municipal Naming Policy.
- Private Streets shall be named by the Director of Planning and Building Service, utilizing names approved on the Municipal Names Registry, in accordance with the Private Street Naming Policy.

Street names will be assigned following approval of a Draft Plan of Subdivision

Street names will be assigned following issuance of conditions for Site Plan.

Street Numbers

- Multi-residential buildings will be addressed by assigning one street number from the street the main access fronts onto, and each unit within the building will be assigned a numeric unit number.

Draft street numbers will be assigned by the city following approval of a Draft Plan of Subdivision, once the street names are fully approved.

Street numbers shall be officially assigned following the registration of the Plan of Subdivision.

The Applicant should contact Development Services – Planning to coordinate the completion of the Street Naming and Street Numbering at the times indicated above.

Olga Sanchez A.Sc. T.
Planning Services Technical Coordinator
Development Services

DEVELOPMENT SERVICES DEPARTMENT

M E M O R A N D U M

TO: Andrew Gameiro
Senior Planner

File: D28-002-2023

DATE: February 23, 2023

FROM: Nadine Rush, C.E.T.
Senior Development Services Technologist

RE: **Pre-Consultation Application (Site Plan)**
1012 Yonge Street
Review Comments

Please be advised that the Development Services Department – Approvals has completed a preliminary review of the application/concept plan and recommends that the following points be addressed upon submission of the Site Plan application.

Approvals Branch

1. It is acknowledged that this proposed development site is in the process of an OPA/ZBA that has already had studies and reports completed or are in progress. Many of the following Site Plan requirements can likely be met by utilizing excerpts and/or references to those previously prepared studies and reports as applicable.
2. Servicing to the proposed development (stormwater, water, sanitary) is contingent on the development of external infrastructure in the surrounding area and adjacent properties.
3. The owner will be required to provide a water service supply/demand analysis in support of the proposed development to ensure adequate domestic and fire flow, pressure and water quality are provided. Analyze the existing and proposed water systems, ensuring adequate domestic and fire flow, and pressure for this development. The boundary conditions provided for this analysis must utilize results from a current fire flow test that accurately reflect existing conditions performed on a municipal hydrant within 90 m of the site. This analysis shall also include calculations to determine the required fire flows in accordance with the Fire Underwriters Survey (FUS). The design fire flows shall be the greater of the calculated FUS flows and City of Barrie's minimum fire flows.

   Refer to the City of Barrie Water Transmission and Distribution Policies and Design Standard.
4. The water demand analysis from the rezoning process may be resubmitted provided that it is still current and if necessary, updated to reflect any design changes that may have been required as a result of previous submissions and comments.
5. The owner will be required to provide a detailed Stormwater Management Report/Brief (signed and stamped by a qualified professional engineer, complete with electronic files) that effectively addresses stormwater management and the impact this development may have on the receiving system with respect to quality and quantity control, to satisfy all provincial and municipal requirements. This report shall also address emergency overland flow and demonstrate that there will be no flooding to properties immediately downstream of the development.
6. The above noted report shall address stormwater management requirements including, but not limited to, Enhanced Protection Level as per the Ministry of the Environment, Conservation and Parks' (MECP) Stormwater Management Practices and Design Manual, Phosphorus Loading and Water Balance as per the Lake Simcoe Region Conservation Authority (LSRCA) Technical Guidelines for Stormwater Management Submissions, and any other City of Barrie applicable policies and guidelines.
7. The owner will be required to confirm that there is adequate capacity to the sanitary trunk.

8. The owner will be required to provide a geotechnical/hydrogeological investigation letter/report in support of this development. The report must address groundwater levels and any impact those levels may have on the proposed building foundation and recommendations for pavement structures (i.e., light, medium and heavy duty). The report will further confirm that the proposed development will not impact any wells within a 300 m radius of the subject property.
9. The Owner shall comply with Site Alteration By-law 2014-100.
10. The owner will be required to provide an up-to-date topographic survey of the existing site conditions. The survey shall include features and grading information for a minimum of 10 m within adjoining properties, to the centerline of municipal roadway(s) and the construction limit. Engineering surveys must be tied into the Ontario Horizontal Control Survey Network (Cosine) in accordance with Ontario specifications, guidelines, and regulations under The Surveys Act (OS 79). Please refer to the Control Monument Network under Engineering Records in the following link: https://www.barrie.ca/planning-building-infrastructure/information-requests.
11. The owner will be required to ensure that any existing on-site wells, boreholes equipped with piezometers and septic systems, are decommissioned in accordance with current Ministry of the Environment, Conservation and Parks guidelines (O. Reg. 903).
12. The owner will be required to provide the following drawings as applicable, in accordance with the City of Barrie's Site Plan Application Manual and Urban Design Manual:
    a) Separate site servicing drawing;
    b) Separate site grading drawing. The drawing should demonstrate how the proposed grading works at the municipal boulevard meet the current City of Barrie Standards;
    c) Separate sediment and erosion control drawing in accordance with the current Site Alteration By-law;
    d) Separate storm drainage catchment drawing (identify/accommodate any external drainage) and associated sewer design sheets;
    e) Separate signage and pavement marking drawing in accordance with the Ontario Traffic Manuals. This drawing shall be detailed for use by the paint marking and signage contractor and shall include a legend, details, dimensions, and material specifications;
    f) Separate standard detail drawing identifying all the current provincial and municipal standards applicable to the design;
    g) Separate general notes drawing identifying all the applicable notes relating to the proposed servicing and grading works; and
    h) Separate removal plan clearly identifying the existing surface and/or underground infrastructures to be removed.

STANDARD CONDITIONS

Refer to Appendix "C" of the Site Plan Application Manual for standard conditions and financial requirements.

For further information/clarification regarding the above conditions, please contact the following staff:

Nadine Rush – Approvals – nadine.rush@barrie.ca

Prepared by: Nadine Rush
Nadine Rush, C.E.T.
Senior Development Services Technologist

NR/jkw

SURFACE WATER
TREATMENT PLANT
20 ROYAL PARKSIDE DR
TEL. (705) 792 7920
FAX (705) 792 7921

P.O. BOX 400
BARRIE, ONTARIO
L4M 4T5

THE CORPORATION OF THE CITY OF BARRIE
Infrastructure Department
Water Operations Branch
"Committed to Service Excellence"

1012 Yonge St (D28-002-2023)

Date: Jan.20/23

Comments:
-There were no site servicing drawings submitted with document package. Detailed comments on proposed water servicing will be provided when site servicing drawings circulated for review.
-The proposed water servicing to be designed as per current City of Barrie, Water Transmission & Distribution Policies & Design Guidelines.
-There are currently no municipal watermain(s) fronting the development property and it would be expected that a development of this size (1120 residential units) would have redundant water supply built into design, whether that be parallel watermains on Yonge St or a single watermain on Yonge and another municipal watermain from another street.

Allan Miller
Water Operations Technical Advisor

Transportation Planning Pre-Consultation

To:	**A. Gameiro RPP, Senior Planner**
From:	**J. MacDonald C.E.T., PTP, Senior Transportation Technologist (Ext. 5178)**
Date:	**February 27, 2023**
RE:	**D28-002-2023 – 1012 Yonge Street**
Development Stage	**Pre-Consultation**

Introductory Statement:

Staff reviewed the proposed site plan (D28-002-2023) for 1012 Yonge Street submitted to the City as part the pre-consultation process. The purpose of this review is to outline provide high-level comments for the proposal based on the supplied information and identify requirements to support a subsequent site plan application.

The comments are not intended to address granular details as that will be completed as part of the site plan review process. Professionals completing the site design and traffic impact study must adhere to the following City guidelines.

- Urban Design Guideline (Link)
- Transportation Development Manual (link)
- Transportation Association of Canada Geometric Design Guide
- Relevant Ontario Traffic Manuals
- ITE

Road Classification

1. In accordance with Schedule D of the Official Plan, Yonge Street is classified as an arterial roadway.
2. In accordance with Schedule D of the Official Plan, Street A is classified as a collector roadway.

Construction Management and Parking Plan

3. The applicant shall prepare a construction management and parking plan as it relates to parking of trades people, delivery of construction material, impacts to existing on-street parking, maintenance of adjacent property access, pedestrian movements, City infrastructure, etc.
4. This applicant shall identify current parking regulations along adjacent roadways to review where overflow parking for trades people may be accommodated without negatively impact the surrounding neighbourhood.

Intersections / Site Access / Access Management:

5. There are no concerns with the proposed access connections to Street A.
6. The proposed access onto Yonge Street shall be designed as a right in/right out and shall be designed in accordance with TAC.

Property Conveyance / Corridor Protection:

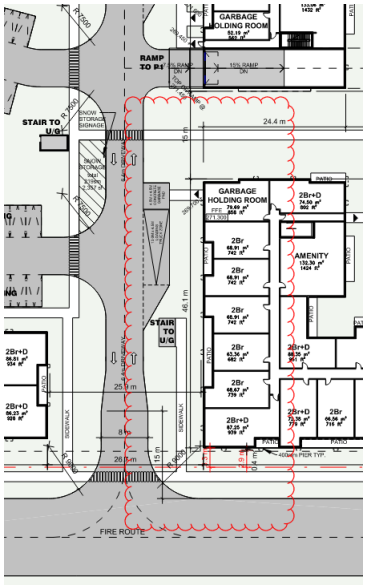
7. According to Amendment No.39 to the City of Barrie's Official Plan (Schedule (9D-2), up to a maximum 41.0 metre right-of-way (ROW) is required for Yonge Street. In this regard, the applicant will be responsible to dedicate to the City of Barrie a 2.5 metre ROW widening across the full frontage of Yonge Street.
8. Street 'A' is designated as a 24 metre minor collector roadway and shall transition to a 25m at the intersection of Yonge Street and Street 'A' to accommodate an eastbound left turn lane. In accordance with the Traffic Impact Study the 25m ROW shall be maintained for a minimum of 110 metres to accommodate the required parallel storage and taper. In this regard the 25m ROW shall be reflected accordingly.
9. In accordance with BSD-323 the following daylighting triangles shall be provided:
    a. Yonge Street at Street 'A' – 5 m by 10 m
    b. Street 'A' at Future north / south minor collector – 5m by 5m.

Active Transportation – Internal & External:

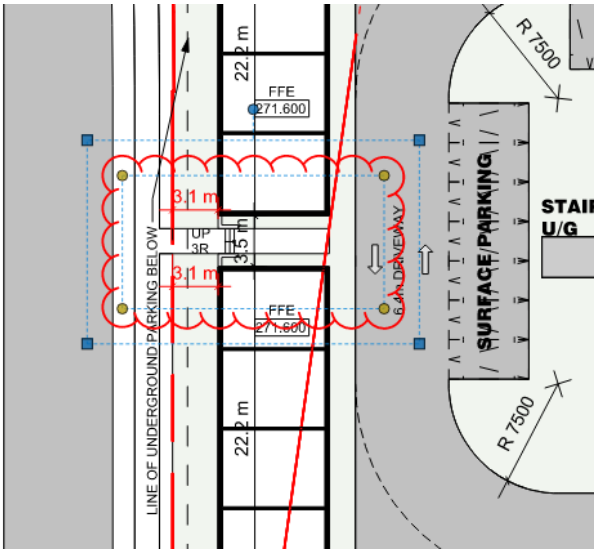
10. Drawing A301 identified 220 bicycle parking stalls shall be provided on parking level 1 and P1; in this regard the applicant shall clearly label the proposed bicycle parking stalls. Consideration should also be given to provide surface bicycle parking in order to provide short term parking.
11. Consideration should be given to increase the main pedestrian spines (central east/west and connections to Street A) should be a minimum of 2.4m in order to accommodate multi-model transportation.

Internal Site Circulation:

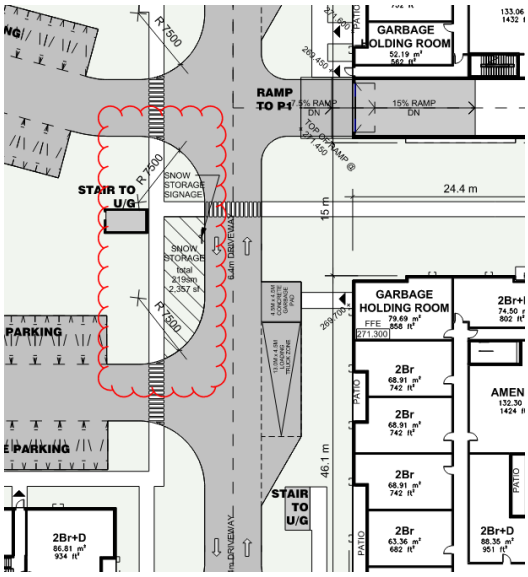
12. All barrier free parking stalls shall be signed with Rb-93 and marked in accordance with the Ontario Traffic Manual.
13. Curb depressions shall be provided for all barrier free laneways in order to provide an accessible access to the internal sidewalks.
14. Consideration should be given to extend the westerly sidewalk at the east access to connect to the main east/west pedestrian spine to provide continuous pedestrian circulation.



15. The municipal sidewalk shall be maintained through the site access.
16. The current sidewalk connection between the townhouse blocks fronting Street B does not connect to an internal sidewalk; consideration should be given implement a continuous sidewalk along the rear to the townhouse blocks.



17. Consideration should be given to implement a raised crosswalk for all internal crosswalks to provide an enhanced pedestrian crossing and provide internal traffic calming within the site.
18. Consideration should be given to relocate the proposed snow storage adjacent to avoid visual obstruction during winter months.



19. Turning template shall be provided to demonstrate sufficient circulation to access loading zone/waste collection.
20. Clearly label internal stop control.

21. The internal roadway network does not support on-street parking; in this regard the applicant shall be required to implement “No Parking Anytime” signage along the internal roadways.
22. Hatch out all dead space within parking level P1.
23. Provide way finding signage for parking level P1.

Exterior Lighting and Photometric Plan

24. The applicant is to use full “cut-off” light fixtures for exterior parking lot lighting and fully shielded fixtures for wall mounted exterior lighting to eliminate glare and light spillage on neighbouring properties and streets.
25. The applicant is encouraged to use feature lighting to high-light building relief, landscape features, and monuments.
26. The applicant is to provide full details on the make, model and manufacturer and photometric plan of all proposed light fixtures for the site.
27. A photometric plan is required to ensure there is no light pollution on the adjacent properties.

General Development Plan Comments:

28. That the applicant clearly identify on the site plan that adequate stopping sight distance has been provided using the applicable design speed for all proposed access connections and verify that all sight lines are free of potential obstructions such as buildings, parking, signs or vegetation.
29. The applicant is to provide a Pavement Marking and Signage Plan (PMSP) for the proposed site plan application. The PMSP provides details and specifications for all traffic signs including right of way control and pavement markings. The PMSP is to also clearly identify sign mounting heights, sign orientation and dimensions.
30. Pavement markings for parking stalls shall be painted white and conform to OPSS 1712.
31. The proposed fire route shall be signed in accordance with Fire Route By-law 89-89:
    c. Signs shall be of a size not less than 30 cm in width and 45 cm in length.
    d. Shall not exceed 30 metres in spacing.
    e. Signs shall be installed no less than 2 metres and no more than 3 metres above the level of the roadway.
32. All laneways shall be 6.4m in width.
33. A painted island or full curbed island shall be implemented at the termination of all parking rows.

J. MacDonald

_____

Justin MacDonald, C.E.T.
Senior Transportation Operations Technologist

DEVELOPMENT SERVICES
Parks Planning

M E M O R A N D U M

TO: Andrew Gameiro
Senior Planner, Development Services

FILE: D28-002-2023

FROM: Aaron Mills
Landscape Architectural Planner

DATE: February 24, 2023

SUBJECT: **D28-002-2023 – 1012 Yonge St**
Pre-Consultation (Site Plan) – Parks Planning Comments

Parks Planning has completed a preliminary review of the provided documents for the above-mentioned application and offers the following comments:

1) **Parkland Dedication/Cash-in-lieu of Parkland**
Land contribution shall not be required to satisfy parkland dedication requirements for the subject development. Finance – Development Charges is to advise regarding any requirements for cash-in-lieu of parkland, as per By-law 2017-073 section 6(1).

2) **Tree Inventory, Assessment and Preservation Plan**
Parks Planning has reviewed the Tree Inventory Plan provided by MHBC Planning Ltd., dated March 10, 2021 and recommends that it be updated in accordance to the requirements laid out in our current Electronic Documents Standards for Landscape Submissions (see attached).

Where trees, located on adjacent lands, may be negatively impacted (damaged or harmed), it is the sole liability of the applicant. It is recommended that trees located on adjacent lands that may be impacted, be included in the tree inventory and preservation plans.

Where boundary or adjacent private trees are proposed to be impacted, written authorization from the adjacent landowner(s) is required to cause harm and/or to remove boundary trees and is to be included in the Tree Preservation Submission. No works, such as building, servicing, and grading, are permitted to be undertaken within the canopy limit without written authorization from the adjacent landowner(s).

Where no adjacent landowner authorization is received, the development limits of the site are to be established through the identification of the canopy limit of boundary trees. A five-meter buffer must be maintained between limit of canopy and the proposed building envelope in accordance with City Standards (BSD-1235) and best forestry practices.

Where boundary or private trees are identified, a letter of authorization to remove or cause harm must be submitted with the plans where trees are to be impacted in order to deem the plans as complete.

Letters of authorization are legal and binding agreements between private parties. Provided letter(s) of authorization for harm and/or destruction of boundary and/or private trees will be reviewed by Staff and is recommended to contain the following information:

- Date
- Subject lands/municipal address/legal description
- Identification of parties
- Written description of works, where authorization is required (to include references tree inventory/preservation plans)
- Attachment of referenced tree preservation plan(s) and arborist report(s) (signed/initialed by the property owner providing permissions)
- Acknowledgement and agreement of works to be undertaken
- Printed names of signatories, signatures, and signing date(s)

3) Pedestrian Circulation

The Owner is asked to consider pedestrian/site circulation to and from the proposed dwelling. All paved walkways are recommended in accordance with the guidelines set out in Section 3.1 of the City of Barrie's Urban Design Manual and Provincial Accessibility/AODA Standards (please refer to A Guide to the Integrated Accessibility Standards Regulation – Design of Public Spaces Standard, Section 80).

4) Landscape Strips & Planting Density Requirements

The Owner is to provide landscape strips and planting densities in accordance with Section 9.1 of the City of Barrie's Urban Design Manual (exclusive of City land dedications). Please see summary below:

Abutting Use	Minimum Landscape Strip Width Requirement	Landscape Treatment Guidelines
North Boundary – Institutional	*3m	• Mixed deciduous and evergreen trees • Mixed shrub bed or hedging • 2m high solid fence (with 150mm x 150mm posts)
East Boundary – Arterial/Parkway/ Major Collector	**6m	• Entry feature/ornamental fencing • Mixed deciduous and evergreen trees • Berming and shrub beds • Foundation planting
South Boundary – Schools OR Residential	3m 3m	• 1.8m high chain link fence • Mixed deciduous and evergreen trees • Mixed shrub bed or hedging • Mixed deciduous and evergreen trees • Mixed shrub bed and hedging
West Boundary – Residential	3m	• Mixed deciduous and evergreen trees • Mixed shrub bed and hedging

*It is noted that the abutting lands north of the subject site may be acquired by the City for a future community centre. Further discussion regarding fencing requirements/specifications and potential access from the proposed development to the proposed future community centre is required once confirmed.

**Parks Planning staff have consulted with Planning and Urban Design regarding the proposed development and proposed interface with Yonge Street. It has been noted that a standard 6.0m wide continuous landscape buffer strip is required along arterial roads, such as Yonge Street. With consideration of the proposed development to have ground floor commercial, Parks Planning staff will not require a continuous 6.0m wide landscape buffer strip.

It is to our understanding that the frontage is to serve as a gathering and spill out area/plaza to service the proposed ground floor commercial units. It is recommended to provide supplementary cross-section(s), elevation(s) and/or visualization(s) to demonstrate the design intention for the interface of the proposed development and Yonge Street, particularly at the northwest corner of Building A. Utilizing these cross-section/elevation drawings, please confirm there is adequate soil depths above the underground parking structure for larger tree plantings.

Planting Density Formula Guidelines – Residential Developments
Total Site Area (m^2) / 200 = # of Deciduous Trees (60mm CAL)
Total Site Area (m^2) / 400 = # of Evergreen Trees (2m HT)
Total Site Area (m^2) / 100 = # of Deciduous Shrubs (0.6-1.2m HT)
Total Site Area (m^2) / 200 = # of Evergreen Shrubs (0.45m SPR/1.2m HT)

A planting density chart is to be included in the landscape plans, identifying the required and proposed planting density on site.

5) Landscape Plans

The Owner shall be required to provide landscape plans, as per Section 4.1.6 of the City of Barrie Site Plan Application Manual, signed and stamped by a qualified Landscape Architect. The landscape plans are to be developed in accordance with the landscape design guidelines outlined in Section 9.0 of the City of Barrie's Urban Design Manual. Landscape plans shall include, but not limited to:

- Existing site conditions
- Proposed landscape areas and treatment (hardscape/softscape)
- Proposed planting
- Fencing plan
- Site furniture and lighting
- Amenity space details (note that amenity spaces are exclusive of tree preservation areas and landscape strips)
- Garbage loading areas and associated screening/enclosures
- Snow loading areas
- Pedestrian circulation

All landscape submissions are to adhere to the Parks Planning's Electronic Document Standards for Landscape Submissions (see attached).

6) Landscape Cost Estimate

The Landscape Consultant shall prepare and provide an itemized cost estimate for the supply and installation of all landscape works (in both PDF and Excel file formats). The cost estimate is to separate internal works LC values and external works LC values, including a standard 10% contingency to be included in the final total summary.

Should you have any questions, please feel free to contact me via e-mail at aaron.mills@barrie.ca or via phone at 705-739-4220 x4342.

Sincerely,

Aaron Mills, *OALA, CSLA*
Landscape Architectural Planner
Development Services – Parks Planning

CC: Kevin Bradley, Manager of Parks Planning, Development Services
William McGregor, Parks Planning, Development Services

Electronic Documents Standards for Landscape Submissions

Development Services Department
Parks Planning

The following Electronic Documents Standards for Landscape Submissions are required for all landscape related drawings and reports. This resource promotes quality and consistency of landscape submissions for review by Parks Planning staff. The following is a list of expectations and requirements for landscape related submissions drawings and reports:

FILE FORMAT

All electronically submitted drawings shall be vector or text PDF file types. Supporting documents and reports may be submitted as Microsoft Word Document (DOC/DOCX), Microsoft Excel Document (XLS/XLSX), PDF, or related file types.

PDFs must meet the following requirements:

- All file securities are to be removed (unlocked) so the document is editable
- File layers are to be flattened/removed
- Use of the following standard paper sizes for all submissions:
  - Letter Size (8.5 by 11 inches) – Required for reports
  - Tabloid Size (11 by 17 inches) – Acceptable for report attachments
  - ARCH D (24 by 36 inches) – Required for drawings
- Drawings are to be plotted to scale

The following will not be accepted:

- ZIP Files
- Raster Files (Such as jpg/jpeg/png/gif, etc.)
- Raster PDFs (PDFs printed to image-only)
- Hardcopy plotted drawing sets
- Drawing sets that have been scanned and formatted as a PDF

LANDSCAPE DRAWING FORMAT & COMPONENTS

All Landscape and Preservation drawing submissions must meet the following requirements:

- ☐ ARCH D (24 by 36 inches) paper size
- ☐ Plotted in black and white or greyscale* – *Required for technical drawings.*
  **Note: Reports and drawing elements such as conceptual plans/diagrams, photographs and visualizations may utilize colour.*
- ☐ Contain all necessary information required to perform a comprehensive review
  (as per Section 4.1.6. of the Site Plan Application Manual)
- ☐ Include a title block with, but not limited to, the following information:
  - Location/Key map
  - General Notes
  - Legend
  - Revision Block
  - Block area for a professional stamp
  - Block area for City Acceptance *(50mm x 50mm)*
  - Consultant name and contact information
  - Client name
  - All measurements to be in millimeters
  - Project name
  - Project legal description
  - Project municipal address
  - Project city reference number
    (for site plan and/or subdivision)
  - Visual scale bar
  - Numeric scale
  - Date
  - Drawing Number
- ☐ Use the following drawing number conventions:
  - EX-# - Existing Conditions
  - L-# - Landscape Plan
  - LP-# - SWMF Pond Landscape Plan
  - LF-# - Fencing Plan
  - LD-# - Detail Sheet
  - TP-# - Tree Preservation

QUALIFICATIONS / PROFESSIONAL STAMPS

- Tree Preservation Plans and supporting documents must be signed and stamped by a qualified Landscape Architect or Registered Professional Forester as per By-law 2014-115, Schedule 'A'. Documents submitted by other professionals, such as arborists, will not be accepted as standalone documents.
- All drawing submissions must contain the required specified professional stamp. Only the final submission plans require the stamp to be signed.

CITY STANDARDS ASSOCIATED WITH LANDSCAPE REQUIREMENTS

Prior to submittal, it is recommended that the following reference documents be reviewed to verify the subject proposal's conformance to City standards associated with landscape requirements:

- City of Barrie Standard Details (Engineering Standards, Policies & Guidelines)
- City of Barrie Site Plan Application Manual
- City of Barrie Urban Design Manual
- City of Barrie Intensification Area Urban Design Guidelines
- City of Barrie Storm Drainage and Stormwater Management Policies and Design Guidelines
- City of Barrie Tree Protection Manual

The above-mentioned reference documents can be found on the City of Barrie's official website www.barrie.ca.

DOCUMENTS SUBMISSION

- Notification to Parks Planning staff should be provided via email when drawings are uploaded to APLI.

- All Documents and Drawings are to be submitted through the City's online APLI portal. (https://eservices.barrie.ca/apli/Default.aspx). Consultants may register for a City Login either as an individual or company through APLI. Please provide the project number, login information and an email from the owner/applicant providing permission to access the APLI portal after which staff will grant file access.

- Please note that City staff may not upload or download from file sharing websites, such as Dropbox, WeTransfer, or similar platforms.

- A Landowner Authorization or Letter of Understanding for the intent to remove or cause harm is required to accompany all Tree Preservation and Landscape Plans where the scope of works impact boundary trees and/or trees on adjacent properties. The authorization must accompany the initial submission package to be deemed as complete. The Landowner Authorization must contain but not be limited to the following:

    - Full Name and Address of both parties including phone numbers and email
    - The document is to be signed and dated by both parties
    - Description of terms and/or conditions such scope of removals, pruning site works, impacts, outcomes, mitigation measures or other site-specific terms of the agreement as they relate to the trees in question.

- Parks Planning Staff will upload all review comments/redline mark ups and accepted drawings back to APLI. It is up to the Owner/Applicant or their Consultants responsibility to download files accordingly.

Lake Simcoe Region conservation authority

www.LSRCA.on.ca

PLANNING ACT APPLICATION - PRE-CONSULTATION

Date: Feb 21, 2023
Planner: Emma Dias
Contact #: 905.895.1281 ext 247
Email: e.dias@lsrca.on.ca

Address: 1012 Yonge St, City of Barrie **APID:** 402914

Type of Proposal (Please Highlight):

Official Plan Amendment	Site Plan Approval	Consent
Zoning By-law Amendment	Plan of Subdivision or Condominium	Minor Variance

Description of Proposal:

9 storey mixed use building with a townhouse block and condominium buildings with 1,110 residential units (79,.557 sq. m. GFA) and 1,167.3 sq. m. commercial.

Is the site within an area governed by Ontario Regulation 179/06? (Please Highlight)

YES (Permit Required) NO

Regulated Components (Please list):

Required Report / Study	Corresponding Planning Act Application					
	Official Plan Amendment	Zoning By-law Amendment	Site Plan Approval	Plan of Subdivision or Condominium	Consent	Minor Variance
Proposed Amendment Documents (OPA/ZBA)						
Planning Justification Report prepared by a qualified professional (inclusive of Provincial Plan Conformity including LSPP)						
Environmental Impact Study / Natural Heritage Evaluation						
Ecological Offsetting Strategy						
Rare, Threatened and Endangered Species Analysis						
Tree Inventory & Preservation Plan / Arborist Report						
Watercourse / Shoreline Protection, Enhancement and Restoration Plans						
Coastal Engineering Study						
Vegetation Protection, Enhancement and Restoration Plans						
Edge Management Plan						
Landscape Plan						
Site Plan / Draft Plan/R Plan			X			
Top of Bank Demarcation Mapping						
Floodplain Analysis						
Meander Belt Analysis						
Geotechnical / Soils Report			X			
Master Drainage Plan						
Slope Stability / Erosion Assessment						
Topographic Survey prepared by an OLS						
Hydrogeological Analysis including a Water Balance			X			
Phosphorus Budget			X			
Functional Servicing Report						
Stormwater Management Report			X			
Erosion and Sediment Control Plan			X			
Grading and Drainage Plan			X			
LSRCA Review Fee			X			

Comments:
The LSRCA acknowledges that the associated Official Plan and Zoning By-law Amendment applications are currently under review. The previously provided engineering comments will need to be addressed prior to moving on to the detailed design submission.

This scale of development will meet the definition of 'Major Development' as per the Lake Simcoe Protection Plan (LSPP). Therefore, a Stormwater Management Report, inclusive of a phosphorus budget, and water balance assessment, will be required to satisfy Designated Policy 4.8 (LSPP) and be completed in accordance with the LSRCA Technical Guidelines for Stormwater Management submissions: https://www.lsrca.on.ca/Shared%20Documents/Technical-Guidelines-for-Stormwater-Management-Submissions.pdf. The application will also be subject to the Lake Simcoe Phosphorus Offsetting Policy (LSPOP): https://www.lsrca.on.ca/watershed-health/phosphorus.

The subject property is located within a Significant Groundwater Recharge Area (SGRA) and Ecologically Significant Groundwater Recharge Area (ESGRA), therefore, a Hydrogeological Analysis inclusive of a post- to pre- water balance assessment is required to satisfy Designated Policy 6.40 (LSPP). This Analysis is to be completed in accordance with the LSRCA Hydrogeological Guidelines for Land Development Applications: https://www.lsrca.on.ca/Shared%20Documents/permits/hydrogeological%20_guidelines.pdf?pdf=Hydrogeological-Guidelines. The application will also be subject to the Water Balance Recharge Policy: https://www.lsrca.on.ca/Shared%20Documents/lspp-water-budget-policy.pdf.

The Applicant is required to provide completed and signed technical checklists (attached) as part of their submissions to the LSRCA.

PLEASE NOTE:
Properly developed technical studies, prepared in accordance with applicable technical guidelines, will support timely review by the LSRCA. It is expected that technical submissions by the Applicant will meet good practice and industry standards to minimize resubmissions and avoid unnecessary delay. These comments should only be considered valid for a period of 12 months.

LSRCA Hydrogeological Submission Acknowledgement

I, Name:_____, Credentials:_____(i.e. P.Geo, or exempted P.Eng. as determined within the *Professional Geoscientists Act of Ontario*), confirm that I am a professional familiar with applicable documents, guidelines and criteria pertaining to groundwater management and that the submission entitled:

Report Name:_____, with associated Drawings: _____has been reviewed by me and addresses the key components in the check list included below.

I acknowledge that hydrogeological sign-off or sign-off from another discipline pertaining to this submission or a portion of this submission does not constitute a permit from LSRCA. A permit will be required for all works within an LSRCA Regulated Area in accordance with Ontario Regulation 179/06 and additional information may be required as part of the permit process.

I acknowledge that an incomplete submission will result in processing delays and may be returned and/or additional information may be requested.

Signature:_____Printed Name:_____

Name of Consulting Firm:_____

Date:_____(mm/dd/yy)

LSRCA Hydrogeological Submission Checklist

The following checklist refers to the requirements when submitting a detailed design submission. These same requirements apply to functional design submissions as well, with the exception of the detailed design drawings. The functional design needs to provide sufficient detail to demonstrate the proposed development concept will be capable of meeting the hydrogeological requirements at the detailed design stage.

For items that have been included, please fill in the report section and report page along with appendix location or drawings pertaining to each item. For items not included, check “No” or “N/A” (Not Applicable) for each item. If “No” or “N/A” are checked, please provide an explanation in the note section of why the criteria do not apply in a particular instance. Please note that the submission may be deemed incomplete and that additional consultation with LSRCA may be required prior to submission acceptance.

The checklist below refers to requirements for every development type, therefore the **LSRCA Hydrogeological Submission Guidelines (2013)** should be referred to for specific study requirements for your type of Planning Act application. For example, the study scope may be reduced for single lot residential applications. Please contact LSRCA to scope study requirements prior to undertaking work.

Yes			No	N/A	Item	Comment
Report Section	Report Page	Drawing/ Appendix				
					Pre-submission consultation with LSRCA has been completed as recommended in the Hydrogeological Assessment Submission Guidelines (2013).	
					The hydrogeological report has been prepared as a **standalone document**. (i.e., all references, calculations and drawings, Thornthwaite-Mather water balance assessment, are included within the document).	
					A **Hard Copy** of all reports and all drawings (folded individually to 8.5" x 11" size) has been submitted for LSRCA review.	
					Geological Characterization as per Section 3.1	
					Test pits/Boreholes as per Section 3.1.6 (Required for detailed design)	
					Monitoring Wells as per Section 3.1.7 (Preliminary data required for functional design)	
					Private Well Survey as per Section 3.1.8	
					Characterization of the local hydrostratigraphy/hydrogeology as per Section 3.1.9	
					Description of Surface Water Features and Functions as per Section 3.1.10	
					Water Quality as per Section 3.1.12	
					D-5-5 Water Supply (private servicing only) as per Section 3.1.13	
					Groundwater Levels as per Section 3.2.1 (Preliminary data required for functional design)	

Yes			No	N/A	Item	Comment
Report Section	Report Page	Drawing/ Appendix				
					Pumping Tests as per Section 3.2.2	
					Groundwater Discharge (Baseflow) as per Section 3.2.3	
					Pre- and Post-Development Water Balance Assessment as per Section 3.2.4	
					D-5-4 (Onsite Sewage Systems only) as per Section 3.2.6	
					Infiltration/recharge mitigation plan as per Section 3.3	
					In-situ infiltration testing as per Section 3.3	
					Low impact development design calculations	

Submission/Resubmission Requirements:

1. A completed response matrix which includes a detailed response outlining how each of the comments above have been addressed with reference to applicable reports/drawings (i.e. specific sections/pages/details or tab identifiers).
2. The response matrix is to also include a summary of any additional changes to the design (i.e. in addition to those not identified in the detailed response to comments, and includes changes to reports, drawings, details, facility design, etc.).
3. All drawings are to be folded (8.5 x 11).
4. Reports and engineering drawings/details are to be signed and sealed by a Professional Geoscientist of Professional Engineer as appropriate.
5. Reports are to include a digital copy of applicable models on a Data CD or USB Thumb Drive.
6. All submissions/reports are to include applicable technical components which achieve the minimum requirements outlined in the LSRCA Technical Guidelines for Stormwater Management Submissions, September 2016.

LSRCA Engineering Submission Acknowledgement

I, Name:_____, Credentials:_____(i.e. P.Eng., C.E.T.), confirm that I am a professional familiar with applicable documents, guidelines and criteria pertaining to stormwater management, erosion / sediment controls and natural hazards in the province of Ontario and that the submission entitled Report Name:_____, with associated drawings Drawings: _____, has been reviewed by me and addresses the key components in the checklist included below.

I acknowledge that engineering sign-off or sign-off from another discipline pertaining to this submission or a portion of this submission does not constitute a permit from LSRCA. A permit will be required for all works within an LSRCA Regulated Area in accordance with Ontario Regulation 179/06 and additional information may be required as part of the permit process.

I acknowledge that an incomplete submission will result in processing delays and may be returned or rejected at the discretion of the Municipality in consultation with the LSRCA and/or additional information may be requested.

Signature:_____Printed Name:_____

Name of Consulting Firm:_____

Date:_____(mm/dd/yy)

LSRCA Engineering Submission Checklist

The following checklist refers to the requirements when submitting a detailed stormwater management submission. These same requirements apply to functional servicing reports (FSRs) as well, with the exception of the detailed design drawings. The FSR needs to provide sufficient detail to demonstrate the proposed development concept will be capable of meeting the stormwater management requirements at the detailed design stage.

For items that have been included in the submission, please fill in the report section and report page along with appendix location or drawings pertaining to each item in the checklist below.

For items not included, check “No” or “N/A (Not Applicable)” for each item in the checklist below. If “No” or “N/A” are checked, please provide an explanation of why the criteria do not apply in a particular instance and note that the submission may be deemed incomplete and that additional consultation with LSRCA will likely be required prior to submission acceptance. The sections noted in this check list refer to those contained within the **LSRCA Technical Guidelines for Stormwater Management Submissions**:

Yes			No	N/A	Item	Comment
Report Section	Report Page	Drawing/ Appendix				
					Pre-submission consultation with LSRCA has been completed as per Section 2.1.1.	
					The SWM report has been prepared as per Section 2.1.6 as a **standalone document** (i.e. all references, calculations and modelling are included within the document or a referenced appendix).	
					A **Digital Copy** of all reports and all drawings has been submitted for LSRCA review via a digital submission link.	
					Stormwater Quantity **Peak Flow Control** as per Section 3.2.1.	
					Stormwater Quantity **Volume Control** as per Section 3.2.4.	
					Safe conveyance of stormwater to a **sufficient outlet** as per Sections 3.2.2 / 3.2.3.	
					Stormwater Quality Control **(80% TSS removal/Enhanced Level Treatment/Level 1 Treatment)** as per Section 3.3.1.	
					Stormwater Quality Control **(Phosphorus Removal)** as per Section 3.3.2 and as outlined in the Lake Simcoe Protection Plan.	
					Stormwater Quality Control **(Other Pollutants)** as per Sections 3.3.3 – 3.3.7	
					Stream **Erosion Control** as per Section 3.4.	
					A **Water Balance / Groundwater** analysis as per Section 4.0.	
					The Lake Simcoe Phosphorus Offsetting Policy (LSPOP) including a **Phosphorous Budget** completed for the site using the MOE PTool or STEP's LID TTT as per Section 3.3.2	

Yes			No	N/A	Item	Comment
Report Section	Report Page	Drawing/ Appendix				
					Natural Hazards including floodplain (hydraulics, hydrology, mapping and cut / fill balance if applicable.)	
					SWM Modelling (hydrology and hydraulics) including digital files and all supporting SWM **calculations**.	
					Erosion and Sediment Control as per Section 5.0. (Drawings to be provided at the detailed design stage)	
					The general requirements, as per **Appendix A** of the LSRCA Technical Guidelines for SWM Submissions. Please note that this Appendix is not an exhaustive list and that additional site-specific requirements may apply.	

Submission/Resubmission Requirements:

7. A completed response matrix which includes a detailed response outlining how each of the comments above have been addressed with reference to applicable reports/drawings (i.e. specific sections/pages/details or tab identifiers).
8. The response matrix is to also include a summary of any additional changes to the design (i.e. in addition to those not identified in the detailed response to comments, and includes changes to reports, drawings, details, facility design, etc.).
9. Reports and engineering drawings/details are to be signed and sealed by a Professional Engineer.
10. Reports are to include a digital copy of applicable models within the submission link or on a Data CD or USB Thumb Drive.
11. All submissions/reports are to include applicable technical components which achieve the minimum requirements outlined in the LSRCA Technical Guidelines for Stormwater Management Submissions, March 2022.

Important Notes and References:

- Please contact the LSRCA to scope any required Environmental Impact Study or Natural Heritage Evaluation
- The stormwater management submission is required to be prepared in accordance with "LSRCA Technical Guidelines for SWM Submissions": https://www.lsrca.on.ca/Shared%20Documents/Technical-Guidelines-for-Stormwater-Management-Submissions.pdf
- Submissions are to be in accordance with the LSRCA Ontario Regulation 179/06 Implementation Guidelines: https://www.lsrca.on.ca/Shared%20Documents/permits/2021-Regulation-Implementation-Guidelines.pdf
- The hydrogeological analysis is required to be prepared in accordance with "Hydrogeological Assessment Submissions: Conservation Authority Guidelines for Development Applications": https://www.lsrca.on.ca/Shared%20Documents/permits/hydrogeological%20_guidelines.pdf?pdf=Hydrogeological-Guidelines
- Where the LSPOP applies, submissions are to be in accordance with the LSPOP found here: https://www.lsrca.on.ca/Shared%20Documents/Phosphorus_Offsetting_Policy.pdf
- Low Impact Development Treatment Train Tool can be found here: https://www.lsrca.on.ca/Pages/LIDTTTool.aspx
- LSRCA Review Fees can be found here: https://www.lsrca.on.ca/permits/permit-fees

FILE: D28-002-2023
"1012 Yonge St"

MEMORANDUM

TO: Andrew Gameiro, Planner

FROM: Lee Roberts, Risk Management Inspector

Cc: Katie Thompson, Risk Management Official

DATE: **February 16, 2023**

SUBJECT: **D28-002-2023**
Pre-Consultation – Site Plan
1012 Yonge Street, Barrie, Ontario

This memorandum responds to the submission of D28-002-2023, 1012 Yonge St. The following documents have been reviewed regarding Environmental Risk Management Requirements:

- 01-11-23 - Concept Plan
- 17-684 Cover Letter
- IMG_9851
- Owner Authorization - Property Owner Consent Form
- Pre-Consultation-Request_Site-Plan-Control
- S19013-Crown Communities-Barrie- Re-Issued for ZBA -Sept 7 2022 Compressed

Upon reviewing the above documents, it has been determined that the subject property is located within a Significant Groundwater Recharge Area, and a Highly Vulnerable Aquifer.

The following conditions have been provided to address Environmental Risk Management requirements necessary for Site Plan submission:

1. A Comment Response Matrix is required addressing all comments while noting specific drawings and reports.

2. Building supports are not permitted to be constructed within the municipal supply aquifer. Site plan drawings will need to clearly note proposed elevations of foundation supports. This information could impact the height of the building based on design concept.

3. Deep drilling and/or construction activities are not permitted to occur without formal consultation with the City. Any works proposed to enter or extend beyond

Aquitard C1 as noted on Appendix A requires consultation with the Environmental Risk Management Branch. This includes deep drilling required to file a Record of Site Condition, and deep construction activities (piles, caissons, excavations, underground parking etc.). The works are required to be completed in accordance with the Deep Drilling Terms of Reference to ensure a plan is in place to address risk to the municipal drinking water supply aquifer and off-site contaminant migration.

4. **Site design shall consider that permanent dewatering is prohibited.** This includes the application of sump pumps to dewater basements.

5. The applicant is required to provide the following information to screen for Environmental Risk Management study requirements at or before Site Plan Application.

    a. The below noted depths shall be marked on a profile/cross sectional view drawing at Site Plan:

        i. Maximum Depth of Excavation (masl or m below current grade) ie. foundations, servicing & all site activity

        ii. Maximum Depth of Foundation (masl or m below current grade) ie. piles, caissons, etc.

        iii. Percentage of site to be developed

    b. Foundation depth may impact Site Plan submission and approval requirements, it is recommended that the above-mentioned depths are provided prior to Site Plan. The depth may trigger a foundation design plan be submitted.

6. A hydrogeological study is required for the site demonstrating stabilized water levels as well as seasonal high and seasonal low water table elevations. Depending on the development type, a scoped study may be adequate. The requirement for a contaminant management plan and/or foundation plan will be determined based on risk management screening and the findings from the Hydrogeological study. All reports are to be prepared in accordance with the Terms of Reference and may be subject to third party review at the applicant's expense.

    a. The hydrogeological study may require detailed risk management plans within the Mitigation Measures section of the report including a contaminant management, monitoring and mitigation plan and a temporary dewatering management plan demonstrating there will be not impact to the Municipal Supply Aquifer.

    b. A foundation plan may be required to be submitted for review, including expected ultimate foundation depths (footings, piles, caissons etc.) and proposed techniques. This foundation plan may be reviewed by a third party at the applicant's expense in conjunction with contamination plan mentioned above and subject to additional site plan approval conditions.

7. Please see Appendix A for information taken from the City of Barrie's Groundwater Management Strategy. Information provided in a Geotechnical / Hydrogeological report will be used to validate site specific conditions.

8. Based on the future zoning/land use of the property (Mixed Use) and the vulnerable area (SGRA, HVA), infiltration of paved surface runoff **Is Permitted With Conditions**. Infiltration of rooftop runoff and vegetated surfaces is always permitted.

    a. A spill management plan and spill response material is recommended for any infiltration LID proposed on the property. The spill management plan should detail how to access, clean and maintain each unit in the event of a spill into the device.

9. Site grading shall reduce ponding and lots shall be graded away from building entrances in such a way that major drainage pathways do not cross heavily used areas of the parking lot.

10. Sidewalk and walkway design shall consider plow routes as to not impair snow removal.

11. **Proposed snow storage location(s) shall be marked on the Site Plan Drawings.** The selection of snow storage pile locations shall be optimized to reduce melt water refreezing and creating hazardous conditions. Priority shall be given to locating snow storage piles along downgradient edges of the parking lot as to direct runoff to a pervious surface. Alternatively:

    a. If meltwater runoff is directed towards an impervious surface, it shall be directed away from high traffic areas and into catch basins. Catch basins or other stormwater collection design features shall be laid out directly downgradient from snow storage areas such that the distance meltwater travels before being removed from the lot's surface is minimized. Meltwater collected by catch basins or other stormwater collection design features downstream from snow storage piles shall be routed through a MTD designed in accordance with Technical Bulletin PS-2019-03 Stormwater Pre-Treatment. A copy of the bulletin can be obtained by using the link below. PS-2019-03 Tech Bulletin - MTD Filtration.pdf (barrie.ca). **MTD locations are to be marked on Site Plan Drawings.**

12. **Downspout and/or Roof Drain and Leader locations shall be marked on the Site Plan Drawings.** The location of downspouts shall prioritize directing downspouts and/or roof drains and leaders to pervious surfaces. Alternatively:

    a. If downspouts are directed towards impervious surfaces, they shall be directed away from pedestrian pathways, vehicle thoroughfares and parking areas to reduce melt water refreezing and creating hazardous conditions.

13. After reviewing your application and the MECP wells record, it has been determined that there are three (3) potential wells located on the site. The applicant is required to maintain or decommission these wells in accordance with O.Reg. 903 and Ministry of the Environment, Conservation and Parks (MECP) standards to ensure the structural integrity of the wells and to prevent them from becoming a transport pathway for possible contamination.

14. A Construction Spill Management Plan shall be developed to mitigate the risk of a spill incident including communication and notification protocols.

    a. Any bulk fuel storage proposed on-site permanently (i.e back-up generators) requires the development of a Site Spill Management Plan prior to construction.

15. The applicant is to disclose the following:

    a. the type of business or industry intended to be established at the Site for further Site Plan submission screening.

    b. if this development proposes the use of geothermal energy.

Please note, any correspondence with the Environmental Risk Management branch should be directed to sourcewater@barrie.ca to ensure prompt response.

LR/kt

Appendix A – Anticipated Hydrogeological Conditions

Address of Development	1012 YONGE ST

The results below are being provided for informational purposes only and represent an estimate of the anticipated hydrogeological conditions on site based on best available data to date. Site specific conditions should be confirmed by the applicant.

Depth to Water Table	19		m
Depth to Perched Water	18		m
Depth to Aquifer A1	8		m
Depth to Aquitard C1	26		m
Depth to Aquifer A2	61		m
Depth to Aquitard C2	68		m
Depth to Confined Municipal Aquifer	101		m
Depth to Uppermost Significant Aquifer	19		m
Cumulative Transmissivity to Base of A1	High	591	m^2/day
Cumulative Transmissivity to Base of A2	High	591	m^2/day
Cumulative Transmissivity to Base of A3	High	614	m^2/day

The City of Barrie, its employees or agents, will not be held liable for any loss, damage, or expenses incurred resulting from the use, interpretation or reliance of the information as presented.

BUSINESS PERFORMANCE & ENVIRONMENTAL SUSTAINABILITY

M E M O R A N D U M

TO: Andrew Gameiro, Planner

FILE: D28-YON "1012 Yonge St"

FROM: Derrick Jeffery, Senior Environmental Officer

C.C.: Bridget Mitchell, Supervisor of Environmental Compliance

DATE: **February 23, 2023**

SUBJECT: **D28-002-2023 – Pre-Consultation – 1012 Yonge Street**

Environmental Compliance has reviewed the documentation provided for 181 Burton Avenue (Site). In review of this documentation, Environmental Compliance offers the following comments and recommendations:

- Information regarding internal stormwater management and site drainage, erosion and sediment controls and sanitary connections must be provided for Environmental Compliance to provide full comments.

- Any OGS units that may be proposed are to be installed upgradient of stormwater management systems (i.e. underground stormwater storage systems, stormwater management facilities).

- Any OGS or LID units that may be proposed to be installed on the Site will require annual inspection and maintenance to be performed by the property owner, as recommended by the manufacturer, and as required under City of Barrie ***Sewer Use By-Law 2021-002,*** as amended.

- A property line maintenance hole and/or sampling port is required on the property for the purpose of collecting isolated discreet sanitary sewer samples from any industrial, commercial, or institutional premises in compliance with ***Sewer Use By-law 2021-002***. The sample location should exclude any residential wastewater discharge.

- Appropriate Erosion and Sediment Control devices are to be implemented and inspected on a regular basis, as well as, after every rain event and must be repaired as necessary to prevent any off-site environmental impacts ***(City of Barrie Site Alteration By-law 2014-100).***

- Fill received at and/or removed from the Site must be managed in accordance with a ***Fill Management Plan*** developed by a Qualified Person under ***City of Barrie Site Alteration By-law 2014-100***, notwithstanding all other applicable regulations. A copy of the ***Fill Management Plan*** must be submitted to the City.

- In the event excess fill is to be imported and/or removed from the Site, a ***Fill Management Plan*** is required confirming that the fill quantity and quality is acceptable for the designated receiving site. Confirmatory sample results are required demonstrating that the fill quality meets the standards set out in the ***Soil, Groundwater and Sediment Standards*** referenced in ***Ontario Regulation 153/04*** with respect to all contaminants in the fill and **Ontario Regulation 406/19 On-site and Excess Soil Management**, as amended.

- A Discharge Agreement must be obtained from the City prior to any temporary construction dewatering discharge (as per ***Sewer Use By-law 2021-002***). Please submit a completed *Discharge Agreement Application* to Environmental Compliance at least six weeks prior to discharge.

- Please note, **permanent dewatering to the storm and sanitary sewer shall not be permitted** in accordance with the City's Drinking Water Protection Policy.

Please note, any correspondence with the Environmental Compliance branch should be directed to enviro.siteplans@barrie.ca to ensure prompt response.

Derrick Jeffery

Derrick Jeffery
Senior Environmental Officer

Business Performance and Environmental Sustainability
Environmental Sustainability - Site Plan Comments

To: Andrew Gameiro

From: Richard Stephens,
Waste Reduction Coordinator

Date: February 24th, 2023

Re: D28-002-2023 1012 Yonge Street Pre-consultation Application

Municipally Provided Waste Collection Comments

The Environmental Sustainability Branch of Business Performance and Environmental Sustainability has reviewed the Pre-consultation Application for D28-002-2023 1012 Yonge Street.

Environmental Sustainability offers the following comments and recommendations (Refer to option 2 and 3):

Option 1 -Single Family Municipal Curbside Collection Services

Curbside Collection Services are afforded to Residential Units defined as a dwelling unit usually containing cooking, eating, living, sleeping and sanitary facilities, used or intended to be used by one or more persons permitted by law that is:

a) a single-detached residence
b) a semi-detached residence
c) A unit in a duplex, triplex, four-plex or five-plex
d) a unit in an apartment building, condominium complex, townhouse complex, co-op complex or similar residential complex containing five (5) or fewer dwelling units
e) a second suite
f) does not include Boarding, Lodging and Rooming houses.

- The Owner of the Eligible Property must place Collectable Waste (included garbage, recycling and organics) to the approved Collection Point in an accessible location not hidden from view as close as possible to the edge of the roadway without obstructing the roadway or sidewalk or interfering with road maintenance operations including but not limited to winter snow removal or street sweeping.
- The Owner of the Eligible Property shall only set out Collectable Waste for Curbside Collection at an approved Collection Point abutting the geographical boundaries of the property where the Collectable Waste has been generated.
- Collection vehicles will not back down roadways and the collector will not cross the street for waste collection additionally the roadway must be designed to include a turnaround area for the collection vehicles.

Municipal Laneways

In order to ensure eligibility for municipal waste collection services the municipal lane must be designed to accommodate large waste collection vehicles and have the required widths, turning radius, overhead clearance, means of access and means of egress required for the waste collection vehicles.

To help ensure eligibility for municipal waste collection services the following criteria must be met:

- Laneway must be constructed as a two (2) way street, allowing collection vehicles to safely collect waste material from both sides of the laneway
- Laneway entrances/turns must meet the minimum turning requirement of 13 meters
- The Laneway must be kept free of snow and other materials
- There must be safe unobstructed access during waste collection

Special Consideration:

The following Multi-residential properties/units may be eligible for single family municipal curbside collection services:

- Townhouse Units that possess a dedicated driveway accessed directly off a municipal roadway are eligible to participate in single family municipal curbside collection services provided:
  - the entire multi-residential property is designed to meet requirements for municipal waste collection services
  - the townhouse units utilizing single family municipal curbside collection services do not participate in multi-residential collection services at the property

  Townhouse units that possess a dedicated driveway only accessible from an internal private roadway are not eligible for curbside collection services

- Multi-residential properties containing six (6) to ten (10) residential dwelling units
  - Waste Collection shall be carried out at a designated Collection Point defined in the City's Waste Management By-law as identified on a site plan and approved by the Designated Municipal Official.

Collection: In such cases, collectable waste would be placed out for Curbside Collection at an approved Collection Point abutting the geographical boundaries of the property where the Collectable Waste has been generated in accordance with the City's Waste Management By-law and curbside collection schedule.

Option 2 - Municipally Provided Multi-Residential Collection Services

Multi-Residential Property means any building/complex that contains six (6) or more residential dwelling units, and does not include buildings that provide central dining facilities.

Requirements are subject to change.

Requirement #1:
Under the Municipally Provided Front End Bin program, multi-residential development must make provisions for an internal or external waste enclosure designed to store waste according to each collection type/waste stream (Council Motion 15-G-223):

i. a front end garbage bin with a capacity of one cubic yard per ten (10) residential units (1 compacted yard is equal to three (3) loose yards):

- The City provides regular front end bins for use at eligible multi-residential developments

- The City **does not** provide compactor bins or any specialised equipment required to move or store the material e.g. cart caddies, tractors, tri-sorters, compactors.

ii. rollout recycling carts, one 95 gallon cart for every seven residential (7) units:

- The City operates a dual stream recycling collection service collected via containers carts (blue) and paper carts (grey)
- The City provides the required number of carts for use at eligible multi-residential developments
- 50% of the required carts should be for containers and 50% should be for paper

iii. **rollout organics carts, one 120 litre cart for every twenty (20) residential units:**

- The City provides the required number of carts for use at eligible multi-residential developments

Approximate Dimensions of Waste Collection Containers

The dimensions are provided to assist with space requirements. Collection frequency, number, and size of waste containers to be determined by the City.

Front End Bins:

- 2-3yd^3 Height: 1.22m Width: 2.03m Depth: 1.12m (available with castors)
- 4yd^3 Height: 1.22m Width: 2.03m Depth: 1.37m (available with castors)
- 6yd^3 Height: 1.52m Width: 2.03m Depth: 1.68m (not available with castors)
- 8yd^3 Height: 2.03m Width: 2.03m Depth: 1.63m (not available with castors)

95 Gallon Recycling Carts:

- Height: 1.15m Width: .73m Depth: .86m

35 Gallon Organics Carts

- Height: .96m Width: .47m96 Depth: .62m

Comments:

Requirement #2:
Internal and external waste enclosures require that the recycling and organics carts as well as any front end bin(s) used for garbage are rolled out and placed in loading area suitable for collection that has been approved by the City of Barrie and the Collection Contractor on a designated collection day;

- Collection/loading area must be relatively flat (+/- 2% grade) and if applicable, must be certified that it is designed and constructed to support a minimum of 35 tonnes (the weight of a fully loaded Waste truck).

- Collection/loading area shall include the length of the truck (approximately 12 metres), plus the length of the loading area as determined by the number of Waste receptacles required

- A minimum of 18 metres straight head-on approach to the Collection/loading area is required.

- If the 18 metres head-on approach is not achievable, the Collection/loading area must be designed in such a way as to allow a collection vehicle to enter the site, collect the Waste and exit without the need to backup more than 18 metres (from front tire to front tire) and shall not back onto a Municipal Road. A turnaround area allowing for a three-point turn of not more than one

truck length or a drive through access route are acceptable options for accommodating this requirement, to the satisfaction of the City.

- The collection/loading area and access route must be kept clear of snow and ice so as not to pose a danger to the collection vehicle or property during collection.

- The collection/loading area for rollout recycling and organics cart collection must be at grade and have sufficient space to accommodate all recycling receptacles and organic receptacles set out for collection.

- The Waste collection vehicle drivers are not required to leave the collection vehicle for Front End collection and the collection/loading area should not require the jockeying of Front End containers by the driver

Comments:

Requirement #3
The proposed location for internal or external waste enclosures must be located in a centralized location accessible to all residents/occupants and cannot hinder residents/occupants from participating in Recycling and Organics diversion programs;

Comments:

Requirement #4:
The complex must be designed to accommodate large waste collection vehicles and have the required widths, turning radius, overhead clearance, means of access and means of egress required for the waste collection vehicles, the site plan must demonstrate that there will be safe unobstructed access to the waste collection/loading areas;

Waste collection vehicles require 5m of vertical clearance throughout the vehicle access route, 7m of vertical and 6m wide clearance in and around the waste collection/loading areas.

Internal private roadways must be designed to permit continuous collection without reversing to access waste collection/loading areas. Where the requirement for continuous collection cannot be met, the private roadway must be designed for the waste collection vehicle to turn around with a minimum turning radius of 13 meters;

Waste Collection Vehicle Approximate Dimensions

The dimensions are provided to assist with access requirements, size and type of collection vehicle are subject to change.

Side Loading Recycling Collection Truck (collects 95-gallon carts):

- Length – 11.5m
- Width – 2.6m (does not include side loading mechanism)
- Height – 4m (additional vertical clearance required to service 95-gallon carts)
- Wheelbase – 6.12m

Front End Lift Garbage Collection Truck (collected 2-8yd bins):

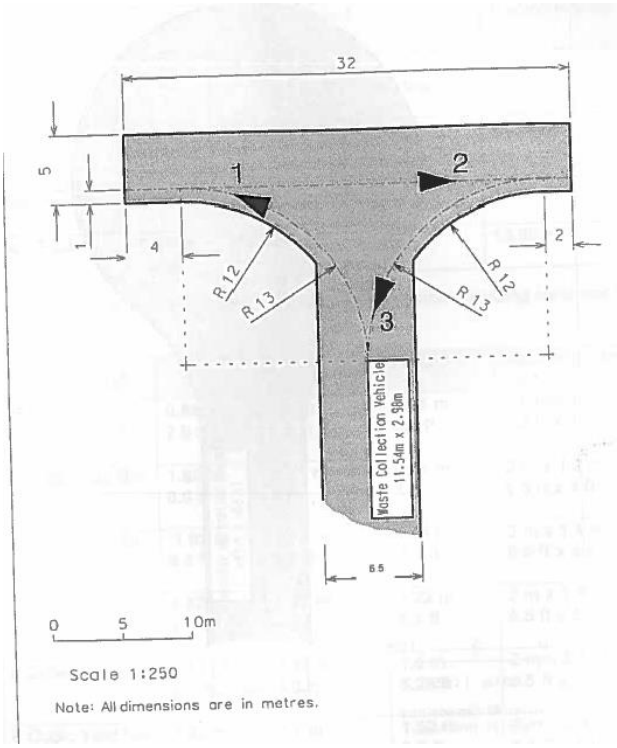
- Length – 11m (does not include forks)
- Width – 2.6m
- Height – 4.1m (additional vertical clearance required to service front end bin)

- Wheelbase – 5.33m

Read Loading Organics Collection Truck (collects 35-gallon carts):

- Dimensions for this vehicle are like the front-end lift truck without the overhead clearance requirement.

Dimensions for "T" Turnaround



Comments:

Requirement #5:
The site plan must demonstrate that residential and commercial waste (mixed use) will not be combined in the same containers to ensure eligibility for the multi-residential front end bin garbage service. Internal and/or external waste enclosures must be designed and built to provide segregated areas for each sector to ensure commercial operators do not have access to the residential bins. This may require a separate enclosure for both the commercial and residential waste;

Comments:

Requirement #6:
Develop and Submit a Waste Management Overlay Plan
A Waste Management Overlay Plan summarizes all of the requirements outlined above (Requirements 1-5) and highlights the waste management components for the design of the building.

This includes showing where the waste storage enclosures (internal/external) and collection/loading areas will be located, including truck ingress and egress. The overlay plan shall be included with the Site Plan Approval Applications.

This plan should show the functional design of waste handling and loading areas including the following:
• Location of doorway access to the waste storage enclosures;
• Size, capacity and function of waste storage enclosures (internal/external) and collection/loading areas;
• Location and dimensions (including vertical clearance) of the waste collection/loading areas; and
• Location, dimensions, door sizes, maneuvering and turning radii of the vehicle access routes to the waste collection/loading areas.

The overlay plan should demonstrate that the developer has addressed all design requirements, provide a clear overview of how the design provides for effective waste storage, collection, loading services and addresses the City's goals and objectives for waste management in multi-residential properties.

Please Note:
Developments that do not meet the above requirements will not be eligible for any municipal waste collection services including recycling and organics programs and will require the Property Owner/Property Management Company to pay for waste collection services at their own expense.

Once the building has been completed and occupancy has reached 70% the City shall conduct a final site visit to determine eligibility for the property to receive municipal waste collection services.

Option 3 – Industrial, Commercial and Institutional Waste Collection Services

Industrial, Commercial, and Institutional Waste means Waste originating from an Industrial, Commercial, or Institutional establishment used for the purpose of including but not limited to retail, manufacturing/industrial, service, entertainment, recreation, offices, church, schools, clinics, hospitals, and nursing homes.

Industrial, Commercial, and Institutional (ICI) properties are not eligible for the Municipally Provided Front End Bin Program. The property would be required to pay for waste collection services through a private collection contract

The property may be eligible to utilize regular curbside collection services, waste would be placed out to the nearest municipal curb in accordance with the City's curbside collection schedule. Service levels vary between commercial and residential curbside collection, please refer to the City of Barrie website for more information.

Change of Law Notice (Applicable to Options 1, 2 & 3)

On October 19, 2020, the Ontario Ministry of Environment, Conservation and Parks introduced a draft regulation under the Resource Recovery and Circular Economy Act, 2016 that will make producers responsible for blue box programs' operation, including collection, as part of the Province's full producer responsibility framework.

Subject to the filing of the new regulation and amendments, the City of Barrie cannot confirm that it will be the recycling service provider for this development upon the completion of the City of Barrie's Blue Box program transition, anticipated to occur in 2024.

THE CORPORATION OF THE CITY OF BARRIE

Building Services Pre-Con Review Comments

To: Andrew Gameiro **Date:** Friday, February 24, 2023

From: Jarrett Vanderpost **Phone:** (705) 739-4220, Ext. 4539

Email: jarrett.vanderpost@barrie.ca

Project Information: D28-002-2023, 1012 Yonge St

Building Services has reviewed the pre-con submission and have the following comments.

1. At site plan submission, locate fire department connections, hydrants, and dimension fire route to the principal entries. Locate the CACF rooms to the satisfaction of BFES. Fire route shall comply with OBC 3.2.5.
2. Structural engineer shall confirm the parking garage has been designed to support loads from BFES apparatus. – See BFES comments for details.
3. Site servicing drawings shall be submitted for review at site plan submission.
4. Barrier free is applicable to the proposed buildings. At site plan submission identify all barrier free entries, dimension the exterior barrier free path of travel, locate level areas at entries, locate tactile attention indicators and curb ramps. Locate on architectural site plan and coordinate with grading plan.
5. Building clearances from above ground electrical conductors shall comply with OBC 3.1.19.1.
6. Provide a completed OBC Data Matrix for each building at site plan submission.

Details to consider prior to permit submission.

1. Geotechnical evaluation and report shall be provided at building permit submission.
2. Spatial separation will be reviewed under the building permit.
3. Barrier free suites shall account for a minimum 15% of the suites proposed. 3.8.2.1.(5) & (7)
4. OBC 3.2.6. and SB-4 summary report will be required at permit submission for the applicable buildings.

Separate building permits required for;

- Each Building
- Shoring (if applicable)
- Retaining Walls – designated structures over 1m in height
- Site Servicing
- Pylon and Building Signage
- Demolition of structures more than 10m2

Approvals:

Metrolinx approval/clearance will be required prior to issuance of a Building Permit

A permit may be required from the **MOE** prior to issuance of building permit, applicant should confirm prior to permit submission.

Comments provided from the Building Department during the Site Plan process do not constitute an approval. The Building Department reserves the right to review all items during the Building Permit process.

Jarrett Vanderpost – Plans Examiner
Building Services Department

M E M O R A N D U M

TO: **Andrew Gameiro**

FROM: **David Lalonde**

DATE: **February 9 2023**

FILE: **D28-002-2023 First submission**

SUBJECT: Pre Consultation, 1012 Yonge Street, 1110 units.

- The Fire Route is over the underground parkng garage, confirmation from the structural engineer will be required per Barrrie Policy and Procedure #402 that the fire route is designed to accommodate BFES apparatus.
- If the development will proceed in phases, the phasing plan will require BFES approval,
- The municipal addressing scheme will need BFES approval.
- Further review of the fire flow calculations is required during this phase of the development: the coefficients and reductions factors selected in the FUS calculations must be consistant with the type of construction.
- The preferred fire dept response location for building A is the south main entrance, relocate the CACF in building A from the north entrance to the south entrance due to the proximity of the underground watermain and fire hydrant.

David Lalonde - Fire Prevention Officer
Barrie Fire & Emergency Service
705 728 3199 ext 3236

FILE: D28-002-2023

TRANSIT COMMENTS

TO: **Andrew Gameiro**

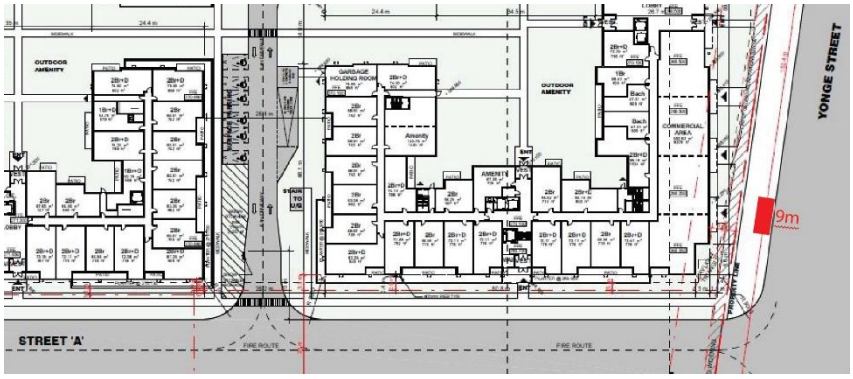
FROM: Robin Mennie, Transit Planner

CONTACT: Robin.Mennie@barrie.ca

DATE: **Tuesday, February 28, 2023**

SUBJECT: **Barrie Transit Comments**
1012 YONGE ST
Pre-Consultation Application

- Please provide a 9-metre curb to sidewalk concrete bus pad on Yonge Street at Street 'A' as indicated below:



  - If site is to abut planned community centre, please provide adequate pedestrian connections from the north of the site.

Finance – Development Charges Administration
Pre-Consultation Comments

To: Andrew Gameiro,
Planner

From: Nicole Myers,
Development Charges Administrator

Date: February 24, 2023

Re: D28-002-2023 (D30-005-2021) – 1012 Yonge Street - Hewitt's Secondary Plan Area – Phase 2

In response to your invitation to provide comments, please be advised of the following from the Development Charges Division of the Finance Department.

It is our understanding that the owner is proposing a 9-storey mixed use building on Yonge Street with a townhouse block and condominium buildings with 1,110 residential units (79,.557 sq. m. GFA) and 1,167.3 sq. m. commercial. The related OPA and ZBA applications are D30-005-2021.

Please be advised of the following development fees (amounts are subject to change):

1) In accordance with point 2, Development charge rates and the residential Cash in Lieu of Parkland rates have been **frozen with interest at a rate of 4.93% per annum for a maximum of two years** from the date of Zoning By-law Amendment being April 13, 2021 at the below rates. The frozen rates will **expire on April 13, 2023.** If the building permit is issued after the expiry date the current rates in effect will become applicable to this development.

   Frozen development charge rates are as follows:

   a. The frozen rate for the applicable development charges depends on the number of bedrooms in each apartment or stacked townhouse unit.
      i. Apartments 2+ bedrooms are charged $39,027 per unit
      ii. Apartments Bachelor and 1 Bedroom are charged $27,401 per unit

   b. The frozen rate per Townhouse dwelling unit is $55,161

   c. The frozen rate for retail space is $360.45 per square metre.

2) The following applies to complete Site Plan applications and Zoning By-law Amendment applications accepted by the City on/after January 1, 2020. The total amount of development charges is determined on:

   a) the day an application for an approval of development in a site plan control area;
   b) if clause a) does not apply, the day an application for an amendment to the zoning by-law was made.
   c) If neither clause a) nor clause b) applies, the day before the first building permit is issued.

   If a) or b) applies, the total development charge amounts and cash in lieu of parkland amounts will remain crystallized for a maximum of two years. The total crystallized

Date:	January 23rd 2023
Attention:	**Andrew Gameiro**
RE:	Request for Comments
File No.:	**D28-002-2023**
Related Files:	
Applicant:	Darren Vella
	Innovative Planning Solutions
Location	1012 YONGE ST



Alectra Utilities (Formerly PowerStream Inc.) Distribution Design Department

Site Plan and Building Permit Submission Guideline

Version 1.1: March 31, 2017

1. INTRODUCTION

The *Site Plan and Building Permit Submission Guideline* has been developed to assist the site plan applicant, consultant and contractor to achieve approval from Alectra Utilities for the integration of their proposed facility with respect to Alectra Utilities' existing Electrical Distribution System (EDS).

The information that follows will assist the applicant in achieving a satisfactory engineering submission, prior to submitting for a building permit or site application submission, whichever process is applicable.

The applicant shall pre-consult with Alectra Utilities Distribution Design to discuss the submission and to review the project characteristics.

2. ENGINEERING DRAWING REQUIREMENTS

The applicant is to supply one engineering drawing that explicitly depicts the proposed facilities within the property lines and how these facilities will be situated with respect to the existing Alectra Utilities EDS. This drawing shall be submitted as part of the site plan or building permit application to the City, which will be circulated to Alectra Utilities.

The following is a list of general requirements that are required with the submitted engineering drawing:

1. the drawing shall be drawn at 1:200, 1:250. 1:400 or 1:500 scales and supplied in PDF format.

2. all drawing components shall be legible.

3. north arrow shall be prominent.

4. benchmark reference data used shall be indicated.

5. a key plan indicating site location and nearest roads included is required.

6. the name of applicant is to be clearly indicated.

7. municipal planning file reference number and/or building permit number (ie DA-----) shall be clearly indicated.

8. the name, address, fax and phone numbers of the firm preparing the site plan is to be clearly indicated.

9. the site address is to be clearly indicated.

10. the drawing is to be stamped and sealed by the applicable licensed Ontario Professional Engineer.

11. all easements are to be shown.

The following is a list of site specific requirements that form the engineering drawing:

12. a plan view is to be shown that details the perimeter of the facilities to be constructed.

13. a profile view is to be shown that details the perimeter of the facilities to be constructed.

14. municipal roads – show full road allowance widths.

15. sidewalks and walkways are to be shown.

16. property lines (front, back and sides as applicable) to be clearly indicated.

17. driveways to be clearly indicated, and shall be setback a minimum clearance of 1.5 m from all above ground EDS components.

18. lights standards to be clearly indicated.

19. hydro poles and down guys to be clearly indicated.

20. telephone poles and down guys to be clearly indicated.

21. transformers, either pad-mounted or aerial to be clearly indicated and drawn to scale.

22. utility vaults, chambers, pedestals to be clearly indicated

23. trees, bushes and hedges to be clearly indicated.

24. existing structures to be demolished/and or maintained to be clearly indicated.

25. placement of all existing primary wires on the existing poles to be clearly indicated.

26. placement of all existing underground hydro wires are to be clearly indicated.

27. populating and placement of "x", "x_1", "x_2" (and X_n depending on the number required) dimensions that clearly identifies the new facilities and their proximity to existing primary lines and to the property lines. The distances shown must be in compliance with the latest version of relevant legislation (as a minimum, ESA, CSA, Building Code, Alectra Utilities Standards - partial samples are included in the attachments) and must be shown in both the plan and profile drawings. **These are required to explicitly depict the location of these relative to the proposed facilities on the submitted engineering drawing. If the proximity in any direction, as noted in the sample drawing is less than 4m, or if a grading change is within the 4m limit, then close scrutiny of the project will be initiated.**

28. providing details of proposed grade changes that will affect existing hydro poles, transformers or switchgear (all drawn to scale). This includes the cases where existing equipment may lay just outside the limits of the development, but will be affected by the boulevard grading on roads adjacent to the development. These should be clearly shown on the drawing with its own profile, showing both the existing and proposed grades.

See the sample drawing enclosed for greater clarity.

3. NOTES FOR PREPARATION OF THE SUBMISSION

1. All construction work shall be in accordance with the requirements of the Occupational Health & Safety Act.

2. The applicant shall retain the services of the consultants to resolve any conflict issues that may arise between the existing EDS and the proposed facilities.

3. For design purposes, all components of the existing Alectra Utilities EDS are to be accurately located and measured for proximity to proposed facilities. In accordance with Regulations, prior to commencing excavation, locates must be performed.

4. ADDITIONAL INFORMATION

1. In the event that that the drawing is not submitted or not adequately submitted, Alectra Utilities will not provide its approval to the Municipality, and the Site Plan and/or Building Permit Approval process will be delayed.

2. If the information provided by the applicant is found to be incorrect, and there are costs associated with remediation for code compliance, 100% of the costs shall be borne by the applicant.

3. Any costs associated with remediation of conflicts with Alectra Utilities existing services will be paid for by the Applicant, with the work being performed by Alectra Utilities. Full cost of the required funds must be provided prior to any design work commencing.

4. After approval of the drawing submission for the site plan application or building permit process, the applicant is required to contact Alectra Utilities' New Connections department to create a project reference number and to discuss the project servicing needs with Distribution Design. This includes, but is not limited to, submission of the Service Information Application Form, submission of full site plans, architectural drawings, full elevations, building electrical loads, required voltage and metering needs.

5. After the Consultant's design is complete for the electrical service to the property, and Alectra Utilities has approved the design, Alectra Utilities will supply the applicant with an Offer to Connect. As part of this process, any and all exclusive customer costs and work to resolve conflicts (noted in 3 above) must be completed.

ATTACHMENTS

3.1.19. Above Ground Electrical Conductors

3.1.19.1. Clearance to Buildings

(1) Where a *building* is to be *constructed* in proximity to existing above ground electrical conductors of a voltage not less than 2.5 kV and not more than 46 kV,
(a) the *building* shall not be located beneath the conductors, and
(b) the horizontal clearance between the *building* and the maximum conductor swing shall be not less than 3 m.

(2) Where a *building* is to be *constructed* in proximity to existing above ground electrical conductors of a voltage more than 46 kV, the clearances between the *building* and the conductors shall conform to the requirements of CAN/CSA-C22.3 No.1, "Overhead Systems".

75-312 Clearances of Conductors from Buildings

(1) An overhead primary line conductor shall be kept at least 3 m at maximum conductor swing measured horizontally from a building.

(2) Primary line conductors shall not be installed over buildings unless the installation is lawful under Rule 2-030, and work shall not begin until the plans and specifications for the work are approved in accordance with Rule 2-010.

(3) No building, mobile home or structure shall be placed or constructed within at least 3 m at maximum conductor swing measured horizontally from the nearest conductor of an overhead primary line.

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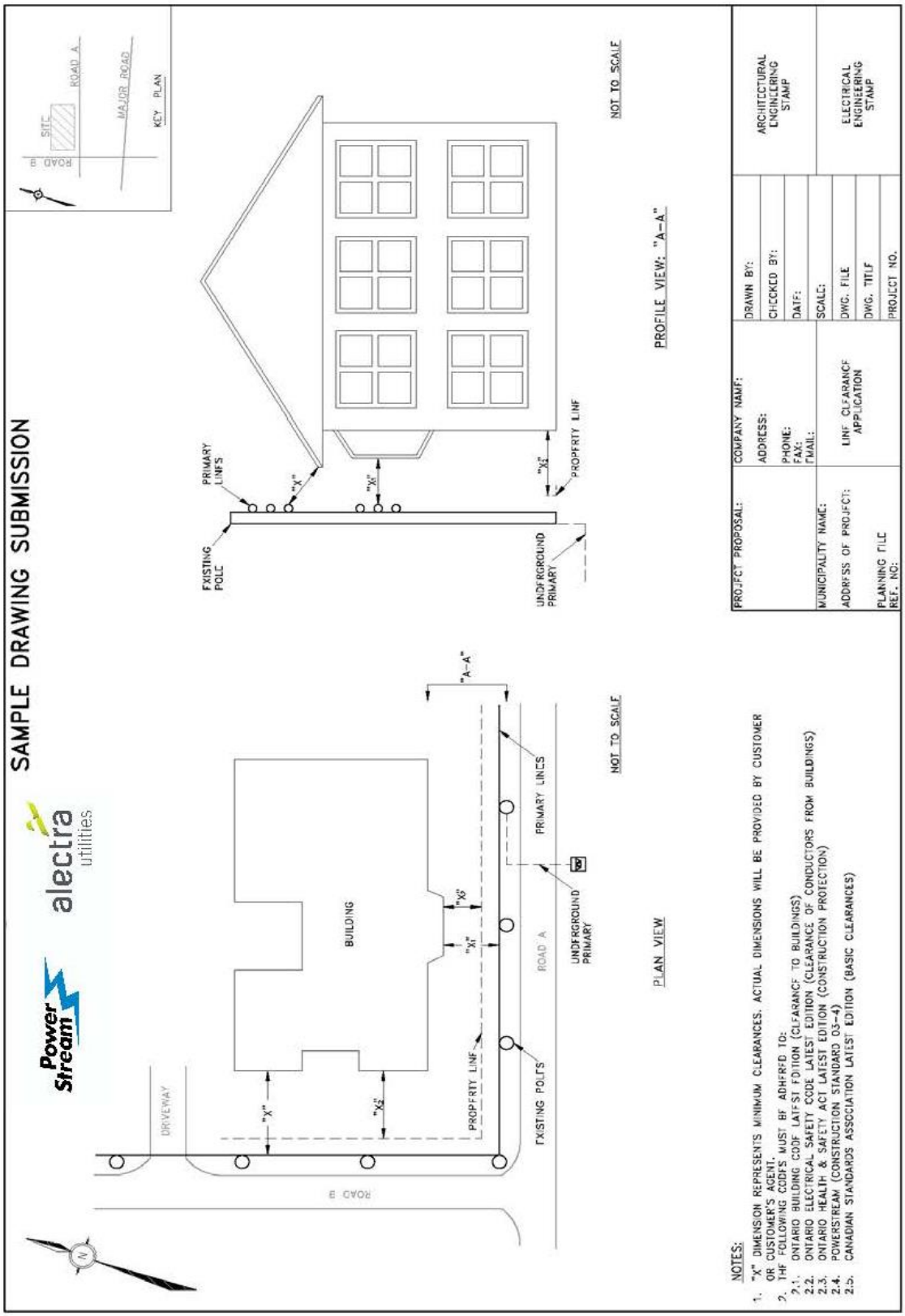
5.3 Vertical design clearances and separations

5.3.1 Vertical design clearances of wires and conductors above ground or rails

5.3.1.1 Basic clearances

The minimum vertical clearances of wires and conductors above ground or rails shall be as specified in Clause 5.2 and Tables 2 and 4, except that

(a) the clearances over roadways or other areas where vehicles are expected to be used are based on a combined vehicle and load height of 4.15 m. For provinces and territories that permit the combined vehicle and load height to exceed 4.15 m, the applicable clearance specified in Tables 2 and 4 shall be increased by the amount by which the allowable combined vehicle and load height exceeds 4.15 m;
(b) for altitudes exceeding 1000 m and where voltages exceed 50 kV, the clearances specified in Table 2 shall be increased by 1% for each 100 m increase in excess of 1000 m above mean sea level;
(c) because the rail level of a railway where ballast is used is not fixed, when any line that crosses a railway is constructed or altered, an additional 0.3 m of vertical clearance above rails shall be provided, unless a lesser amount is mutually agreed upon, to permit normal subsequent ballast adjustments without encroaching on the specified minimum clearance;
(d) when a line that crosses or will cross any public thoroughfare likely to be travelled by road vehicles is constructed or altered, an additional 0.225 m of vertical clearance shall be provided to permit the


SAMPLE DRAWING SUBMISSION
alectra utilities
Power Stream
KEY PLAN
SITE
ROAD A
MAJOR ROAD
ROAD B
PLAN VIEW
NOT TO SCALE
BUILDING
DRIVEWAY
ROAD B
ROAD A
"A-A"
"X"
"X1"
"X2"
PROPERTY LINE
EXISTING POLES
PRIMARY LINES
UNDERGROUND PRIMARY
PROFILE VIEW: "A-A"
NOT TO SCALE
PRIMARY LINES
"X"
"X1"
"X2"
PROPERTY LINE
EXISTING POLE
UNDERGROUND PRIMARY
NOTES:
1. "X" DIMENSION REPRESENTS MINIMUM CLEARANCES. ACTUAL DIMENSIONS WILL BE PROVIDED BY CUSTOMER OR CUSTOMER'S AGENT.
2. THE FOLLOWING CODES MUST BE ADHERED TO:
2.1. ONTARIO BUILDING CODE LATEST EDITION (CLEARANCE TO BUILDINGS)
2.2. ONTARIO ELECTRICAL SAFETY CODE LATEST EDITION (CLEARANCE OF CONDUCTORS FROM BUILDINGS)
2.3. ONTARIO HEALTH & SAFETY ACT LATEST EDITION (CONSTRUCTION PROTECTION)
2.4. POWERSTREAM (CONSTRUCTION STANDARD 03-4)
2.5. CANADIAN STANDARDS ASSOCIATION LATEST EDITION (BASIC CLEARANCES)
PROJECT PROPOSAL:
COMPANY NAME:
ADDRESS:
PHONE:
FAX:
EMAIL:
LINE CLEARANCE APPLICATION
MUNICIPALITY NAME:
ADDRESS OF PROJECT:
PLANNING FILE REF. NO:
DRAWN BY:
CHECKED BY:
DATE:
SCALE:
DWG. FILE
DWG. TITLE
PROJECT NO.
ARCHITECTURAL ENGINEERING STAMP
ELECTRICAL ENGINEERING STAMP

Introduction

The Building Plan Submission Guideline has been developed to assist the applicant in achieving approval from Alectra Utilities for their proposed facility with respect to Alectra Utilities' existing Electrical Distribution System (EDS).

Requirements

The applicant is required to survey the lands outside the property lines to accurately locate existing hydro facilities and to explicitly depict the location of these relative to the proposed facilities on the submitted engineering drawing. If the proximity in any direction, as noted in the sample drawing, is less than 4m, or if a grading change is within the 4m limit, then a submission to Alectra Utilities is required.

This is to be accomplished by providing the information below, on both the plan and profile views:

1. populating and placement of "x_1" and "x_2" dimensions that clearly identifies the new facilities and their proximity to existing primary lines and to the property lines. The distances shown must be in compliance with the latest version of relevant legislation (as a minimum, ESA, CSA, Building Code, Alectra Utilities Standards - a sample of each is included in the attachments) and must be shown in both the plan and profile drawings. This applies to both above and below ground facilities.

2. providing details of proposed grade changes that will affect existing hydro poles, transformers or switchgear, both within the property and adjacent to it. This includes the cases where existing equipment may lay just outside the limits of the development, but will be affected by the boulevard grading on roads adjacent to the development. These should be clearly shown on the drawing with its own profile, showing both the existing and proposed grades.

For design purposes, all components of the existing Alectra Utilities EDS are to be accurately located and measured for proximity to proposed facilities. In accordance with Regulations, prior to commencing excavation, locates must be performed.

In the event that the drawing is not submitted or not adequately submitted, Alectra Utilities will not provide its approval to the Municipality, and the Building Permit Approval process may be delayed.

Any costs associated with remediation of conflicts with Alectra Utilities existing services will be paid for by the Applicant, with the work being performed by Alectra Utilities. Full cost of the required funds must be provided prior to any design work commencing.

In the event where the applicant requires a new service, or changes to their existing service, after approval of the drawing submission for the building permit application process, the applicant is required to contact Alectra Utilities Customer Care to create a project file and to discuss the project servicing needs with Distribution Design. This includes, but is not limited to, submission of the Service Information Application Form, submission of full site plans, architectural drawings, full elevations, building loads, required voltage and metering needs.

After the design is complete for the electrical service to the property, Alectra Utilities will supply the applicant with an Offer to Connect. As part of this process, any and all exclusive customer costs and work to resolve conflicts must be completed.

alectra utilities
Discover the possibilities

COMMENTS:

☐	We have reviewed the Proposal and have no comments or objections to its approval.
☒	We have reviewed the proposal and have no objections to its approval, subject to the following comments (attached below).
☐	We are unable to respond within the allotted time for the following reasons (attached) you can expect our comments by _____.
☐	We have reviewed the proposal and have the following concerns (attached below)
☐	We have reviewed the proposal and our previous comments to the Town/City, dated _____, are still valid.

Alectra Utilities (formerly PowerStream) has received and reviewed the submitted plan proposal. This review, however, does not imply any approval of the project or plan.

The owner, or agent, of this proposed plan is required to contact Alectra and discuss all aspects of the above project. The standard electrical supply to Industrial, Commercial, Institutional and High-Rise Condominium projects is via a pad mounted transformer. The proposed transformer shall meet Alectra's Clearance Standards, the transformer must also be located within 3-4.5m of a parking area, driveway or hard surface for access by service vehicles. The access must be from within the customer's property, not from a local roadway or adjacent properties, and must provide adequate access for a line truck. Primary voltage duct bank standards* and the transformer base and grounding standards will be provided to the customer once the primary supply point(s) have been established by Alectra, and the customer's main service size has been established by their Consultant. *(see attachment 4)

All proposed billboards, signs, and other structures associated with the development must maintain minimum clearances to the existing overhead or underground electrical distribution system as specified by the applicable standards, codes and acts referenced.

The transformer precast base cannot be located over parking structures or over an underground parking garage. Where the transformer is to be situated on a graded slope, a notched-out area must be established for the transformer base to be installed, with adequate space to accommodate the grounding requirements and guard post/bollards if required.

Alectra will require one architectural site plan showing the proposed transformer location, one electrical site plan, and an electrical single-line drawing, both in hard copy (PDF file, P.Eng. approved version) and electronic AutoCAD (latest version). Additionally, a complete building elevation drawing (including subsurface excavations) is required to ensure the project is not in conflict with any existing overhead or underground components of the electrical distribution system. Alectra also requires a letter from the owner, or the agent, stating that the proposed building-to-

existing electrical distribution system clearances have been checked and are in compliance with the current requirements of the applicable standards, acts and codes referenced below.

In the event that the building commences construction, and the clearance between any component of the building structure and the adjacent existing overhead and underground electrical distribution system violates the Occupational Health and Safety Act, the customer will be responsible for 100% of the costs associated with Alectra making the work area safe. All construction work will be required to stop until the safe limits of approach can be established.

In the event the building is completed, and the clearance between the building and the adjacent existing overhead and underground electrical distribution system violates the any of applicable standards, acts or codes referenced, the customer will be responsible for 100% of Alectra's cost for any relocation work.

Once Alectra has received all proposed details and are satisfied with the design, Alectra will provide the customer with an *Offer to Connect* which will specify all the details and the responsibilities of each party. Once the Offer is signed and full payment received by Alectra, Alectra will start the final design and state and/or obtain the required approvals from the Local Municipality.

When the Customer is ready to submit a request for a new service, please proceed to Alectra Utilities web site and under "New Customer Set Up" select "Building a New Home or Commercial or Industrial Facility" the link has been provided below.

https://alectrautilities.com/make-service-request

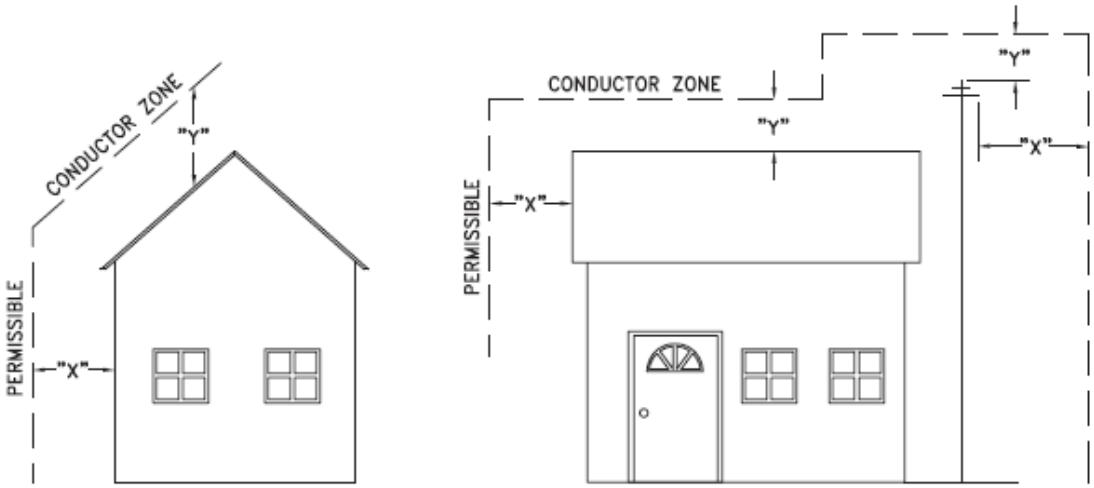
References:

- Ontario Electrical Safety Code, latest edition (Clearance of Conductors from Buildings), attached
- Ontario Health and Safety Act, latest edition (Construction Protection)
- Ontario Building Code, latest edition (Clearance to Buildings)
- PowerStream (Construction Standard 03-1, 03-4), attached
- Canadian Standards Association, latest edition (Basic Clearances)

Regards,

Mr. Stephen Cranley, C.E.T
Supervisor, Design – ICI & Layouts (North)
Phone: 1-877-963-6900 ext. 31297
E-mail: stephen.cranley@alectrautilities.com

Construction Standard 03–4



VOLTAGE	MINIMUM HORIZONTAL CLEARNACE UNDER MAXIMUM SWING CONDITIONS DIMENSION "X" (SEE NOTES 1, 3 & 4)	MINIMUM VERTICAL CLEARANCE UNDER MAXIMUM DESIGN SAG CONDITIONS DIMENSION "Y" (SEE NOTES 1, 2, 4 & 5)
0–600V AND NEUTRAL	100cm	250cm
4.16/2.4 TO 44kV	300cm	480cm

NOTES

1. UNDER NO CIRCUMSTANCES SHALL A CONDUCTOR BE PERMITTED TO PENETRATE THE ENVELOPE SHOWN BY THE DOTTED LINE.
2. THE VERTICAL CLEARANCES ARE UNDER CONDITIONS OF MAXIMUM DESIGN SAG.
3. THE HORIZONTAL CLEARANCES ARE UNDER CONDITIONS OF MAXIMUM SWING. WHERE THE CONDUCTOR SWING IS NOT KNOWN A HORIZONTAL CLEARANCE OF 480CM SHALL BE USED.
4. BUILDINGS THAT EXCEED 3 STOREYS OR 15M IN HEIGHT, THE MINIMUM HORIZONTAL CLEARANCE OF THE SECONDARY CONDUCTORS SHOULD BE INCREASED TO 300cm WHERE IT IS NECESSARY TO ALLOW FOR THE RAISING OF LADDERS BY LOCAL FIRE DEPARTMENTS.
5. IN SITUATIONS SUCH AS MULTI–LEVEL GARAGES, WHERE ROOFS ARE NORMALLY USED BY PERSONS AND VEHICLES, THE VERTICAL CLEARANCES OF POWERSTREAM STANDARD 03–1 SHALL APPLY.
6. DISTRIBUTION LINES CONSTRUCTED NEAR BUILDINGS SHALL BE BUILT TO AVOID OVERHANG WHEREVER POSSIBLE. WHERE LINES MUST BE CONSTRUCTED OVER OR ADJACENT TO BUILDINGS THE APPLICABLE HORIZONTAL AND VERTICAL CLEARANCES SHALL BE AT CONDITIONS OF MAXIMUM CONDUCTOR SWING AND MAXIMUM SAG. THE ABOVE CLEARANCES ARE DESIGNED TO PREVENT PERSONS ON OR IN BUILDINGS AS WELL AS EXTERNAL MACHINERY USED IN CONJUCTION WITH A BUILDING TO COME IN CONTACT WITH CONDUCTORS. EFFORTS SHOULD BE MADE TO INCREASE THESE CLEARANCES WHERE POSSIBLE.
7. ALL CLEARANCES ARE IN ACCORDANCE TO CSA C22.3 NO.1–06 (TABLE–9).

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX)
480cm	16'–0"
300cm	10'–0"
250cm	8'–4"
100cm	3'–4"

MINIMUM VERTICAL & HORIZONTAL CLEARANCES OF CONDUCTORS FROM BUILDINGS OR OTHER PERMANENT STRUCTURES (CONDUCTORS NOT ATTACHED TO BUILDINGS)

Certificate of Approval
This construction Standard meets the safety requirements of Section 4 of Regulation 22/04

Debbie Dadwani, P.Eng. — Name
2010-MAY-05 — Date
P.Eng. Approval By: *D. Dadwani*

ORIGINAL ISSUE DATE: 2010–MAY–05 REVISION NO: REVISION DATE:

P:\System Planning and Standards\Standard Design\PowerStream Standards\PowerStream Standards working folder\Section 3\3–4\DWG 03–4 R0 May 5, 2010.dwg, 5/5/2010 8:20:02 AM, Adobe PDF

75-706 Primary and secondary lines clearances

(1) The poles that support the phase conductor of a primary line shall be so located and of such height as to afford a clearance of 7 m measured vertically between the conductors under maximum sag conditions and the ground.

(2) Notwithstanding Subrule (1) for high voltage line installations where plans are submitted for examination to the inspection department, the clearances listed in Table 34 are acceptable.

(3) The primary line neutral shall be considered a secondary conductor and shall have the same minimum vertical clearance as specified in Subrule (4).

(4) Conductors of a secondary line shall have a minimum 6.1 m measured vertically between the conductors under maximum sag conditions and the ground.

(5) Notwithstanding Subrule (1) for high and low voltage line installations on public right of ways, for the purpose of roadway lighting systems or traffic control systems, CSA C22.3 No. 1, Overhead systems, or the Ontario Provincial Standards shall be permitted.

75-708 Clearances of conductors from buildings

(1) An overhead primary line conductor shall be kept at least 3 m at maximum conductor swing measured horizontally from a building.

(2) Primary line conductors shall not be installed over buildings unless the installation is lawful under Rule 2-030, and work shall not begin until the plans and specifications for the work are approved in accordance with Rule 2-010.

(3) No building, mobile home or structure shall be placed or constructed within at least 3 m at maximum conductor swing measured horizontally from the nearest conductor of an overhead primary line.

(4) Where the conductor swing is not known, a distance of 1.8 m shall be used.

(5) An overhead secondary line conductor shall be kept at least 1 m measured horizontally from any building except where necessary to connect to the electrical wiring of a building.

75-710 Clearances for other structures

(1) Notwithstanding Rule 36-110, conductors of a primary line shall

(a) not be located closer than 12 m measured horizontally from silos to the closest conductors, with the conductor at rest;

(b) not be located over wells from which pump rods may be lifted and come in contact with the conductors;

(c) have sufficient clearance from free-standing poles that support flood or area lighting, flagpoles, antennae, or other similar structures so as to permit the structure to fall in an arc, without touching the conductors at rest;

(d) not be located within 6 m, measured horizontally from wind-mills or similar structures to the closest conductor, with the conductor at rest; and

(e) have a minimum vertical clearance of 3.1 m above fencing at maximum sag.

(2) Conductors of a secondary line shall not be installed closer than 1 m measured horizontally from structures.

(3) The poles and equipment associated with a primary or secondary line shall be located and suitably protected so as to avoid the possibility of damage from contact with vehicles.

75-712 Tree trimming

(1) The owner of a private line shall provide clearance to the line from trees and other forms of woody growth in compliance with a code or standard under a rule or by-law of the supply authority concerning tree trimming.

(2) Where there is no applicable code or standard under a rule or by-law of the supply authority concerning tree trimming, all trees and woody growth adjacent to a line shall be trimmed so that minimum clearance to the nearest conductor horizontally at maximum conductor swing and vertically at a maximum sag shall be

(a) 1 m for secondary lines; and

(b) 4 m for primary lines.

Grounding and bonding

75-800 Grounding of equipment mounted on steel poles

(1) A steel pole shall be permitted to be used as the grounding electrode for equipment mounted on the pole where the steel pole is directly embedded in soil and the portion of the pole in contact with the soil is not coated with any non-metallic coating or covering and such an installation is in accordance with the manufacturer's recommendations.

(2) Where a pole is used as the ground electrode for the transformer, the transformer shall be bonded to the pole and the neutral in accordance with Specification 44 or 45.

Urban Design Issues

October, 2013

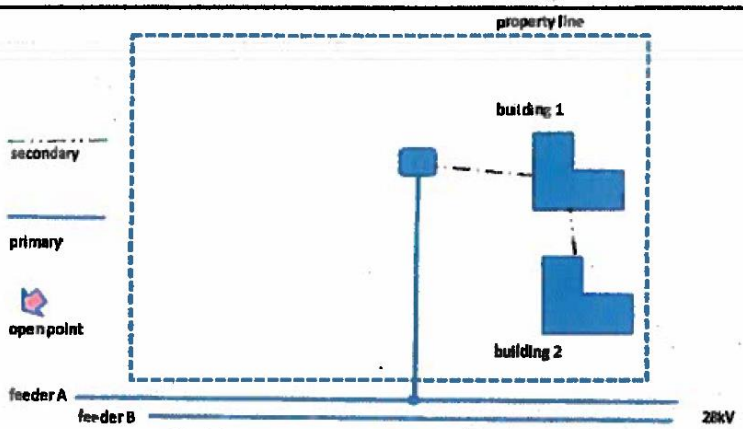


FIGURE 2: 2 BUILDING CONNECTION less than 1,000kVA

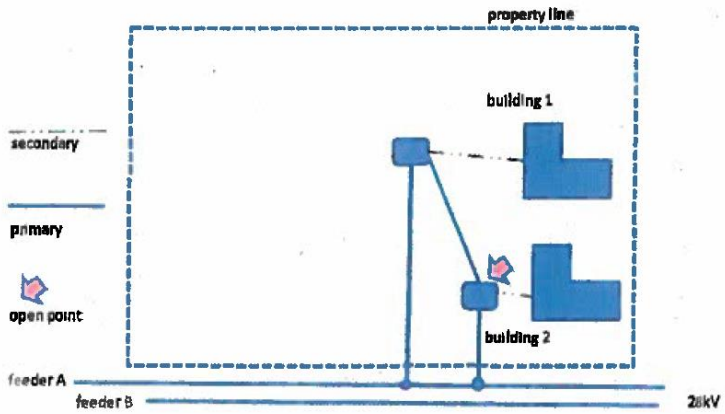


FIGURE 3: 2 BUILDING CONNECTION greater than 1,000kVA

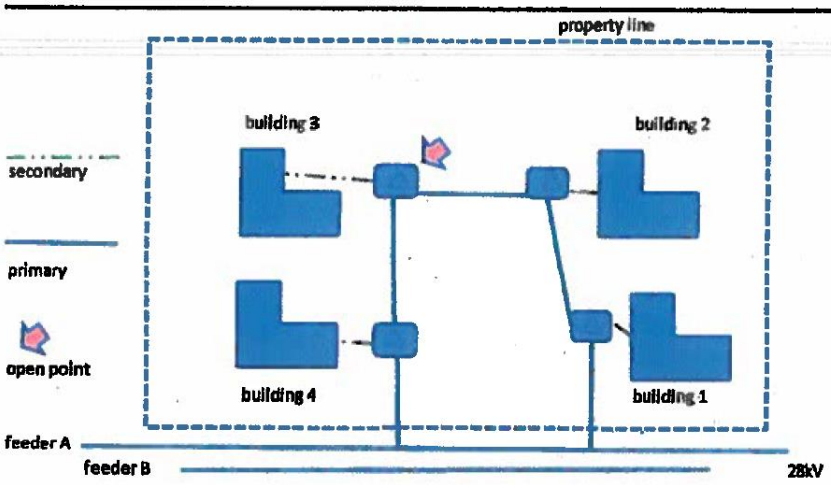


FIGURE 4: MULTI BUILDING CONNECTION greater than 1,000kVA

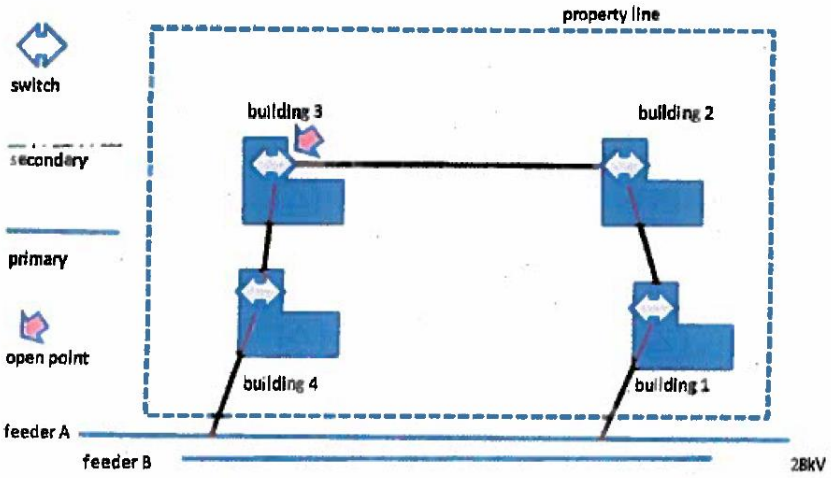


FIGURE 5: DRY TYPE TRANSFORMERS greater than 1,000kVA

(4) Underground consumer's service raceway entry into a building

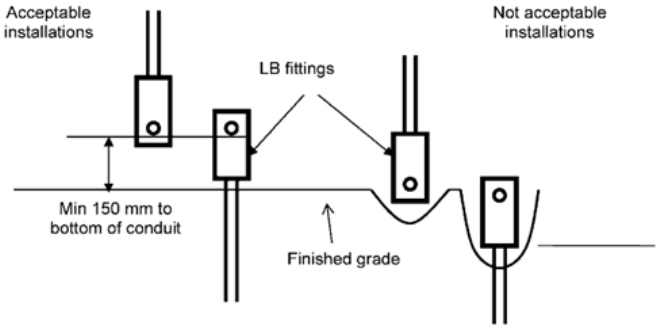
Subrule 6-300(3) requires that an underground consumer's service raceway enter a building above ground where practicable. If it is not practicable, then the raceway must be suitably drained or installed in such a way that moisture and gas will not enter the building.

The intent of the Subrule is to prevent water leaking into either the building or the electrical service equipment and causing damage.

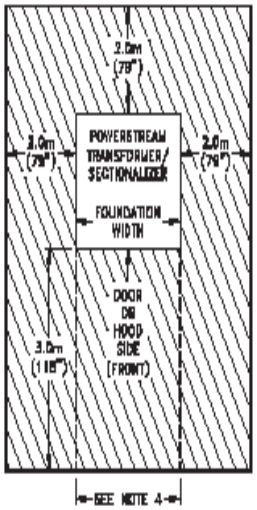
Questions have arisen as to how we determine "above ground" or "above grade".

Above ground or grade will be interpreted as any part of the building that is more than 150 mm above the finished grade. (See Figure B1)

Figure B1 – Interpretation of "above ground"



Construction Standard 17-140



NOTES:

1. FINAL GRADE WITHIN THE RESTRICTED OPERATIONAL CLEARANCE ZONE (SHOWN AS "HATCHED ZONES" ABOVE) MUST NOT BE ALTERED.
2. HATCHED ZONES AROUND THE APPARATUS AND IN FRONT OF ACCESS DOORS/HOODS TO REMAIN CLEAR OF ALL SHRUBS AND TREES. WHEN THE APPARATUS IS POSITIONED WITHIN THE HATCHED ZONE, THE ZONE WITHIN OR ABOVE MUST REMAIN CLEAR OF, INCLUDING BUT NOT LIMITED TO, BUILDINGS, STRUCTURES, FENCES OR OBSTRUCTIONS INCLUDING ANY LANDSCAPING FEATURES.
3. PREFERRED SURFACE COATING WITHIN THE HATCHED ZONES IS LAWN (SEEDED OR SOD) AND WITH PRIOR WRITTEN CONSENT OF POWERSTREAM GRAVEL AND/OR PAVED WITH ASPHALT OR PAVERS OR A CONCRETE FINISH MAY BE PERMITTED.
4. ACCESS TO ALL EQUIPMENT DOORS/HOODS MUST REMAIN PERMANENTLY CLEAR OF ALL OBSTRUCTIONS.

REFERENCES	
UNDERGROUND	SECTION 17

Certificate of Approval
This construction Standard meets the safety requirements of Section 4 of Regulation 22/04

Jim Cowie, P.Eng.	2011-JUN-28
Name	Date
P.Eng. Approved By:	Jim Cowie

PADMOUNT TRANSFORMER/SECTIONALIZER CLEARANCES

ORIGINAL ISSUE DATE: 2007-JAN-26 REVISION No: 02 REVISION DATE: 2011-JUN-28

development charge amount will be indexed and become payable at the time development charges are due. The indexing amount will accrue from the date of complete application.

The interest rate is determined using the lower of the City's 5 year moving average cost of capital (WACC) and the average prime rate + 1%. WACC is unique to each organization and considers both internal and external factors to evaluate the cost of delaying the receipt of funds. The City typically updates its WACC semi-annually or may do so at any other time should conditions so warrant. The current interest rate in effect is 5.18%. The applicable interest rate will ultimately be the rate in effect at the time of complete application.

Complete Application Date: April 13, 2021

Frozen Rate Expiry Date: April 13, 2023

As per Section 26.2(4) of the *Development Charges Act and Section 42(2.3) of the Planning Act* – Regarding: "More than one application"; If a development was the subject of more than one application (i.e. Zoning By-law Amendment Application or Site Plan Application), the later one is deemed to be the applicable application for the purpose of determining the date the Development Charge rate have been frozen and the applicable interest.

We expect that there will be a Site Plan Application and the frozen rates will be determined as of the date of Site Plan Application at the interest rate in effect on the date of Site Plan Application.

Development charges and cash in lieu of parkland fees that are not crystallized are subject to an annual inflationary adjustment on January 1st of each year.

3) Hard services (referred to internally as DC 1) would be paid at the time of execution of the subdivision/site plan agreement. All other development charges (referred to internally as DC 2 and DC 3) will be payable at building permit issuance.

4) To calculate the Development Charges payable at execution of the site plan agreement, the Finance Department requires the breakdown of number of bedrooms in each apartment dwelling unit.

5) Non-residential development charges are payable at building permit issuance.

6) Before DC credits are applied to any development, the applicable trustee shall provide written notice as to the distribution of such DC credits amongst the Owners within their applicable Secondary Plan Area.

7) Potential for deferral of development charge payments for any of the following types of development:

Deferral of Development Charge Payments

For Rental Housing that is Not Non-Profit Housing (minimum 4 units - all of which are intended for Rental use): DCs will be due in 6 equal annual payments plus interest commencing on the earlier of the date of the issuance of an occupancy permit or the date the building is first occupied. The person required to pay development charges is required to notify the City within 5 business days of the building first being occupied. Failure to notify the City will result in the development charge, including any interest payable becoming due and payable immediately.

Please note that the interest rate is determined using the lower of the City's 5 year moving average cost of capital (WACC) and the average prime rate + 1%. WACC is unique to each organization and considers both internal and external factors to evaluate the cost of delaying the receipt of funds. The City typically updates its WACC semi-annually or may do so at any other time should

conditions so warrant. The current interest rate in effect is 5.18%. The applicable interest rate will ultimately be the rate in effect at the time of complete application.

The total deferred Development Charges will be finalized and calculated at the rate in effect on the day that the 1st building permit is issued. If Development Charges were crystallized the crystalized rates will be indexed from the date of Site Plan Application or Zoning By-Law Amendment Application at the interest rate in effect on date of application. Installment dates and the interest rate applicable to the total deferred Development Charges (outlined above) will be established at the time of occupancy.

The deferral of Development Charge payments does not apply to Education Levies, Cash in Lieu of Parkland, non-residential development charges, or the Finance Administration Fees.

8) Education Levies will be calculated and collected at the time of issuance of the building permit. The current fee for non-residential use is $0.60 per sq. ft., and $4,283 per residential dwelling unit.

9) A total of $61,975 was received on December 20, 2018 in accordance with the Hewitt's Master Parkland Agreement for the total Cash in lieu of Parkland Shortfall for Crown (Barrie) Developments Ltd.

10) A Finance Administration fee will be collected at the time of issuance of the building permit at a fee of $82.50 per dwelling unit and $165.00 per non-residential building.

While every effort is made to provide accurate information, please be advised that the foregoing is an estimate only based on our understanding of the development, current By-laws, agreements, and rates in effect as of the date of these comments. Development Charges are subject to an annual inflationary adjustment on January 1st of each year.

Technical Meeting Required Reports Checklist

Site Plan Control Application – Pre-consultation

Meeting Date: Thursday March 2nd, 2023 Application Type: Site Plan Control

File Manager: Andrew Gameiro File Number(s): D28-002-2023

Site Address: 1012 Yonge Street, Barrie

Legend:

The letter **Y** indicates that the study or plan is required with submission
The letter **N** indicates that the study or plan is not currently required with submission

***Please Provide Digital Copy of Plans**

*** It is the applicant's responsibility to review the technical review comments to ensure that all requested studies/reports/plans have been submitted. In this regard, the applicant shall ensure that the study/report/plan includes the detail(s) requested by the City or applicable external agency.**

Y/N	REQUIREMENTS	NOTES
	PLANNING / DESIGN / SURVEY	
	Planning Justification Report (PJR)	
	Aggregate Potential Assessment and/or Aggregate License Compatibility Assessment	
	Affordable Housing Report	
	Archaeological Study/Assessment	
	Architectural/Cultural Heritage Report (built heritage and cultural heritage landscapes)	
	Heritage Impact Assessment/Evaluation	
	Odour/Dust/Nuisance Impact Analysis	
	Environmental Noise/Vibration Study/Report	
	Urban Design Report	
Y	Site Plan, Building Elevations, 3-D Renderings, Cross-sections, and materials board (virtual & physical samples)	Shall identify building materials and colour, and design features such as step-backs, angular planes, articulations, etc. A virtual and physical materials board shall be provided. Please identify foundation and excavation depths, as requested by the City's Risk Management Official (see comments). Please include an OBC Data Matrix (see Building Department's comments)
	Street Activation Plan	
	Wind Study	
	Shadow Study	
	Block/Context Plan	
	ENGINEERING	
	Noise Study	
Y	Pre-construction Survey (Tie Backs & Encroachments)	
Y	Water Service Supply/Demand Analysis	See Approvals – Engineering Comments

Y/N	REQUIREMENTS	NOTES
		Shall include calculations that determine required fire flows in accordance with the Fire Underwriters Survey (FUS).
	Functional Servicing Report	
Y	Construction Management and Transportation Plan	See Planning and Transportation Planning Comments
Y	Hoarding Details	See Planning and Transportation Planning Comments
Y	Crane Swing and Tie-back Plans	See Planning Comments. Shall identify the extent of the crane swing. Tie back plans shall identify tieback locations in relation to municipal and private infrastructure/services.
Y	Hydrogeological Study (incl. water balance)	See Approvals – Engineering, Risk Management Official and LSRCA Comments
Y	Geotechnical Report	See Approvals – Engineering Comments and LSRCA Comments
Y	Stormwater Management Report	See Approvals – Engineering Comments and LSRCA Comments
	Formal Design Brief for Site Alteration	
Y	Engineering Plans/Drawings and cost estimates	See Approvals – Engineering Comments and LSRCA Comments See the City's Site Plan Application and Urban Design Manual for details.
	Transportation Impact Study (TIS)	
	Parking Justification Study	
Y	Parking Plans	Shall be provided to identify all surface and underground parking spaces. Shall demonstrate conformance with the City's Zoning By-law.
Y	Pavement Marking & Signage Plan	See Transportation Planning Comments.
Y	Turning Template for Specialized Transit, incl. Waste Collection Vehicles	See Transportation Planning Comments.
Y	Electrical Site Plan & Photometric Plan	See Planning & Transportation Planning Comments
ENVIRONMENTAL		
	Agricultural Assessment	
	Coastal Engineering Studies along the Lake Simcoe Shoreline	
Y	Details on Garbage/Recycling Room and bin types/sizes ad Loading Areas (incl. turning template for waste collection vehicles)	See Waste Management Comments
Y	Spills Management Plan	Shall be in place prior to construction (if required). See attached comments from the City's Risk Management Official.
	Scoped Environmental Impact Study	
	Hazards Lands/Slope and Soil Stability Report	
	Endangered Species Survey (in accordance with the ESA)	
	Fisheries Impact Study	

Technical Meeting Required Reports Checklist

Site Plan Control Application – Pre-consultation

Y/N	REQUIREMENTS	NOTES
	Market Study	
	Streetscape Plan	
Y	Complete Landscape Submission including cost estimates	See Parks Planning Comments
Y	Tree Inventory, Assessment, Removals and Preservation Plan & Report	See Parks Planning Comments
	Certificate of Property Use (CPU)	
	A Site Risk Assessment	
Y	Phase I Environmental Site Assessment	Phase I required. Phase II may be required, depending the outcome of the Phase I.
Y	Phosphorous Budget	See LSRCA Comments
SOURCE WATER PROTECTION QUALITY AND QUANTITY RISKS		
Y	Completed Screening form for Source Water Protection for properties within Drinking Water Vulnerable Areas identified on Schedule “G” to the Official Plan (Source Water Information Form)	To be confirmed with Engineering/Risk Management Official
ADDITIONAL ITEMS / STUDIES		
Y	Topographic Survey of existing conditions	See Approvals – Engineering Comments
Y	LSRCA Review Fee	See LSRCA Comments. Shall be paid directly to the LSRCA at the time of submission.
NOTES		

It is important to note that the need for additional studies and plans may result during application review. If following the submission of your application, it is determined that material that is not identified in this checklist is required to achieve complete application status, in accordance with the Planning Act and Official Plan requirements, City of Barrie Planning staff will notify you of outstanding material required within the required 30 day period. Mandatory pre-consultation application will not shorten the City’s standard processing timelines, or guarantee that an application will be approved. It is intended to help educate and inform the applicant about submission requirements as well as municipal processes, policies, and key issues in advance of submitting a formal development application. This list is valid for one year following the above noted meeting date.

Appendix C:
Reduced Scale Architectural Plans

CROWN
COMMUNITIES



ARCHITECTURAL DRAWING LIST (PHASE 1)	
#	SHEET TITLE
A0.0	
A0.0	COVER SHEET, DRAWING LIST
A1.0	
A1.0	OBC MATRIX
A1.1	CONTEXT PLANS AND PROJECT STATISTICS
A1.2	SITE DETAILS
A2.0	
A2.0	PROJECT SURVEY
A4.0	
A4.0	OVERALL SITE PLAN
A4.1	SITE PLAN - PHASE 1
A4.2	LEVEL P1 FLOOR PLAN
A5.0	
A5.1	Block B - LEVEL 1 & 2 TO 3- FLOOR PLAN
A5.2	Block B - LEVEL 4 TO 5 & 6-FLOOR PLAN
A5.3	Block B - ROOF PLAN
A5.4	Block C - LEVEL 1 & 2 TO 3-FLOOR PLAN
A5.5	Block C - LEVEL 4 TO 5 & 6-FLOOR PLAN
A5.6	Block C - ROOF PLAN
A6.0	
A6.1	SECTIONS
A7.0	
A7.0	BLOCK B - NORTH & EAST ELEVATION
A7.1	BLOCK B - SOUTH & WEST ELEVATION
A7.2	BLOCK C - NORTH & EAST ELEVATION
A7.4	BLOCK C - SOUTH & WEST ELEVATION
A7.5	BLOCK B AND C - ENLARGED ELEVATION
A8.0	
A8.0	SUN/SHADOW STUDY - APRIL 21ST
A8.1	SUN/SHADOW STUDY - JUNE 21ST
A8.2	SUN/SHADOW STUDY - SEPTEMBER 21ST
A8.3	SUN/SHADOW STUDY - DECEMBER 21ST
A9.0	
A9.0	PERSPECTIVES 1
A9.1	MATERIAL BOARD

SITE PLAN APPROVAL APPLICATION FOR PROPOSED RESIDENTIAL DEVELOPMENT

1012 YONGE ST
BARRIE, ON

SRN ARCHITECTS

CLIENT
CROWN COMMUNITIES DEVELOPMENTS INC.
400 CREDITSTONE ROAD,
UNIT 37 CONCORD, ON
L4K 3Z3
905.761.7555
info@thecrowncommunities.com

ARCHITECT
SRN ARCHITECTS INC.
8395 JANE STREET, UNIT 203
CONCORD, ON
L4K 5Y2
905.417.5515
info@srnarchitects.com

PLANNER
IPS - INNOVATIVE PLANNING SOLUTIONS
647 WELHAM ROAD, UNIT 9A
BARRIE, ON
L4N 0B7
705.812.3281

LANDSCAPE ARCHITECT
MHBC LANDSCAPE ARCHITECTURE
7050 WESTON ROAD, SUITE 230
WOODBRIDGE, ON
L4L 8G7
705.761.5588

TRANSPORTATION ENGINEER
BA CONSULTING GROUP LTD.
95 ST. CLAIR AVENUE W.
SUITE 1000
TORONTO, ON
M4V 1N6
416.961.7110

CIVIL ENGINEER
R.J. BURNSIDE & ASSOCIATES LTD.
128 WELLINGTON ST. W.
SUITE 230
BARRIE, ON
L4N 8J6
705.797.4293

SURVEYOR
KRCMAR
1137 CENTRE STREET
SUITE 101
THORNHILL, ON
L4J 3M6
289.800.9507

WASTE MANAGEMENT
CINI-LITTLE INTERNATIONAL, INC.
2300 YONGE STREET
SUITE 1600
TORONTO, ON
M4P 1E4
416.480.9777

SITE LIGHTING
MCW CONSULTANTS LTD.
207 QUEENS QUAY W.
SUITE 615
TORONTO, ON
M5J 1A7
416.598.2920

ISSUED FOR SPA: AUGUST 22, 2024

OBC DATA MATRIX

FIRM NAME: SRN ARCHITECTS INC.
8395 JANE STREET, SUITE 202.
VAUGHAN, ONTARIO L4K 5Y2. 905-417-5515

NAME OF PROJECT: RESIDENTIAL DEVELOPMENT - **UNDERGROUND GARAGE**

OWNER: CROWN COMMUNITIES

ITEM	ONTARIO BUILDING CODE DATA MATRIX PART 3 OR PART 9	BUILDING CODE REFERENCES (REFERENCES ARE TO DIVISION B UNLESS NOTED [A] FOR DIVISION A OR [C] FOR DIVISION C.)	
1	**PROJECT DESCRIPTION:** ☒ NEW ☐ ALTERATION ☐ ADDITION ☐ CHANGE OF USE	☒ PART 3 - 1.1.2. [A] 1.1.2. [A]	☐ PART 9 1.1.2. [A] & 9.10.1.3.
2	**MAJOR OCCUPANCY(S)** GROUP F, DIVISION 3 - LOW HAZZARD INDUSTRIAL OCCUPANCIES	3.1.2.1 (1)	9.10.2.
3	**BUILDING AREA (SQ.M.)** EXISTING 0 SQ.M. NEW 15,865.00 SQ.M. (GROUP F3 - UNDERGROUND GARAGE)	1.4.1.2. [A]	1.4.1.2. [A]
4	**GROSS AREA (SQ.M.)** EXISTING 0 SQ.M. NEW UNDERGROUND GARAGE: 15,865.00 SQ.M.	1.4.1.2. [A]	1.4.1.2. [A]
5	**NUMBER OF STOREYS** ABOVE GRADE - BELOW GRADE 1	1.4.1.2. [A] & 3.2.1.1.	1.4.1.2. [A] & 9.10.4
6	**NUMBER OF STREETS/FIRE FIGHTER ACCESS** RAMP ACCESS/ NO OCCUPANCY IN U/G PARKING	3.2.2.10. & 3.2.5., 3.2.5.4. (1)	9.10.20.
7	**BUILDING CLASSIFICATION** GROUP F, DIVISION 3, 1 STOREY, SPRINKLERED (3.2.2.81.)	3.2.2.20-.83	9.10.2
8	**SPRINKLER SYSTEM PROPOSED** ☒ ENTIRE BUILDING ☐ SELECTED COMPARTMENTS ☐ SELECTED FLOOR AREAS ☐ BASEMENT ☐ IN LIEU OF ROOF RATING ☐ NOT REQUIRED	3.2.2.20-.83 3.2.1.5. 3.2.2.17. INDEX	9.10.8.2 INDEX
9	**STANDPIPE REQUIRED** YES ☒ NO ☐	3.2.9.	N/A
10	**FIRE ALARM REQUIRED** YES ☒ NO ☐	3.2.4.1.(2)	9.10.18.
11	**WATER SERVICE/SUPPLY IS ADEQUATE** YES ☒ NO ☐	3.2.5.7.	N/A
12	**HIGH BUILDING** YES ☐ NO ☒	3.2.6.	N/A
13	**CONSTRUCTION RESTRICTIONS** ☐ COMBUSTIBLE PERMITTED ☒ NON-COMBUSTIBLE REQUIRED ☐ BOTH **ACTUAL CONSTRUCTION** ☐ COMBUSTIBLE ☒ NON-COMBUSTIBLE ☐ BOTH	3.2.2.20-.83	9.10.6
14	**MEZZANINE(S) AREA SQ.M.** N/A	3.2.1.1.(3) TO 3.2.1.1.(8)	9.10.4.1.
15	**OCCUPANT LOAD BASED ON** **GROUP F3** ☒ SQ.M./PERSON ☐ DESIGN OF BUILDING 46.00 SQ.M./PERSON (AREA = 15,024.98 SQ.M.) = 345 PERSONS	3.1.17.	9.9.1.3.
16	**BARRIER FREE DESIGN** ☒ YES ☐ NO (EXPLAIN)	3.8.	9.5.2.
17	**HAZARDOUS SUBSTANCES** ☐ YES ☒ NO	3.3.1.2. & 3.3.1.19.	9.10.1.3.(4)
18	**REQUIRED FIRE RESISTANCE RATING (FRR)** (see below)	3.2.2.20-.83 3.2.1.4 3.2.2.43 3.3.5.6.	9.10.8. 9.10.9.
19	**SPATIAL SEPARATION - CONSTRUCTION OF EXTERIOR WALLS** LINIMITING DISTANCES FOR THE EXPOSING BUILDING FACES OF THE BUILDING IS NOT APPLICABLE FOR THIS BELOW GRADE PARKING LEVEL		
	SEPARATION BETWEEN OCCUPANCIES: GROUP F3 - GROUP C 1.5HR F.R.R REQUIRED **SEPARATION BETWEEN SUITES:** 1.0HR F.R.R. REQUIRED	3.1.3.1/3.3.1.1 3.3.5.6.(1)	
	PUBLIC CORRIDOR SEPARATION: NOT REQUIRED	3.3.1.4.(1)	
	TRAVEL DISTANCE: MAXIMUM = 25m MAXIMUM = 45m (if sprinklered)	3.3.1.5.(1)(d) 3.4.2.5.(1)(c)	
	EXIT CAPACITY: (see below)	3.4.3.2.(6) 3.4.3.2.(1)(a)	

HORIZONTAL ASSEMBLIES FRR (HOURS)	GROUP F3		LISTED DESIGN NO. OR DESCRIPTION (SB-2)
FLOORS	1.5HR		SEE WALL SCHEDULES
ROOF	1.5HR		SEE WALL SCHEDULES
MEZZANINE	N/A		SEE WALL SCHEDULES
FRR OF SUPPORTING MEMBERS	1.5HR		LISTED DESIGN NO. OR DESCRIPTION (SB-2)
FLOORS	1.5HR		SEE WALL SCHEDULES
ROOF	1.5HR		SEE WALL SCHEDULES
MEZZANINE			

FLOOR LEVEL	TOTAL EXIT CAPACITY	TOTAL OCCUPANT LOAD	SATISFACTORY EXIT CAPACITY?
UNDERGROUND PARKING FLOOR	1100	345	YES

1100mm STAIRS
1100mm CORRIDORS AND PASSAGEWAYS
DOORWAY CLEAR WIDTH = 860mm (34") MIN.

U/G PARKING OBC MATRIX 3 / A1.0

OBC DATA MATRIX

FIRM NAME: SRN ARCHITECTS INC.
8395 JANE STREET, SUITE 202.
VAUGHAN, ONTARIO L4K 5Y2. 905-417-5515

NAME OF PROJECT: RESIDENTIAL DEVELOPMENT - **BLOCK B**

OWNER: CROWN COMMUNITIES

ITEM	ONTARIO BUILDING CODE DATA MATRIX PART 3 OR PART 9	BUILDING CODE REFERENCES (REFERENCES ARE TO DIVISION B UNLESS NOTED [A] FOR DIVISION A OR [C] FOR DIVISION C.)	
1	**PROJECT DESCRIPTION:** ☒ NEW ☐ ALTERATION ☐ ADDITION ☐ CHANGE OF USE	☒ PART 3 - 1.1.2. [A] 1.1.2. [A]	☐ PART 9 1.1.2. [A] & 9.10.1.3.
2	**MAJOR OCCUPANCY(S)** GROUP C -RESIDENTIAL OCCUPANCY	3.1.2.1 (1)	9.10.2.
3	**BUILDING AREA (SQ.M.)** EXISTING 0 SQ.M. NEW 2810.33 SQ.M. (GROUP C - RESIDENTIAL ABOVE GROUND)	1.4.1.2. [A]	1.4.1.2. [A]
4	**GROSS AREA (SQ.M.)** EXISTING 0 SQ.M. NEW RESIDENTIAL GROUND FLR. 2,810.33 SQ.M. RESIDENTIAL 2ND & 3RD FLR. 2,816.59 SQ.M. RESIDENTIAL 4TH & 5TH FLR. 2,594.89 SQ.M. RESIDENTIAL SIXTH FLR. 895.02 SQ.M. RESIDENTIAL TOTAL: 14,528.31 SQ.M.	1.4.1.2. [A]	1.4.1.2. [A]
5	**NUMBER OF STOREYS** ABOVE GRADE 6 BELOW GRADE	1.4.1.2. [A] & 3.2.1.1.	1.4.1.2. [A] & 9.10.4
6	**NUMBER OF STREETS/FIRE FIGHTER ACCESS** 1 STREETS/3 STREET FIRE FIGHTER ACCESS	3.2.2.10. & 3.2.5., 3.2.5.4. (1)	9.10.20.
7	**BUILDING CLASSIFICATION** GROUP C, UP TO 6 STOREYS, SPRINKLERED, NONCOMBUSTIBLE (3.2.2.43.)	3.2.2.20-.83	9.10.2
8	**SPRINKLER SYSTEM PROPOSED** ☒ ENTIRE BUILDING ☐ SELECTED COMPARTMENTS ☐ SELECTED FLOOR AREAS ☐ BASEMENT ☐ IN LIEU OF ROOF RATING ☐ NOT REQUIRED	3.2.2.20-.83 3.2.1.5. 3.2.2.17. INDEX	9.10.8.2 INDEX
9	**STANDPIPE REQUIRED** YES ☒ NO ☐	3.2.9.	N/A
10	**FIRE ALARM REQUIRED** YES ☒ NO ☐	3.2.4.1.(2)	9.10.18.
11	**WATER SERVICE/SUPPLY IS ADEQUATE** YES ☒ NO ☐	3.2.5.7.	N/A
12	**HIGH BUILDING** YES ☐ NO ☒	3.2.6.	N/A
13	**CONSTRUCTION RESTRICTIONS** ☐ COMBUSTIBLE PERMITTED ☒ NON-COMBUSTIBLE REQUIRED ☐ BOTH **ACTUAL CONSTRUCTION** ☐ COMBUSTIBLE ☒ NON-COMBUSTIBLE ☐ BOTH	3.2.2.20-.83	9.10.6
14	**MEZZANINE(S) AREA SQ.M.** N/A	3.2.1.1.(3) TO 3.2.1.1.(8)	9.10.4.1.
15	**OCCUPANT LOAD BASED ON** **GROUP C** ☐ SQ.M./PERSON ☒ DESIGN OF BUILDING GROUND FL. 29 UNITS x 1 = 62 BEDROOMS X 2 PERSONS PER BEDROOM x 1 = 124 PERSONS SECOND & THIRD FL. 43 UNITS x 2 = 86 BEDROOMS X 2 PERSONS PER BEDROOM x 2 = 344 PERSONS FOURTH & FIFTH FL. 42 UNITS x 2 = 75 BEDROOMS X 2 PERSONS PER BEDROOM x 2 = 300 PERSONS SIXTH FL. 14 UNITS x 1 = 26 BEDROOMS X 2 PERSONS PER BEDROOM x 1 = 52 PERSONS 213 TOTAL UNITS 410 BEDROOMS TOTAL = 820 PERSONS GROUND FL. INDOOR AMENITY 347.4 SQ.M. = 150 PERSONS OUTDOOR AMENITY 190.0 SQ.M. = 60 PERSONS RESIDENTIAL TOTAL = 1030 PERSONS **(OUTDOOR AMENITY AREA: POSTED SIGN FOR NO MORE THAN 60 PERSONS)**	3.1.17.	9.9.1.3.
16	**BARRIER FREE DESIGN** ☒ YES ☐ NO (EXPLAIN)	3.8.	9.5.2.
17	**HAZARDOUS SUBSTANCES** ☐ YES ☒ NO	3.3.1.2. & 3.3.1.19.	9.10.1.3.(4)
18	**REQUIRED FIRE RESISTANCE RATING (FRR)** (see below)	3.2.2.20-.83 3.2.1.4 3.2.2.43 3.3.5.6.	9.10.8. 9.10.9.
19	**SPATIAL SEPARATION - CONSTRUCTION OF EXTERIOR WALLS** THE FOLLWOING IS A SUMMARY OF THE WORST-CASE SCENARIO LINIMITING DISTANCES FOR THE EXPOSING BUILDING FACES OF THE BUILDING (see below)	3.2.3.1 D 3.2.3.7	9.10.14
	SEPARATION BETWEEN OCCUPANCIES: GROUP F3 - GROUP C 1.5HR F.R.R REQUIRED GROUP A2 - GROUP C 1.0HR F.R.R REQUIRED **SEPARATION BETWEEN SUITES:** 1.0HR F.R.R. REQUIRED	3.1.3.1/3.3.1.1 3.3.5.6.(1)	
	PUBLIC CORRIDOR SEPARATION: NOT REQUIRED	3.3.1.4.(1)	
	TRAVEL DISTANCE: MAXIMUM = 25m MAXIMUM = 45m (if sprinklered)	3.3.1.5.(1)(d) 3.4.2.5.(1)(c)	
	EXIT CAPACITY: (see below)	3.4.3.2.(6) 3.4.3.2.(1)(a)	
	WASHROOM FIXTURE CALCULATIONS: (see below)	3.7.4.2 -.10 3.7.4.5.(1)	

HORIZONTAL ASSEMBLIES FRR (HOURS)	GROUP C	GROUP F3		LISTED DESIGN NO. OR DESCRIPTION (SB-2)
FLOORS	1HR	1.5HR		SEE WALL SCHEDULES
ROOF	1HR	1.5HR		SEE WALL SCHEDULES
MEZZANINE	NA	N/A		SEE WALL SCHEDULES
FRR OF SUPPORTING MEMBERS	1HR	1.5HR		LISTED DESIGN NO. OR DESCRIPTION (SB-2)
FLOORS	1HR	1.5HR		SEE WALL SCHEDULES
ROOF	1HR	1.5HR		SEE WALL SCHEDULES
MEZZANINE				

WALL	AREA OF EBF (SQ.M.)	L.D. (M)	L/H OR H/L	PERMITTED MAX. % OF OPENINGS	PROPOSED % OF OPENINGS	FRR (HOURS)	LISTED DESIGN OR DESCRIPTION	COMB. CONST.	COMBUSTIBLE CONST. NON COMBUSTIBLE CLADDING	NON-COMB. CONST.
NORTH FACE		>9.0M		%100						YES
EAST FACE		>9.0M		%100						YES
SOUTH FACE		>7.5M		%100						YES
WEST FACE		>9.0M		%100						YES

FLOOR LEVEL	TOTAL EXIT CAPACITY	TOTAL OCCUPANT LOAD	SATISFACTORY EXIT CAPACITY?
GROUND FLOOR	714	124	YES
2ND - 5TH FLOOR	412	344	YES
6TH FLOOR	275	52	YES
PENTHOUSE FLOOR	275	60	YES

1100mm STAIRS
1100mm CORRIDORS AND PASSAGEWAYS
DOORWAY CLEAR WIDTH = 860mm (34") MIN.

EACH RESIDENTIAL SUITE WILL BE PROVIDED WITH A KITCHEN SINK, WATER CLOSET, AND A BATHTUB/SHOWER

ONE BEDROOMS = 1 BATHROOM
ONE BEDROOM + DEN/STUDY = 1 BATHROOM
TWO BEDROOMS = 2 BATHROOMS
TWO BEDROOM + DEN/STUDY = 2 BATHROOMS

AMENITY ROOM WILL BE PROVIDED WITH ONE WATER CLOSET AND ONE UNIVERSAL WASHROOM

BUILDING 'B' OBC MATRIX 1 / A1.0

OBC DATA MATRIX

FIRM NAME: SRN ARCHITECTS INC.
8395 JANE STREET, SUITE 202.
VAUGHAN, ONTARIO L4K 5Y2. 905-417-5515

NAME OF PROJECT: RESIDENTIAL DEVELOPMENT - **BLOCK C**

OWNER: CROWN COMMUNITIES

ITEM	ONTARIO BUILDING CODE DATA MATRIX PART 3 OR PART 9	BUILDING CODE REFERENCES (REFERENCES ARE TO DIVISION B UNLESS NOTED [A] FOR DIVISION A OR [C] FOR DIVISION C.)	
1	**PROJECT DESCRIPTION:** ☒ NEW ☐ ALTERATION ☐ ADDITION ☐ CHANGE OF USE	☒ PART 3 - 1.1.2. [A] 1.1.2. [A]	☐ PART 9 1.1.2. [A] & 9.10.1.3.
2	**MAJOR OCCUPANCY(S)** GROUP C -RESIDENTIAL OCCUPANCY	3.1.2.1 (1)	9.10.2.
3	**BUILDING AREA (SQ.M.)** EXISTING 0 SQ.M. NEW 2816.52 SQ.M. (GROUP C - RESIDENTIAL ABOVE GROUND)	1.4.1.2. [A]	1.4.1.2. [A]
4	**GROSS AREA (SQ.M.)** EXISTING 0 SQ.M. NEW RESIDENTIAL GROUND FLR. 2,816.52 SQ.M. RESIDENTIAL 2ND & 3RD FLR. 2,816.52 SQ.M. RESIDENTIAL 4TH & 5TH FLR. 2,407.84 SQ.M. RESIDENTIAL SIXTH FLR. 845.65 SQ.M. RESIDENTIAL TOTAL: 14,110.89 SQ.M.	1.4.1.2. [A]	1.4.1.2. [A]
5	**NUMBER OF STOREYS** ABOVE GRADE 6 BELOW GRADE	1.4.1.2. [A] & 3.2.1.1.	1.4.1.2. [A] & 9.10.4
6	**NUMBER OF STREETS/FIRE FIGHTER ACCESS** 1 STREETS/ 2 STREET FIRE FIGHTER ACCESS	3.2.2.10. & 3.2.5., 3.2.5.4. (1)	9.10.20.
7	**BUILDING CLASSIFICATION** GROUP C, UP TO 6 STOREYS, SPRINKLERED, NONCOMBUSTIBLE (3.2.2.43.)	3.2.2.20-.83	9.10.2
8	**SPRINKLER SYSTEM PROPOSED** ☒ ENTIRE BUILDING ☐ SELECTED COMPARTMENTS ☐ SELECTED FLOOR AREAS ☐ BASEMENT ☐ IN LIEU OF ROOF RATING ☐ NOT REQUIRED	3.2.2.20-.83 3.2.1.5. 3.2.2.17. INDEX	9.10.8.2 INDEX
9	**STANDPIPE REQUIRED** YES ☒ NO ☐	3.2.9.	N/A
10	**FIRE ALARM REQUIRED** YES ☒ NO ☐	3.2.4.1.(2)	9.10.18.
11	**WATER SERVICE/SUPPLY IS ADEQUATE** YES ☒ NO ☐	3.2.5.7.	N/A
12	**HIGH BUILDING** YES ☐ NO ☒	3.2.6.	N/A
13	**CONSTRUCTION RESTRICTIONS** ☐ COMBUSTIBLE PERMITTED ☒ NON-COMBUSTIBLE REQUIRED ☐ BOTH **ACTUAL CONSTRUCTION** ☐ COMBUSTIBLE ☒ NON-COMBUSTIBLE ☐ BOTH	3.2.2.20-.83	9.10.6
14	**MEZZANINE(S) AREA SQ.M.** N/A	3.2.1.1.(3) TO 3.2.1.1.(8)	9.10.4.1.
15	**OCCUPANT LOAD BASED ON** **GROUP C** ☐ SQ.M./PERSON ☒ DESIGN OF BUILDING GROUND FL. 32 UNITS x 1 = 72 BEDROOMS X 2 PERSONS PER BEDROOM x 1 = 144 PERSONS SECOND & THIRD FL. 43 UNITS x 2 = 86 BEDROOMS X 2 PERSONS PER BEDROOM x 2 = 344 PERSONS FOURTH & FIFTH FL. 39 UNITS x 2 = 72 BEDROOMS X 2 PERSONS PER BEDROOM x 2 = 288 PERSONS SIXTH FL. 14 UNITS x 1 = 24 BEDROOMS X 2 PERSONS PER BEDROOM x 1 = 48 PERSONS 210 TOTAL UNITS 412 BEDROOMS TOTAL = 824 PERSONS GROUND FL. INDOOR AMENITY 347.8 SQ.M. = 150 PERSONS OUTDOOR AMENITY 190.0 SQ.M. = 60 PERSONS RESIDENTIAL TOTAL = 1,034 PERSONS **(OUTDOOR AMENITY AREA: POSTED SIGN FOR NO MORE THAN 60 PERSONS)**	3.1.17.	9.9.1.3.
16	**BARRIER FREE DESIGN** ☒ YES ☐ NO (EXPLAIN)	3.8.	9.5.2.
17	**HAZARDOUS SUBSTANCES** ☐ YES ☒ NO	3.3.1.2. & 3.3.1.19.	9.10.1.3.(4)
18	**REQUIRED FIRE RESISTANCE RATING (FRR)** (see below)	3.2.2.20-.83 3.2.1.4 3.2.2.43 3.3.5.6.	9.10.8. 9.10.9.
19	**SPATIAL SEPARATION - CONSTRUCTION OF EXTERIOR WALLS** THE FOLLWOING IS A SUMMARY OF THE WORST-CASE SCENARIO LINIMITING DISTANCES FOR THE EXPOSING BUILDING FACES OF THE BUILDING (see below)	3.2.3.1 D 3.2.3.7	9.10.14
	SEPARATION BETWEEN OCCUPANCIES: GROUP F3 - GROUP C 1.5HR F.R.R REQUIRED GROUP A2 - GROUP C 1.0HR F.R.R REQUIRED **SEPARATION BETWEEN SUITES:** 1.0HR F.R.R. REQUIRED	3.1.3.1/3.3.1.1 3.3.5.6.(1)	
	PUBLIC CORRIDOR SEPARATION: NOT REQUIRED	3.3.1.4.(1)	
	TRAVEL DISTANCE: MAXIMUM = 25m MAXIMUM = 45m (if sprinklered)	3.3.1.5.(1)(d) 3.4.2.5.(1)(c)	
	EXIT CAPACITY: (see below)	3.4.3.2.(6) 3.4.3.2.(1)(a)	
	WASHROOM FIXTURE CALCULATIONS: (see below)	3.7.4.2 -.10 3.7.4.5.(1)	

HORIZONTAL ASSEMBLIES FRR (HOURS)	GROUP C	GROUP F3		LISTED DESIGN NO. OR DESCRIPTION (SB-2)
FLOORS	1HR	1.5HR		SEE WALL SCHEDULES
ROOF	1HR	1.5HR		SEE WALL SCHEDULES
MEZZANINE	NA	N/A		SEE WALL SCHEDULES
FRR OF SUPPORTING MEMBERS	1HR	1.5HR		LISTED DESIGN NO. OR DESCRIPTION (SB-2)
FLOORS	1HR	1.5HR		SEE WALL SCHEDULES
ROOF	1HR	1.5HR		SEE WALL SCHEDULES
MEZZANINE				

WALL	AREA OF EBF (SQ.M.)	L.D. (M)	L/H OR H/L	PERMITTED MAX. % OF OPENINGS	PROPOSED % OF OPENINGS	FRR (HOURS)	LISTED DESIGN OR DESCRIPTION	COMB. CONST.	COMBUSTIBLE CONST. NON COMBUSTIBLE CLADDING	NON-COMB. CONST.
NORTH FACE		>7.5M		%100						YES
EAST FACE		>9.0M		%100						YES
SOUTH FACE		>9.0M		%100						YES
WEST FACE		>9.0M		%100						YES

FLOOR LEVEL	TOTAL EXIT CAPACITY	TOTAL OCCUPANT LOAD	SATISFACTORY EXIT CAPACITY?
GROUND FLOOR	714	144	YES
2ND - 5TH FLOOR	412	344	YES
6TH FLOOR	275	48	YES
PENTHOUSE FLOOR	275	60	YES

1100mm STAIRS
1100mm CORRIDORS AND PASSAGEWAYS
DOORWAY CLEAR WIDTH = 860mm (34") MIN.

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AMENITY ROOM WILL BE PROVIDED WITH ONE WATER CLOSET AND ONE UNIVERSAL WASHROOM

BUILDING 'C' OBC MATRIX 1 / A1.0

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ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES MUST BE REPORTED DIRECTLY TO SRN ARCHITECTS INC.

NO:	DATE:	ISSUED FOR:
12	2024-01-31	ISSUED FOR CLIENT REVIEW
13	2024-02-02	ISSUED FOR CLIENT REVIEW
14	2024-02-05	ISSUED FOR CLIENT REVIEW
15	2024-02-13	ISSUED FOR CLIENT REVIEW
16	2024-04-01	ISSUED FOR TRAFFIC COORDINATION REVIEW
17	2024-04-17	ISSUED FOR TRAFFIC COORDINATION REVIEW
18	2024-04-26	ISSUED FOR TRAFFIC COORDINATION REVIEW
19	2024-05-22	ISSUED FOR COORDINATION
20	2024-08-22	ISSUED FOR SPA

ADDITIONAL NOTES:

NO:	DATE:	ISSUED FOR:

SRN ARCHITECTS INC SHALL NOT BE RESPONSIBLE FOR:

1. ERRORS, OMISSIONS, INCOMPLETENESS DUE TO LOSS OF INFORMATION IN WHOLE OR PART WHEN INFORMATION IS TRANSFERRED.

2. TRANSMISSIONS OF ANY VIRUS OR DAMAGE TO RECEIVING ELECTRONIC SYSTEM WHEN INFORMATION IS TRANSFERRED

SRN ARCHITECTS
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO. L4K 5Y2
PHONE: 905.417.5515 FAX: 905.417.5517

STAMP: ONTARIO ASSOCIATION OF ARCHITECTS — GREGORY PATRICK RASPIN — LICENCE 6696 — AUG. 22, 2024

N

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CLIENT: CROWN COMMUNITIES DEVELOPMENTS INC.

PROJECT: RESIDENTIAL DEVELOPMENT
1012 YONGE ST
BARRIE, ON

DRAWING TITLE: OBC MATRIX

DATE: APRIL 23 2023	SCALE: 1 : 100
DRAWN BY: MJ/AG	CHECKED BY: RS
PROJECT NUMBER: S19013	DRAWING NUMBER: A1.0

RESIDENTIAL DEVELOPMENT - Crown Communities
Barrie, Ontario
Project Statistics
June, 2024

Project No. S19013

1.0 **Site Area: All Phases**

	hectares	acres	sq.m.	sq.ft.
Survey Site Area - All Phases	4.04	12.2	49,354	531,242
Area of ROW, Widening, Daylight Triangles	0.82	2	8,185	87,242
Total Development Area - All Phases	**4.13**	**10.2**	**41,249**	**444,000**

1.1 **Site Area: Phase 1**

	hectares	acres	sq.m.	sq.ft.
Total Development Area - All Phases	4.12	10.2	41,249	444,000
Future Developed Area - Phases 2 & 3	2.14	5.3	21,493	231,239
Phase 1: Development Area	**1.98**	**4.9**	**19,756**	**212,761**

2.0 **TFA - Total Floor Area**

2.1 **Building B**

	sq.m.		floors	sq.m.	sq.ft.
Level 1	2,819.59	x	1	2,819.59	30,350.51
Levels 2 to 3	2,816.59	x	2	5,633.18	60,634.06
Levels 4 to 5	2,594.89	x	2	5,189.78	55,862.27
Levels 6	895.02	x	1	895.02	9,633.91
Building B TFA				**14,538.31**	**156,481.34**

2.2 **Building C**

	sq.m.		floors	sq.m.	sq.ft.
Level 1	2,816.52	x	1	2,816.52	30,316.74
Levels 2 to 4	2,816.04	x	2	5,632.08	60,633.48
Levels 4 to 5	2,467.56	x	2	4,935.12	53,113.44
Levels 6	855.65	x	1	855.65	9,209.99
Building C TFA				**14,110.85**	**151,888.22**

Phase 1: Total TFA Buildings B & C **28,639.39** **308,369.48**

Total Development Area - All Phases

Total TFA	**x**	**Development Area**	**=**	**FSI**
28,639.39 sq.m.		**41,249** sq.m.		**0.69**

Phase 1: Development Area

Total TFA	**x**	**Development Area**	**=**	**FSI**
28,639.39 sq.m.		**19,756** sq.m.		**1.45**

3.0 **GFA - Gross Floor Area**
(excludes indoor amenity, storage, parking, stairwell, elevator, trash chute, trash room, mechanical & electrical storage)

3.1 **Building B Residential**

	sq.m.		floors	sq.m.	sq.ft.
Level 1	2,182.83	x	1	2,182.83	23,495.76
Levels 2 to 3	2,747.67	x	2	5,495.34	59,151.29
Levels 4 to 5	2,525.94	x	2	5,051.88	54,377.36
Levels 6	855.07	x	1	855.07	9,203.65
Building B GFA				**13,584.12**	**146,228.04**

3.2 **Building C Residential**

	sq.m.		floors	sq.m.	sq.ft.
Level 1	2,281.75	x	1	2,281.75	25,784.56
Levels 2 to 3	2,746.40	x	2	5,492.80	59,123.95
Levels 4 to 5	2,334.40	x	2	4,668.80	50,254.50
Levels 6	806.31	x	1	806.31	8,679.04
Building C GFA				**13,359.66**	**143,842.04**

Phase 1: Total GFA Buildings B & C **26,943.78** **290,041.68**

4.0 **Unit County**
**15% of units to be fully accessible*

4.1 **Building B**

	floors	1BR	1BR+D	2BR	3BR	UNITS

5.0 **Amenity Area**
**Outdoor Amenity included in the overall Landscape Coverage*

5.1 **Building B**

	sq.m. per unit	units	sq.ft.	sq.ft.
Level 1 - Indoor Amenity	1.5		570.89	5,907.85
Level 1 - Outdoor Amenity	8.2	213	1,752.87	18,867.72
Balconies/Patios	6.4		1,364.96	14,692.61
	16.2		**3,443.82**	**37,068.37**

5.2 **Building C**

	sq.m. per unit	units	sq.ft.	sq.ft.
Level 1 - Indoor Amenity	1.7		190.73	2,783.10
Level 1 - Outdoor Amenity	9.5	210	1,976.14	14,813.71
Balconies/Patios	4.4		1,026.20	11,045.75
	15.6		**3,193.07**	**34,869.56**

Phase 1: Total Provided Amenity Buildings B & C **15.9** **423** **6,684.2** ***71,947.93***

6.0 **Vehicular Parking**

6.1 **Required Parking**

	ratio	units	Parking Spaces
Residential	1.00	423	443
Phase 1: Total Required Parking Buildings B & C			**443**

6.2 **Provided Parking**

	ratio	units	Parking Spaces
Provided Residential Parking	1	423	423
Provided Visitors Parking	0.00	423	0
Phase 1: Total Provided Parking Buildings B & C	**1.00**		**423**

6.3 **Provided Parking Breakdown - Phase 1 only**

	Parking Spaces
Level 1 (Site Level)	
Residential	29
Total Level 1 (Site Level)	**29**
Level P1	
Residential	410
Total Level P1	**410**
Phase 1: Total Provided Parking Buildings B & C	***439***

6.4 **Provided Barrier-Free Parking**
(Based on by-law requirement of 1 + 3% of Total Required Parking)

	# Access	# Access	Parking Spaces
Level 1 (Site Level)	3	3	3
Level P1	4	4	8
Phase 1: Total Provided Barrier-Free Parking Buildings B & C	**7**	**7**	**11**

7.0 **Provided Bicycle Parking**
**based on Zoning By-law ratio of 0.2 spaces per unit*

	units	total
Building B	213	43
Building C	210	42
Total Provided Bicycle Parking Spaces	**423**	**85**

8.0 **Lot Coverage Calculations - Phase 1 only**

	sq.m.	sq.ft.	%
Proposed Building Coverage	5,864	63,109	29.7
Proposed Paving	8,314	89,493	42.1
Landscape Coverage	5,589	60,159	28
Phase 1: Development Area	**19,766**	**212,761**	**100**

PROJECT STATISTICS 3 A1.1

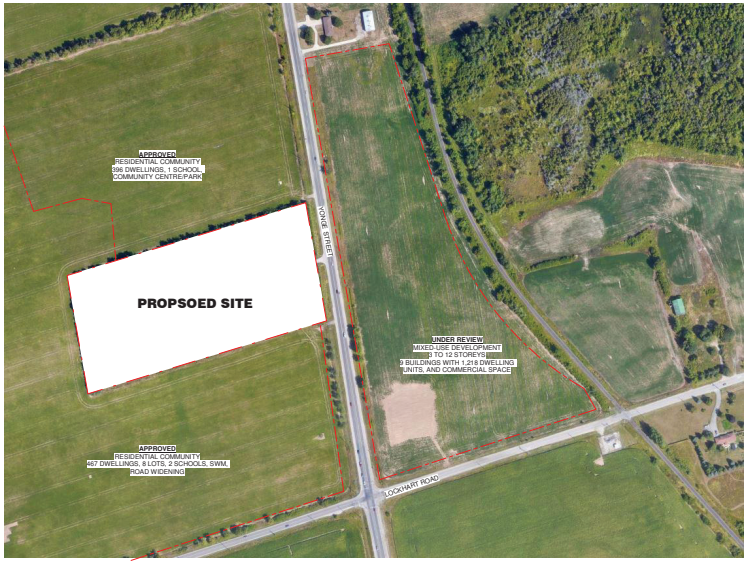
Crown Communities - Zoning Matrix
NMU (SP-637)(H-134) & NMU (SP-636)(H158)

	REQUIRED	PROPOSED / PROVIDED
TOTAL DEVELOPMENT AREA - ALL PHASES (sq.m.)		41,249
TOTAL DEVELOPMENT AREA - PHASE 1 ONLY (sq.m.)		19,766
UNIT COUNT		423
TOTAL FLOOR AREA (sq.m)		28,639.20
BUILDING BB (sq.m)		*14,528.12*
BUILDING BC (sq.m)		*14,110.89*
GROSS FLOOR AREA (sq.m)		26,943.78
BUILDING BB (sq.m)		*13,586.12*
BUILDING BC (sq.m)		*13,359.66*
LOT FRONTAGE (m)		152.4
FRONT YARD SETBACK (m)		16.4
SIDE YARD SETBACK TO EAST PHASE LINE (m)		24.6
SIDE YARD SETBACK TO WEST PHASE LINE (m)		22.6
REAR YARD SETBACK (m)		26.8
CONSOLIDATED AMENITY AREA (m)	5,076 (12 sq.m. per unit)	6,684.20
LANDSCAPED OPEN SPACE (sq.m., % LOT AREA)		5,589, 28%
MINIMUM DWELLING UNIT AREA (sq.m)		38.7
BUILDING COVERAGE - PHASE 1 (sq.m., % LOT AREA)		5,864, 29.7%
BUILDING BB HEIGHT (AVERAGE GRADE TO ROOF)(m)		20.2
BUILDING BC HEIGHT (AVERAGE GRADE TO ROOF)(m)		20.4
PARKING AREA COVERAGE (sq.m., % LOT AREA)		15,894, 80%
TOTAL PARKING SPACES (INC. BARRIER-FREE)		423 + 38 = 461 TOTAL
1 PER DWELLING UNIT		PARKING SPACES
SURFACE PARKING SPACES		26
UNDERGROUND PARKING SPACES		435
TOTAL BARRIER FREE PARKING SPACES		16
TYPE A (3.4M X 5.5M + 1.5M AISLE)		*8*
TYPE B (3.1M X 5.5M + 1.5M AISLE)		*8*

ZONING MATRIX 2 A1.1



CONTEXT PLAN 4 A1.1



ENLARGED CONTEXT PLAN 1 A1.1

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14	2024-02-05	ISSUED FOR CLIENT REVIEW
15	2024-02-13	ISSUED FOR CLIENT REVIEW
16	2024-03-07	ISSUED FOR TRAFFIC COORDINATION REVIEW
17	2024-03-17	ISSUED FOR TRAFFIC COORDINATION REVIEW
18	2024-04-26	ISSUED FOR TRAFFIC COORDINATION REVIEW
19	2024-05-03	ISSUED FOR COORDINATION
20	2024-06-14	ISSUED FOR SPA

ADDITIONAL NOTES:

NO:	DATE:	ISSUED FOR:

SRN ARCHITECTS INC SHALL NOT BE RESPONSIBLE FOR:

1. ERRORS, OMISSIONS, INCOMPLETENESS DUE TO LOSS OF INFORMATION IN WHOLE OR PART WHEN INFORMATION IS TRANSFERRED.

2. TRANSMISSIONS OF ANY VIRUS OR DAMAGE TO RECEIVING ELECTRONIC SYSTEM WHEN INFORMATION IS TRANSFERRED

SRN ARCHITECTS
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO. L4K 5Y2
PHONE: 905.417.5515 FAX: 905.417.5817

STAMP:

ONTARIO ASSOCIATION OF ARCHITECTS
GREGORY MARCO RISPIN
LICENCE
2024-06-14

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N

CLIENT:
CROWN COMMUNITIES DEVELOPMENTS INC.

PROJECT:
RESIDENTIAL DEVELOPMENT
1012 YONGE ST
BARRIE, ON

DRAWING TITLE:
CONTEXT PLANS AND PROJECT STATISTICS

DATE:	APRIL 23 2023	SCALE:	1 : 25
DRAWN BY:	MJ/AG	CHECKED BY:	RS
PROJECT NUMBER:	S19013	DRAWING NUMBER:	A1.1

Autodesk Docs://S19013-Crown Communities-1012 Yonge Street/S19013-Crown Communities-Barrie-Concept-RVT2024.rvt
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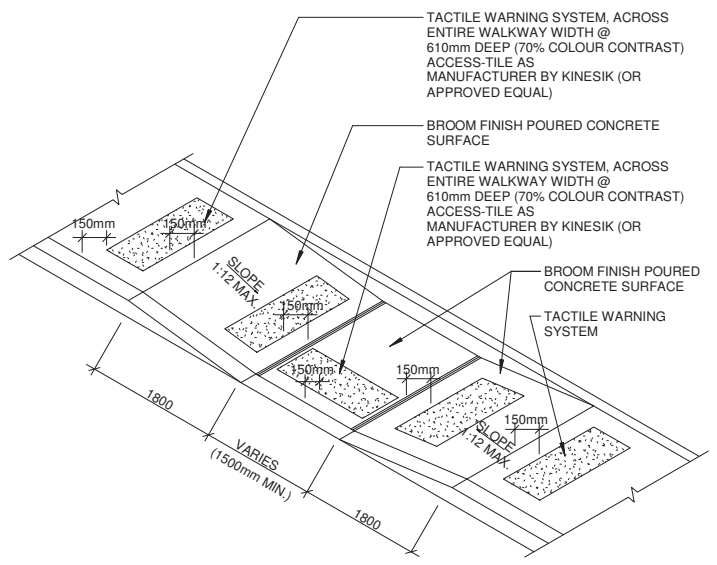
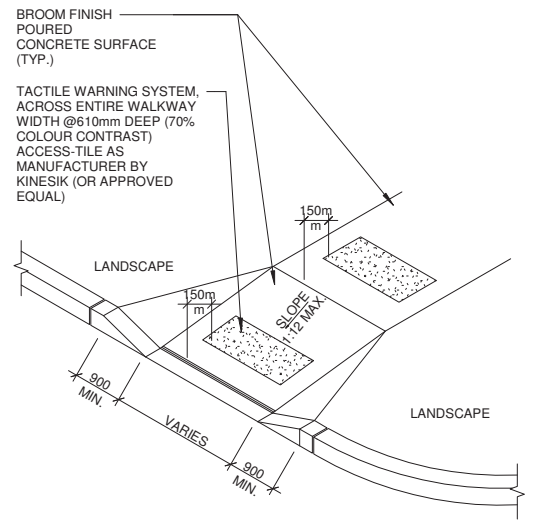
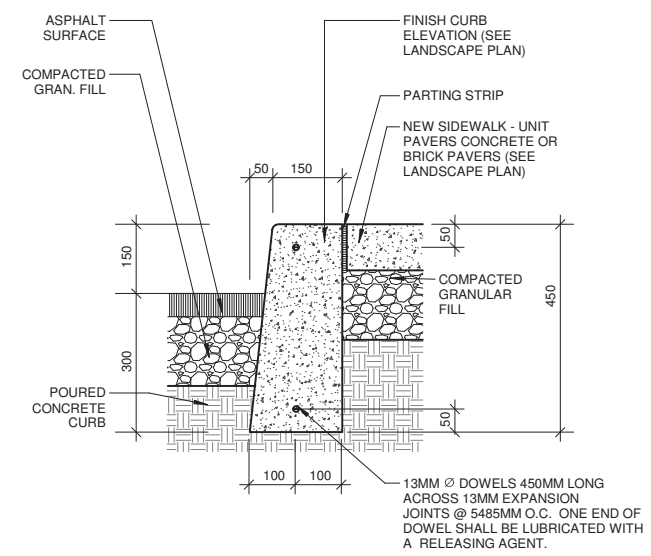


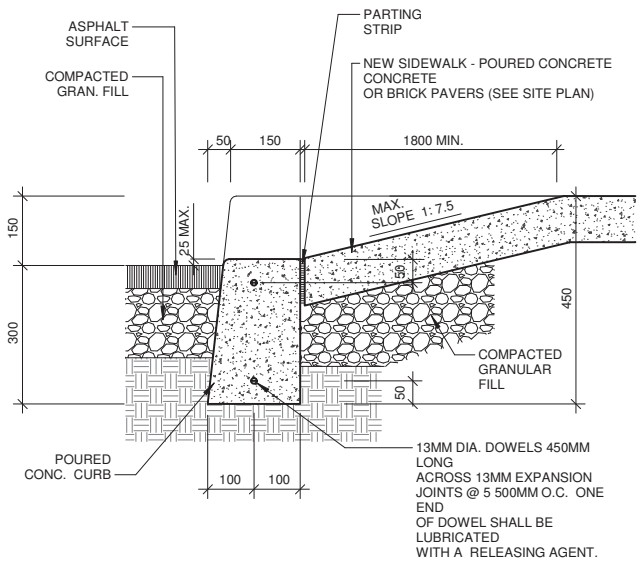
1 / A1.2 **BARRIER FREE CURB CUT 1**
SCALE: 1 : 25



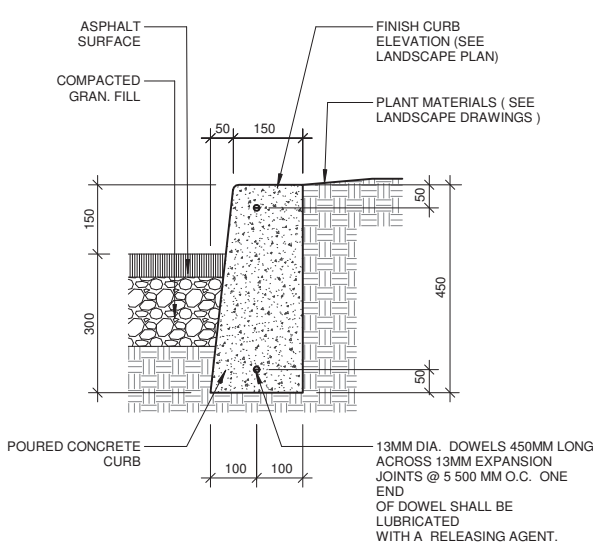
2 / A1.2 **BARRIER FREE CURB CUT 2**
SCALE: 1 : 25



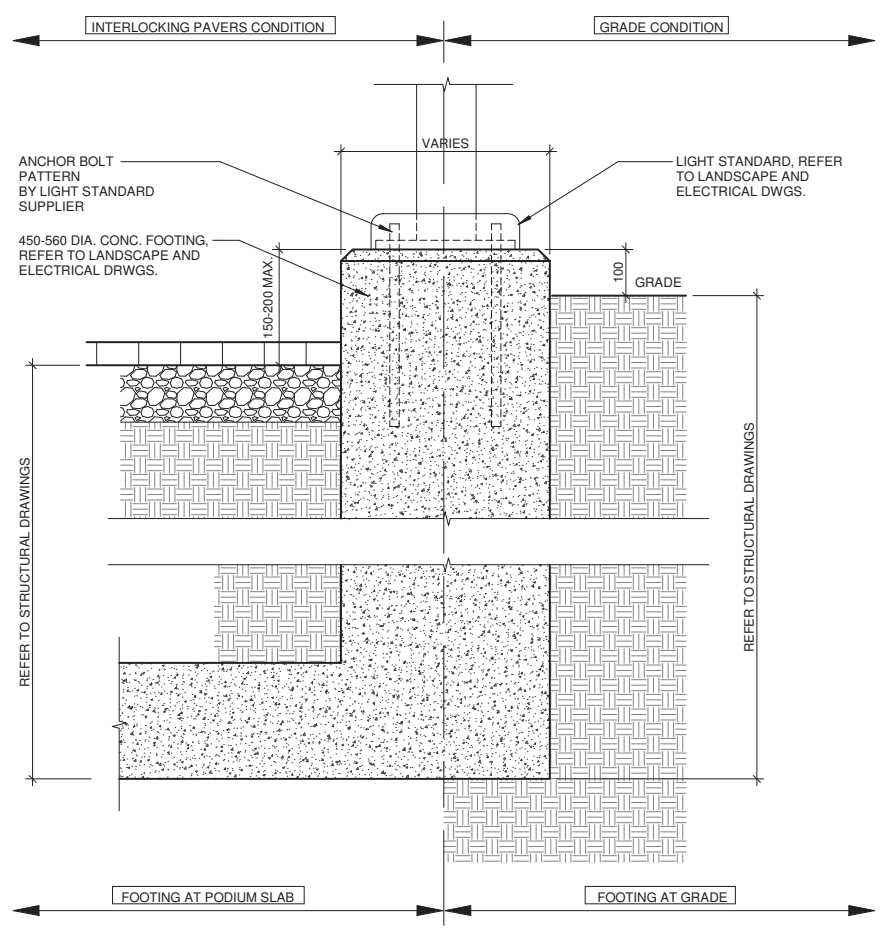
3 / A1.2 **TYP. CONC. CURB & SIDEWALK**
SCALE: 1 : 10



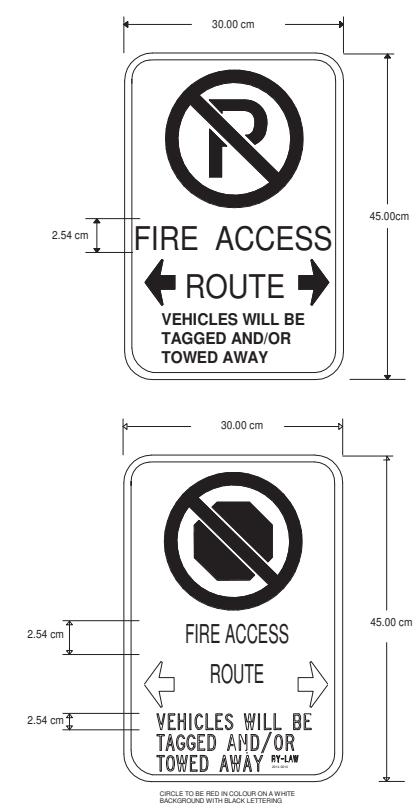
4 / A1.2 **DEPRESSED PAD**
SCALE: 1 : 10



5 / A1.2 **TYP. CONCRETE CURB**
SCALE: 1 : 10



6 / A1.2 **LIGHT STANDARD POLE BASE DETAIL**
SCALE: 1 : 10



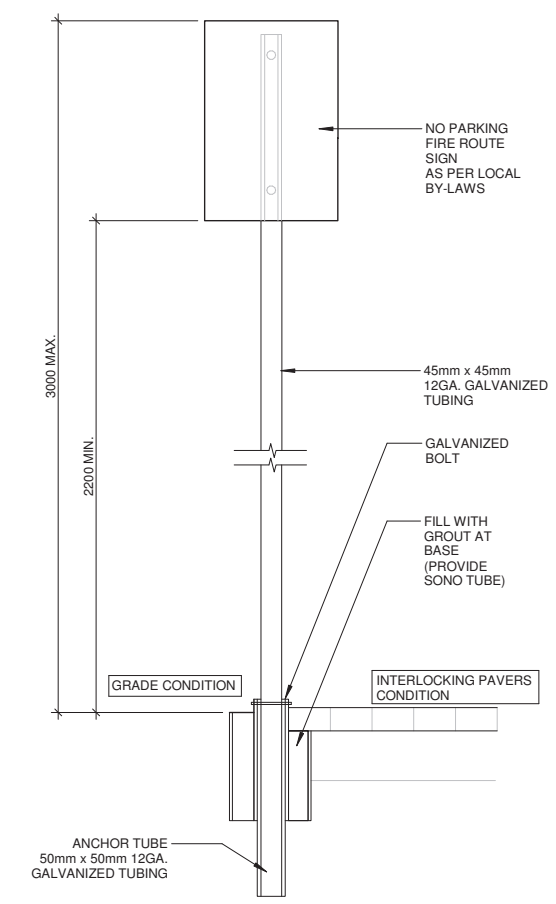
SIGN REQUIREMENTS:

1. SIGNS SHALL COMPLY WITH THE ATTACHED FIGURE 5
2. ALL SIGN SHALL HAVE APPROPRIATE RADIUS. CORNER AS PER DIAGRAM OR 4 CM. RADIUS. ALL SHARP EDGES REMOVED.
3. SIGN BLANKS SHALL SHALL HAVE 11MM X 18MM. SLOTTED HOLES TO ACCEPT METRIC OR IMPERIAL MOUNTING WITH HOLES 3CM-12CM FROM OUTER EDGE OR AS PER DIAGRAM. CENTRE OF MOUNTING SLOTS SHALL BE EQUAL TO MULTIPLE OF 5.08CM (2 INCHES) CENTRALLY LOCATED ON BLANK. ON STEEL BLANKS, FABRICATIONS SHALL BE FABRICATED BEFORE GALVANIZING AS TO PREVENT CORROSION. ON ALUMINUM BLANKS, FABRICATING SHALL BE PERFORMED PRIOR TO PAINTING AND BAKING.
4. FINISHED SIGNS AND SYMBOLS SHALL BE APPLIED TO 1.63MM UTILITY GRADE WITH BRIGHT WHITE MILL BAKED FINISH ON BOTH SIDES. ALL INKS SHALL BE GLOSSY.
5. FACES TO CONFORM TO REG. 486 OF THE HIGHWAY TRAFFIC ACT.
6. ALL LETTERING TO MEET M.T.O. STANDARDS
7. ALL COLOURS TO MEET M.T.O. STANDARDS

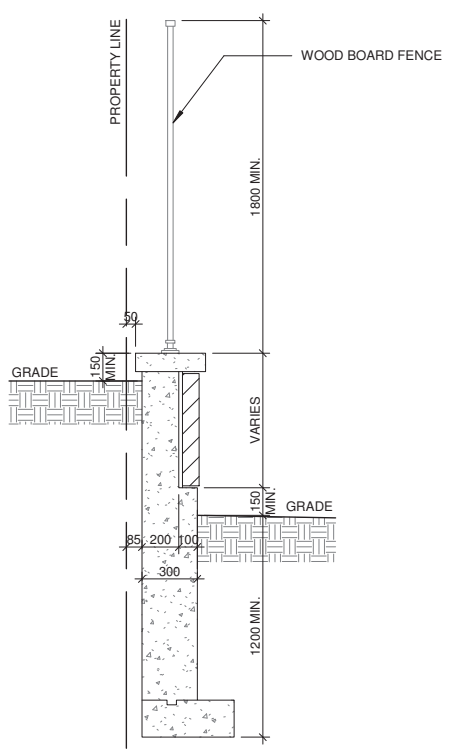
INSTALLATION REQUIREMENTS:

1. SIGNS TO BE SET AN ANGLE OF NOT LESS THAN 30° AND NO MORE THAN 45°, TO A LINE PARALLEL TO THE FLOW OF TRAFFIC AND SHOULD ALWAYS BE VISIBLE TO APPROACHING TRAFFIC.
2. SIGNS TO BE PLACED ON EITHER SIDES (STAGGERED) OF THE FIRE ACCESS ROUTE AT INTERVALS OF NOT MORE THAN 30 METERS (100 FEET) APART.
3. SIGNS SHALL NOT BE EXCEED 2.2 METERS (7 FEET) IN HEIGHT MEASURED FROM THE BOTTOM OF THE SIGN TO THE FINISHED PAVEMENT/GRADE AND NO HIGHER THAN 3 METERS (10 FEET) FROM PAVEMENT/GRADE TO TOP OF SIGN.
4. SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 3 METERS (10 FEET) AND A MINIMUM OF 1 METER (3 FEET) MEASURED HORIZONTALLY FROM THE CURB.
5. SIGNS SHALL BE INSTALLED SO THAT THERE NO OBSTRUCTIONS WITHIN 6 METERS (20 FT) OF THE SIGN AND BE VISIBLE TO APPROACHING TRAFFIC.
6. SIGN SHALL DISPLAY SINGLE HEADED ARROWS POINTING IN THE DIRECTION IN WHICH THE REGULATION IS IN EFFECT. AT INTERMEDIATE POINTS THROUGHOUT THE REGULATED AREA, DOUBLE-HEADED ARROWS SHALL INDICATE THAT THE PROHIBITION OR RESTRICTION EXISTS IN EACH DIRECTION.
7. ALL SIGNAGE AND INSTALLATION OF THE ACCESS FIRE ROUTE SIGN MUST ALSO CONFORM TO THE REQUIREMENT AS OUTLINED IN THE TOWN OF NEWMARKET BY-LAW.

7 / A1.2 **FIRE ROUTE SIGNAGE & INSTALLATION REQUIREMENTS**
SCALE: 1 : 75

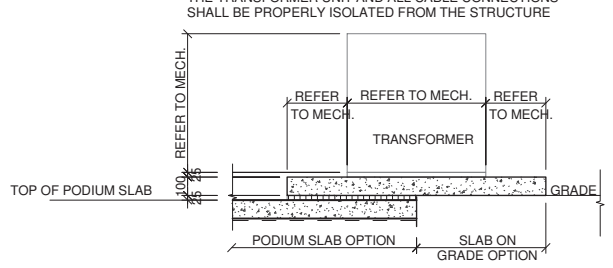


8 / A1.2 **FIRE ROUTE SIGN - SUPPORT BASE**
SCALE: 1 : 10



9 / A1.2 **RETAINING WALL AND FENCE**
SCALE: 1 : 25

NOTE:
THE TRANSFORMER UNIT AND ALL CABLE CONNECTIONS SHALL BE PROPERLY ISOLATED FROM THE STRUCTURE



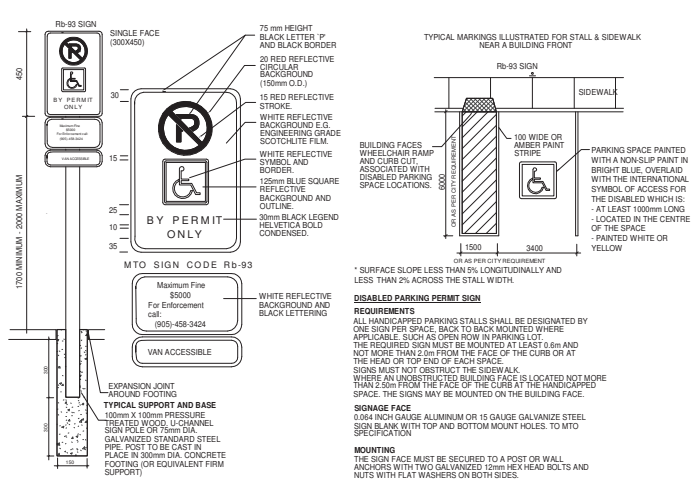
FOR LARGER TRANSFORMERS (100kVA AND GREATER) A CONCRETE "HOUSEKEEPING" PAD IS TO BE POURED ON:

- A LAYER OF ISO SEP 25HD,
- REGUPOL SONUS (25MM),
- PLITEQ GENIEMAT FF25, OR
- 3 LAYERS OF DURACOUSTIC (EACH 8MM THICK)

ALTERNATIVELY, MASON ND VIBRATION MOUNTS CAN BE INSTALLED UNDER THE TRANSFORMER CHANNELS.

REFER TO ELECTRICAL FOR FINAL CONFIGURATION

10 / A1.2 **TRANSFORMER PAD (PODIUM SLAB & GRADE OPTION)**
SCALE: 1 : 25



* SURFACE SLOPE LESS THAN 5% LONGITUDINALLY AND LESS THAN 2% ACROSS THE STALL WIDTH.

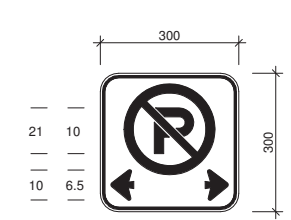
DISABLED PARKING PERMIT SIGN

REQUIREMENTS
ALL HANDICAPPED PARKING STALLS SHALL BE DESIGNATED BY ONE SIGN PER SPACE, BACK TO BACK MOUNTED WHERE APPLICABLE, SUCH AS OPEN ROW IN PARKING LOT.
THE REQUIRED SIGN MUST BE MOUNTED AT LEAST 0.6m AND NOT MORE THAN 2.0m FROM THE FACE OF THE CURB OR AT THE HEAD OR TOP END OF EACH SPACE.
SIGNS MUST NOT OBSTRUCT THE SIDEWALK.
WHERE AN UNOBSTRUCTED BUILDING FACE IS LOCATED NOT MORE THAN 2.50m FROM THE FACE OF THE CURB AT THE HANDICAPPED SPACE. THE SIGNS MAY BE MOUNTED ON THE BUILDING FACE.

SIGNAGE FACE
0.064 INCH GAUGE ALUMINUM OR 15 GAUGE GALVANIZE STEEL SIGN BLANK WITH TOP AND BOTTOM MOUNT HOLES. TO MTO SPECIFICATION

MOUNTING
THE SIGN FACE MUST BE SECURED TO A POST OR WALL ANCHORS WITH TWO GALVANIZED 12mm HEX HEAD BOLTS AND NUTS WITH FLAT WASHERS ON BOTH SIDES.

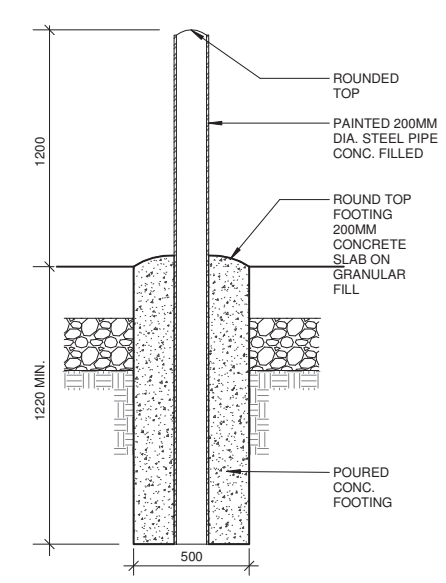
11 / A1.2 **BARRIER FREE SIGNAGE**
SCALE: N.T.S



Rb-51 30cm x 30cm
Rb-151 60cm x 60cm

FONT N/A
COLOUR INTERDICTORY SYMBOL - RED REFLECTIVE
LEGEND & BORDER - BLACK
BACKGROUND - WHITE REFLECTIVE

12 / A1.2 **NO PARKING ANYTIME SIGN**
SCALE: 1 : 10



13 / A1.2 **TYP. STEEL BOLARDS**
SCALE: 1 : 10

THESE DRAWINGS ARE NOT TO BE SCALED:
ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES MUST BE REPORTED DIRECTLY TO SRN ARCHITECTS INC.

NO:	DATE:	ISSUED FOR:
12	2024-01-31	ISSUED FOR CLIENT REVIEW
13	2024-02-02	ISSUED FOR CLIENT REVIEW
14	2024-02-05	ISSUED FOR CLIENT REVIEW
15	2024-02-13	ISSUED FOR CLIENT REVIEW
16	2024-04-01	ISSUED FOR TRAFFIC COORDINATION REVIEW
17	2024-04-17	ISSUED FOR TRAFFIC COORDINATION REVIEW
18	2024-04-26	ISSUED FOR TRAFFIC COORDINATION REVIEW
19	2024-05-22	ISSUED FOR COORDINATION
20	2024-08-22	ISSUED FOR SPA

ADDITIONAL NOTES:

NO:	DATE:	ISSUED FOR:

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SRN ARCHITECTS
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO. L4K 5Y2
PHONE: 905.417.5515 FAX: 905.417.5517

STAMP: ONTARIO ASSOCIATION OF ARCHITECTS — GREGORY PATRICK RASPIN LICENCE 6696 AUG. 22, 2024

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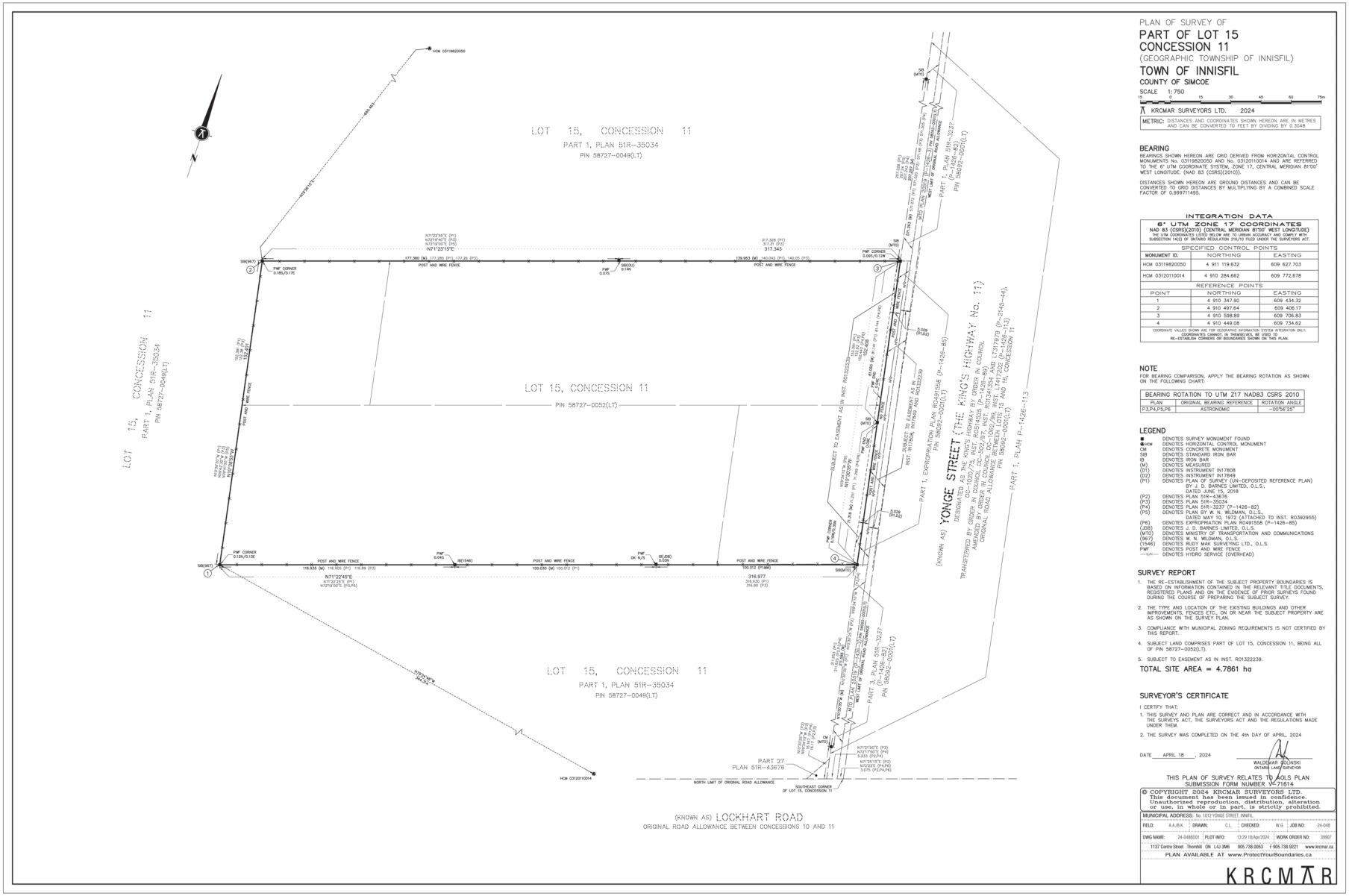
CLIENT: CROWN COMMUNITIES DEVELOPMENTS INC.

PROJECT: RESIDENTIAL DEVELOPMENT
1012 YONGE ST
BARRIE, ON

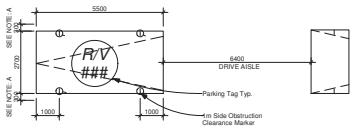
DRAWING TITLE: SITE DETAILS

DATE: APRIL 23 2023 | SCALE: As indicated
DRAWN BY: MJ/AG | CHECKED BY: RS
PROJECT NUMBER: S19013 | DRAWING NUMBER: A1.2


LOT 15, CONCESSION 11
PART 1, PLAN 51R-35034
PIN 58727-0049(LT)
LOT 15, CONCESSION 11
PIN 58727-0052(LT)
LOT 15, CONCESSION 11
PART 1, PLAN 51R-35034
PIN 58727-0049(LT)
LOT 15, CONCESSION 11
PART 1, PLAN 51R-35034
PIN 58727-0049(LT)
YONGE STREET (THE KING'S HIGHWAY No. 11)
(KNOWN AS)
(KNOWN AS) LOCKHART ROAD
ORIGINAL ROAD ALLOWANCE BETWEEN CONCESSIONS 10 AND 11
PART 1, EXPROPRIATION PLAN RO491558 (P-1426-85)
PIN 58502-0001(LT)
PART 1, PLAN 51R-3237
PIN 58502-0001(LT)
PART 1, PLAN 51R-823
PIN 58502-0001(LT)
PART 1, PLAN P-1426-113
PART 27
PLAN 51R-43676
HCM 03119820050
HCM 03120110014
SIB(MTO)
SIB(947)
SIB(1546)
SIB(U)
PWF CORNER
POST AND WIRE FENCE
PWF
CM
317.343
316.977
316.630 (P1)
316.90 (P3)
177.380 (M)
177.285 (P1)
177.26 (P3)
139.963 (M)
140.042 (P1)
140.05 (P3)
116.935 (M)
116.905 (P1)
116.89 (P3)
100.030 (M)
100.072 (P1&M)
100.012 (P1&M)
N71°22'15"E
N71°22'30"E (P1)
N71°21'40"E (P3)
N71°23'15"E
N71°22'45"E
N71°22'30"E (P1)
N71°23'00"E (P3,P4)
N71°22'30"E (P2)
N72°23'30"E (P4)
N72°23'30"E (P2)
N72°23'3"E (P2,P4,P6)
N72°23'3"E (P2,P4,P6)
S72°23'3"E (P2)
S72°23'3"E (P2,P4,P6)
S72°23'3"E (P2,P4,P6)
S72°23'3"E (P2,P4,P6

TYPICAL PARKING SPACE:

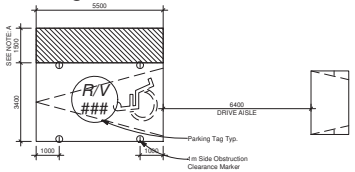
Drive Aisle @ 6.4m min.



NOTE: A- PROVIDE AN ADDITIONAL 300mm FOR PARKING SPACE WIDTH WHEN OBSTRUCTIONS OCCUR BETWEEN THE FRONT AND REAR 1000mm

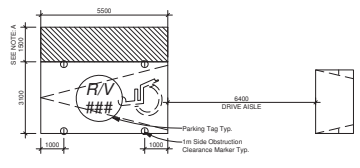
BARRIER-FREE PARKING SPACE TYPE A:

Drive Aisle @ 6.4m min.



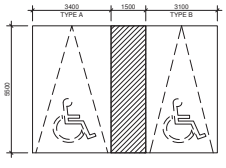
NOTE: A- PROVIDE AN ADDITIONAL 1500mm FOR PARKING SPACE WIDTH WHEN OBSTRUCTIONS OCCUR BETWEEN THE FRONT AND REAR 1000mm

BARRIER-FREE PARKING SPACE TYPE B:



NOTE: A- PROVIDE AN ADDITIONAL 1500mm FOR PARKING SPACE WIDTH WHEN OBSTRUCTIONS OCCUR BETWEEN THE FRONT AND REAR 1000mm

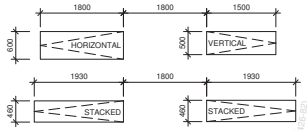
BARRIER-FREE PARKING SPACE TYPE A & B:

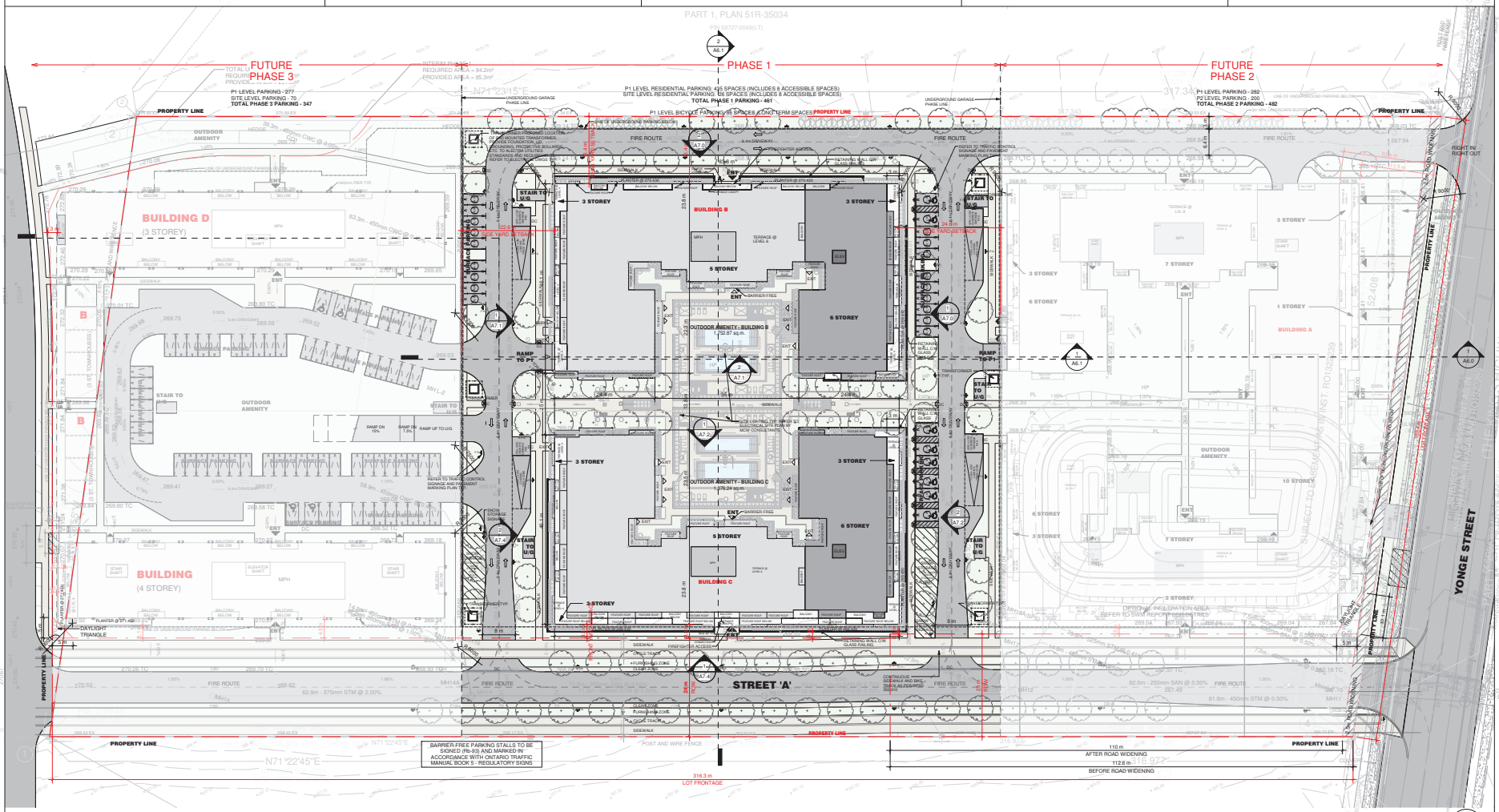


NOTE: WHERE THE REQUIRED 1500mm ACCESS AISLE IS PROVIDED BETWEEN TWO BARRIER-FREE PARKING SPACES, THE AISLE WIDTH CAN BE SHARED.

TYPICAL BICYCLE PARKING SPACE:

WALKWAY:	MINIMUM 1800mm
VERTICAL PARKING SPACE:	1500mm (L) x 500mm (W)
HORIZTONAL PARKING SPACE:	1800mm (L) x 600mm (W)
STACKED PARKING SPACE:	1930mm (L) x 460mm (W)





BLOCK B & C - OVERALL SITE PLAN (1 / A4.0)

Scale: 1 : 450

THESE DRAWINGS ARE NOT TO BE SCALED:

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12	2024-01-31	ISSUED FOR CLIENT REVIEW
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14	2024-02-05	ISSUED FOR CLIENT REVIEW
15	2024-02-13	ISSUED FOR CLIENT REVIEW
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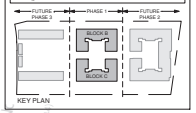
18	2024-04-26	ISSUED FOR TRAFFIC COORDINATION REVIEW
19	2024-05-03	ISSUED FOR COORDINATION
20	2024-05-22	ISSUED FOR SPA

ADDITIONAL NOTES:

SITE PLAN LEGEND

- FIRE HYDRANT (REFER TO CIVIL DRAWINGS)
- LIGHT POLE (REFER TO ELECTRICAL DRAWINGS) TO BE PROVIDED
- FIRE ROUTE SIGN
- BARRIER FREE PARKING SIGN
- STOP SIGN
- NO PARKING ANYTIME SIGN
- SNOW ROUTE, NO PARKING SIGN
- CONVEX MIRROR
- TACTILE INDICATOR
- DEPRESSED CURB
- GAS METER
- HYDRO METER
- EXTENT OF FIRE ROUTE
- NON FREEZE HOSE BIB
- ELECTRIC VEHICLE CHARGING STATION
- UNIT NUMBER
- CAST IRON GATE WITH DOOR
- SIAMESE CONNECTION (REFER TO MECHANICAL/CIVIL DRAWINGS)
- ENTRANCES/EXIT
- PRINCIPAL ENTRANCE w/ FIREFIGHTING & BARRIER-FREE ACCESS
- SERVICE/RAMP ENTRANCE
- MAN HOLE



KEY PLAN

NO.	DATE:	ISSUED FOR:

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SRN ARCHITECTS INC.
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO. L4K 5Y2
PHONE: 905.417.5515 FAX: 905.417.5517

STAMP:

ONTARIO ASSOCIATION OF ARCHITECTS — GREGORY ARNOLD RASPIN — LICENCE 8599 — DATE: 2024-05-31

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CLIENT:

CROWN COMMUNITIES DEVELOPMENTS INC.

PROJECT:

RESIDENTIAL DEVELOPMENT

1012 YONGE ST
BARRIE, ON

DRAWING TITLE:

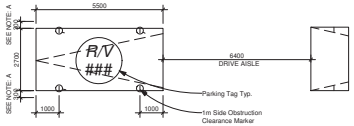
OVERALL SITE PLAN

DATE:	APRIL 23 2023	SCALE:	As indicated
DRAWN BY:	MJ/AG	CHECKED BY:	RS
PROJECT NUMBER:	S19013	DRAWING NUMBER:	A4.0

Autodesk Docs://S19013-Crown Communities-1012 Yonge Street/S19013-Crown Communities-Barrie-Concept-RVT2024.rvt
2024-08-26 1:38:42
PM

TYPICAL PARKING SPACE:

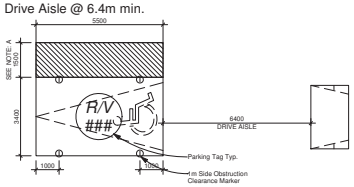
Drive Aisle @ 6.4m min.



NOTE: A- PROVIDE AN ADDITIONAL 300mm FOR PARKING SPACE WIDTH WHEN OBSTRUCTIONS OCCUR BETWEEN THE FRONT AND REAR 1000mm

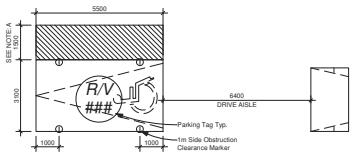
BARRIER-FREE PARKING SPACE TYPE A:

Drive Aisle @ 6.4m min.



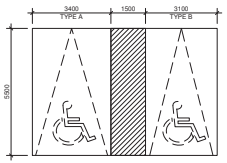
NOTE: A- PROVIDE AN ADDITIONAL 1500mm FOR PARKING SPACE WIDTH WHEN OBSTRUCTIONS OCCUR BETWEEN THE FRONT AND REAR 1000mm

BARRIER-FREE PARKING SPACE TYPE B:



NOTE: A- PROVIDE AN ADDITIONAL 1500mm FOR PARKING SPACE WIDTH WHEN OBSTRUCTIONS OCCUR BETWEEN THE FRONT AND REAR 1000mm

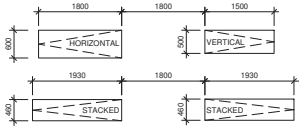
BARRIER-FREE PARKING SPACE TYPE A & B:

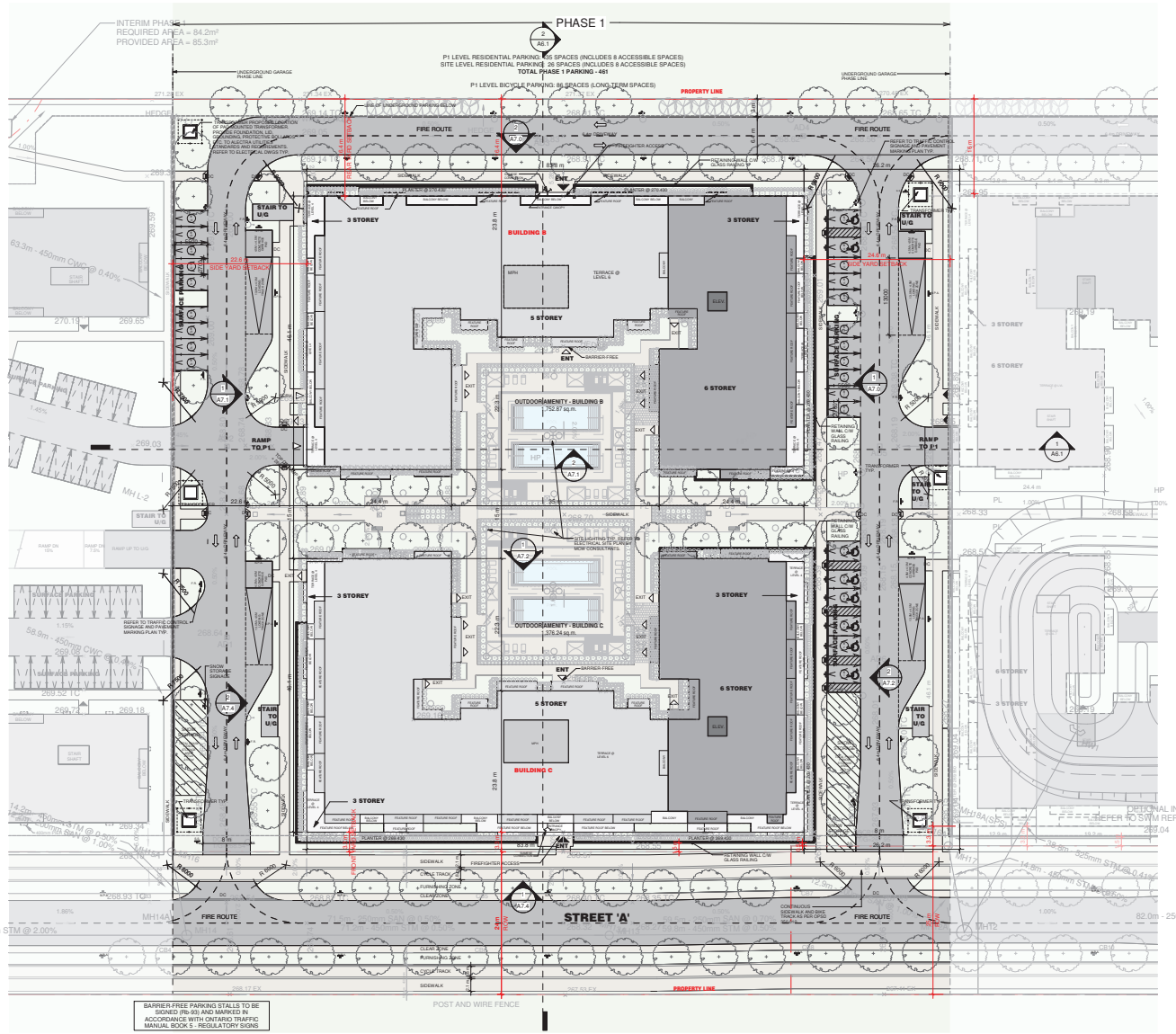


NOTE: WHERE THE REQUIRED 1500mm ACCESS AISLE IS PROVIDED BETWEEN TWO BARRIER-FREE PARKING SPACES, THE AISLE WIDTH CAN BE SHARED.

TYPICAL BICYCLE PARKING SPACE:

WALKWAY:	MINIMUM 1800mm
VERTICAL PARKING SPACE:	1500mm (L) x 500mm (W)
HORIZONTAL PARKING SPACE:	1800mm (L) x 600mm (W)
STACKED PARKING SPACE:	1930mm (L) x 460mm (W)





BLOCK B & C - SITE PLAN - PHASE 1

Scale: 1 : 350

1 / A4.1

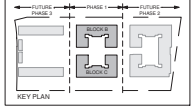
THESE DRAWINGS ARE NOT TO BE SCALED:
ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES MUST BE REPORTED DIRECTLY TO SRN ARCHITECTS INC.

NO.	DATE:	ISSUED FOR:
12	2024-01-31	ISSUED FOR CLIENT REVIEW
13	2024-02-02	ISSUED FOR CLIENT REVIEW
14	2024-02-05	ISSUED FOR CLIENT REVIEW
15	2024-02-13	ISSUED FOR CLIENT REVIEW
16	2024-04-01	ISSUED FOR TRAFFIC COORDINATION REVIEW
17	2024-04-17	ISSUED FOR TRAFFIC COORDINATION REVIEW
18	2024-04-26	ISSUED FOR TRAFFIC COORDINATION REVIEW
19	2024-05-03	ISSUED FOR COORDINATION
20	2024-05-23	ISSUED FOR SPA

ADDITIONAL NOTES:

SITE PLAN LEGEND

- FIRE HYDRANT (REFER TO CIVIL DRAWINGS)
- LIGHT POLE (REFER TO ELECTRICAL DRAWINGS) TO BE PROVIDED
- FIRE ROUTE SIGN
- BARRIER FREE PARKING SIGN
- STOP SIGN
- NO PARKING ANYTIME SIGN
- SNOW ROUTE, NO PARKING SIGN
- CONVEX MIRROR
- TACTILE INDICATOR
- DEPRESSED CURB
- GAS METER
- HYDRO METER
- EXTENT OF FIRE ROUTE
- NON FREEZE HOSE BIB
- ELECTRIC VEHICLE CHARGING STATION
- UNIT NUMBER
- CAST IRON GATE WITH DOOR
- SIAMESE CONNECTION (REFER TO MECHANICAL/CIVIL DRAWINGS)
- ENTRANCES/EXIT
- PRINCIPAL ENTRANCE w/ FIREFIGHTING & BARRIER-FREE ACCESS
- SERVICE/RAMP ENTRANCE
- MAN HOLE



KEY PLAN

NO.	DATE:	ISSUED FOR:

SRN ARCHITECTS INC SHALL NOT BE RESPONSIBLE FOR:

1. ERRORS, OMISSIONS, INCOMPLETENESS DUE TO LOSS OF INFORMATION IN WHOLE OR PART WHEN INFORMATION IS TRANSFERRED.

2. TRANSMISSIONS OF ANY VIRUS OR DAMAGE TO RECEIVING ELECTRONIC SYSTEM WHEN INFORMATION IS TRANSFERRED

SRN ARCHITECTS
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO. L4K 5Y2
PHONE: 905.417.5515 FAX: 905.417.5517

STAMP:

ONTARIO ASSOCIATION OF ARCHITECTS — GREGORY KRATSIMPIN — LICENCE — 2024-05-24

© SRN ARCHITECTS INC. 2024

CLIENT:
CROWN COMMUNITIES DEVELOPMENTS INC.

PROJECT:
RESIDENTIAL DEVELOPMENT
1012 YONGE ST
BARRIE, ON

DRAWING TITLE:
SITE PLAN - PHASE 1

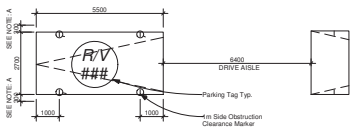
DATE:	APRIL 23 2023	SCALE:	As indicated
DRAWN BY:	MJ/AG	CHECKED BY:	RS

PROJECT NUMBER: S19013

DRAWING NUMBER: A4.1

TYPICAL PARKING SPACE:

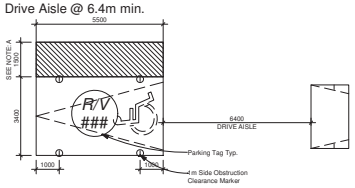
Drive Aisle @ 6.4m min.



NOTE: A- PROVIDE AN ADDITIONAL 300mm FOR PARKING SPACE WIDTH WHEN OBSTRUCTIONS OCCUR BETWEEN THE FRONT AND REAR 1000mm

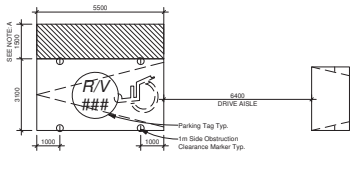
BARRIER-FREE PARKING SPACE TYPE A:

Drive Aisle @ 6.4m min.



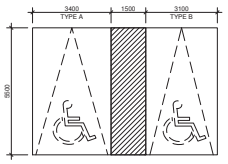
NOTE: A- PROVIDE AN ADDITIONAL 1500mm FOR PARKING SPACE WIDTH WHEN OBSTRUCTIONS OCCUR BETWEEN THE FRONT AND REAR 1000mm

BARRIER-FREE PARKING SPACE TYPE B:



NOTE: A- PROVIDE AN ADDITIONAL 1500mm FOR PARKING SPACE WIDTH WHEN OBSTRUCTIONS OCCUR BETWEEN THE FRONT AND REAR 1000mm

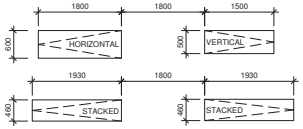
BARRIER-FREE PARKING SPACE TYPE A & B:

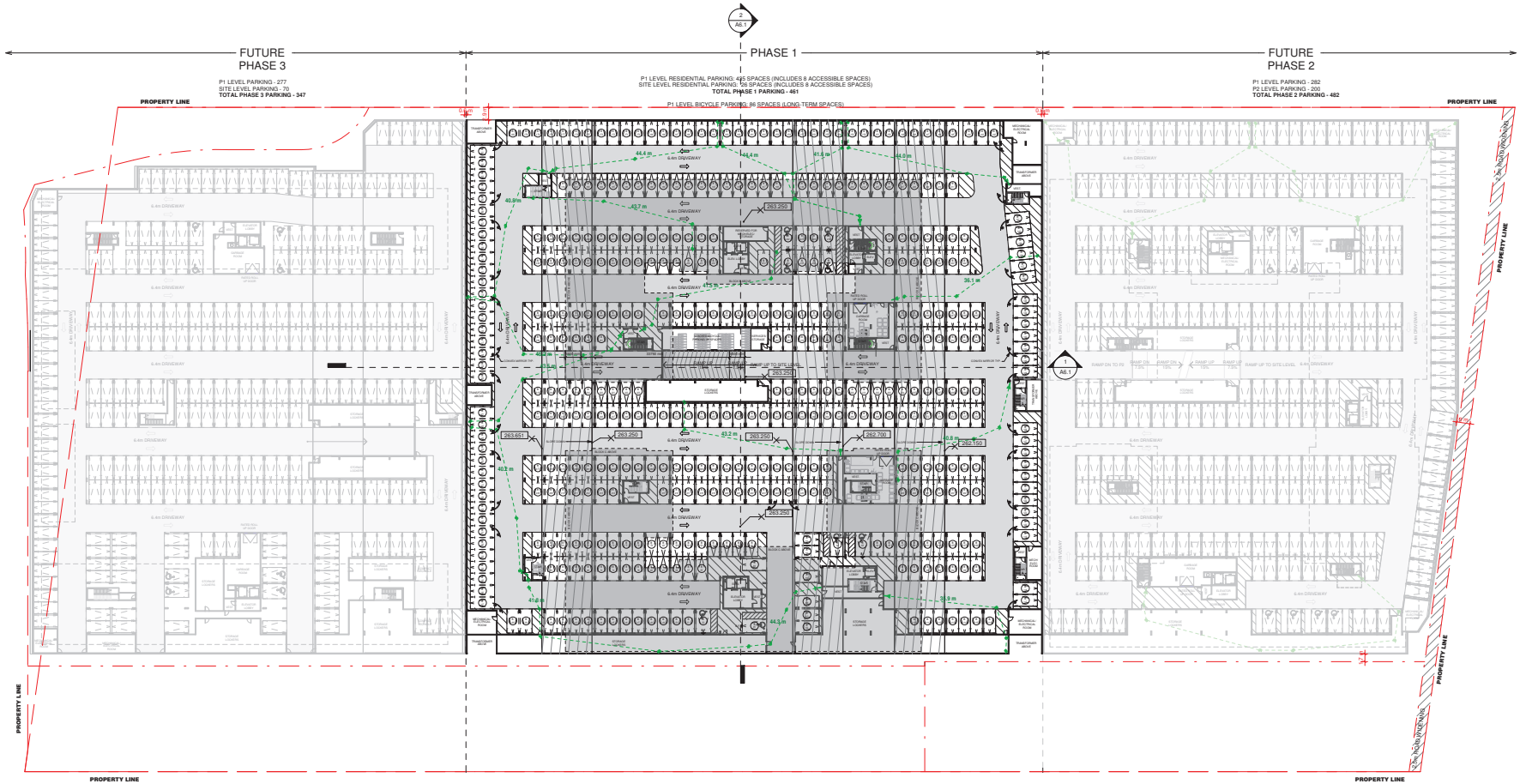


NOTE: WHERE THE REQUIRED 1500mm ACCESS AISLE IS PROVIDED BETWEEN TWO BARRIER-FREE PARKING SPACES, THE AISLE WIDTH CAN BE SHARED.

TYPICAL BICYCLE PARKING SPACE:

WALKWAY: MINIMUM 1800mm
VERTICAL PARKING SPACE: 1500mm (L) x 500mm (W)
HORIZTONAL PARKING SPACE: 1800mm (L) x 600mm (W)
STACKED PARKING SPACE: 1930mm (L) x 460mm (W)





BLOCK B & C - LEVEL P1 FLOOR PLAN (1 / A4.2)
Scale: 1 : 450

THESE DRAWINGS ARE NOT TO BE SCALED:
ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES MUST BE REPORTED DIRECTLY TO SRN ARCHITECTS INC.

NO.	DATE:	ISSUED FOR:
12	2024-01-31	ISSUED FOR CLIENT REVIEW
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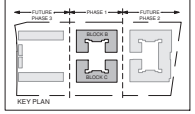
14	2024-02-05	ISSUED FOR CLIENT REVIEW
15	2024-02-13	ISSUED FOR CLIENT REVIEW
16	2024-03-01	ISSUED FOR TRAFFIC COORDINATION REVIEW
17	2024-03-17	ISSUED FOR TRAFFIC COORDINATION REVIEW
18	2024-04-26	ISSUED FOR TRAFFIC COORDINATION REVIEW
19	2024-05-03	ISSUED FOR COORDINATION
20	2024-06-21	ISSUED FOR SPA

ADDITIONAL NOTES:



KEY PLAN

NO.	DATE:	ISSUED FOR:

SRN ARCHITECTS INC SHALL NOT BE RESPONSIBLE FOR:

1. ERRORS, OMISSIONS, INCOMPLETENESS DUE TO LOSS OF INFORMATION IN WHOLE OR PART WHEN INFORMATION IS TRANSFERRED.

2. TRANSMISSIONS OF ANY VIRUS OR DAMAGE TO RECEIVING ELECTRONIC SYSTEM WHEN INFORMATION IS TRANSFERRED

SRN ARCHITECTS
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO. L4K 5Y2
PHONE: 905.417.5515 FAX: 905.417.5517

STAMP:



© SRN ARCHITECTS INC. 2024

CLIENT:
CROWN COMMUNITIES DEVELOPMENTS INC.

PROJECT:
RESIDENTIAL DEVELOPMENT
1012 YONGE ST
BARRIE, ON

DRAWING TITLE:
LEVEL P1 FLOOR PLAN

DATE:	APRIL 23 2023	SCALE:	As indicated
DRAWN BY:	MJ/AG	CHECKED BY:	RS
PROJECT NUMBER:	S19013	DRAWING NUMBER:	A4.2

Autodesk Docs://S19013-Crown Communities-1012 Yonge Street/S19013-Crown Communities-Barrie-Concept-RVT2024.rvt
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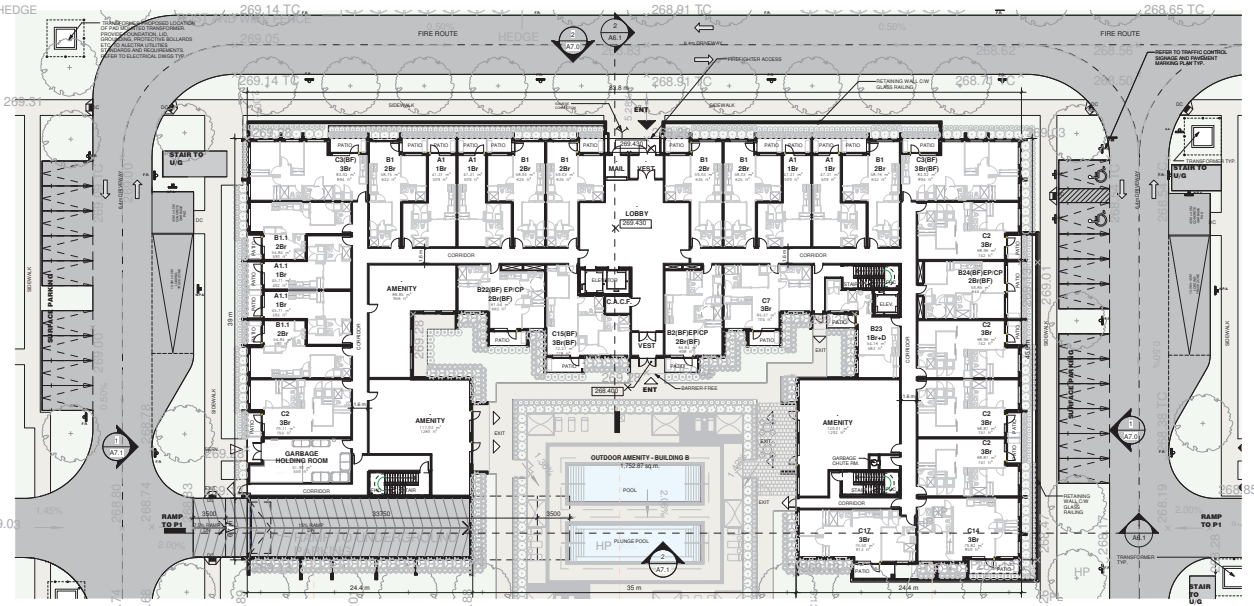
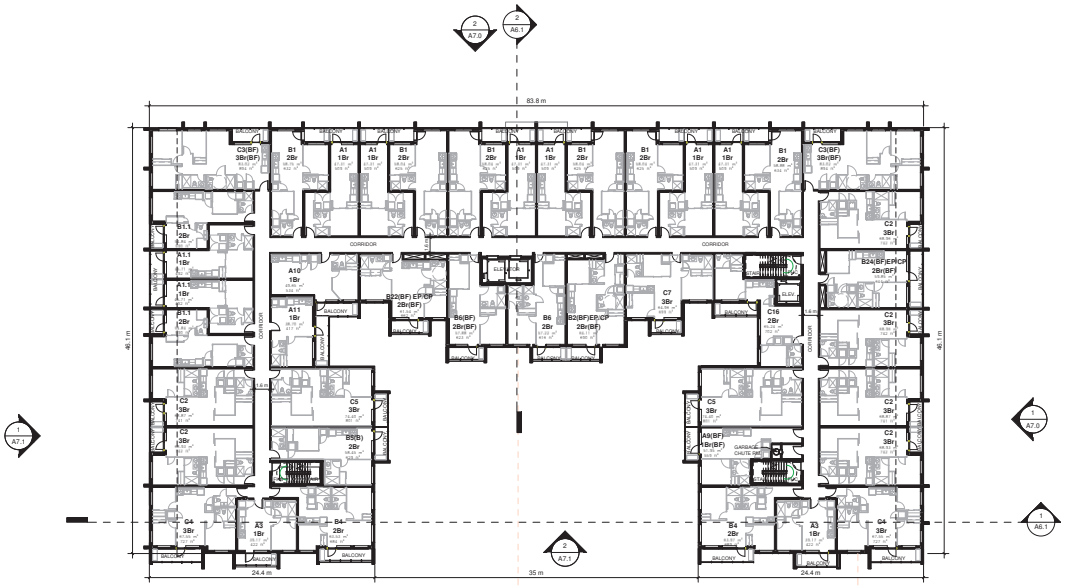


BLOCK B_LEVEL 1-FLOOR PLAN (1 / A5.1)
Scale: 1 : 250



BLOCK B_LEVEL 2 TO 3-FLOOR PLAN (2 / A5.1)
Scale: 1 : 250

THESE DRAWINGS ARE NOT TO BE SCALED:
ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES MUST BE REPORTED DIRECTLY TO SRN ARCHITECTS INC.

NO.	DATE:	ISSUED FOR:
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15	2024-02-13	ISSUED FOR CLIENT REVIEW
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17	2024-03-17	ISSUED FOR TRAFFIC COORDINATION REVIEW
18	2024-04-26	ISSUED FOR TRAFFIC COORDINATION REVIEW
19	2024-05-03	ISSUED FOR COORDINATION
20	2024-06-21	ISSUED FOR SPA

ADDITIONAL NOTES:

KEY PLAN

NO.	DATE:	ISSUED FOR:

SRN ARCHITECTS INC SHALL NOT BE RESPONSIBLE FOR:
1. ERRORS, OMISSIONS, INCOMPLETENESS DUE TO LOSS OF INFORMATION IN WHOLE OR PART WHEN INFORMATION IS TRANSFERRED.
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SRN ARCHITECTS
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO. L4K 5Y2
PHONE: 905.417.5515 FAX: 905.417.5517

STAMP:
ONTARIO ASSOCIATION OF ARCHITECTS
GREGORY ANDREW RASPIN
LICENCE 4599
PROVINCE OF ONTARIO
2024-06-26

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CLIENT:
CROWN COMMUNITIES DEVELOPMENTS INC.

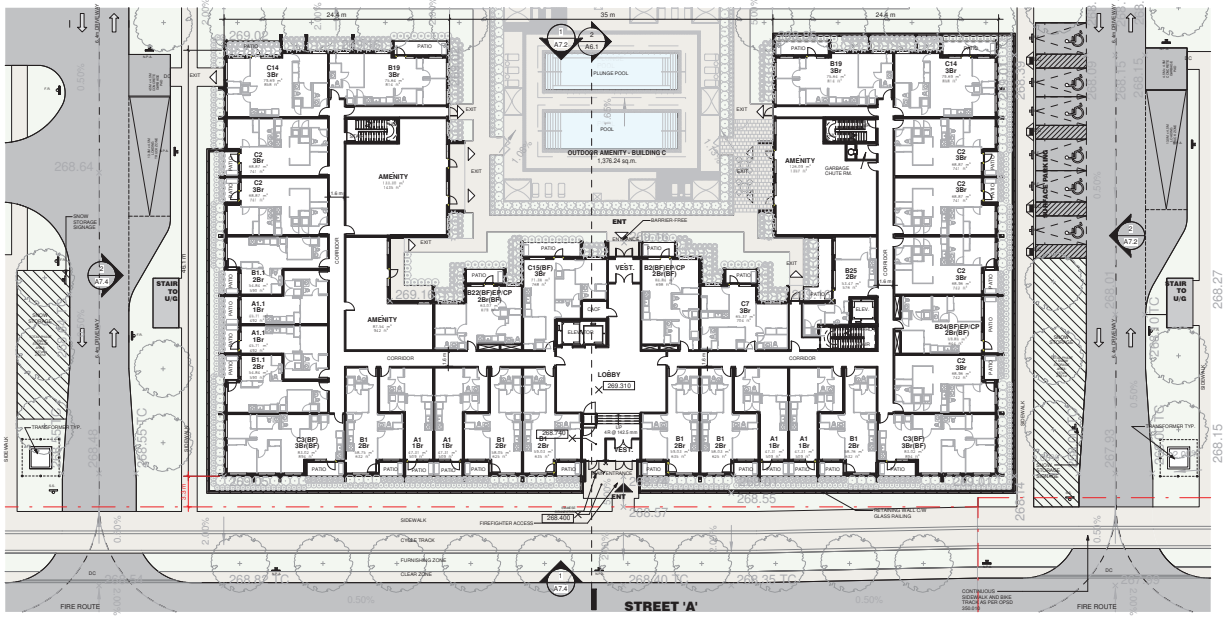
PROJECT:
RESIDENTIAL DEVELOPMENT
1012 YONGE ST
BARRIE, ON

DRAWING TITLE:
Block B - LEVEL 1 & 2 TO 3-FLOOR PLAN

DATE:	APRIL 23 2023	SCALE:	As indicated
DRAWN BY:	MJ/AG	CHECKED BY:	RS

PROJECT NUMBER: S19013
DRAWING NUMBER: A5.1

Autodesk Docs://S19013-Crown Communities-1012 Yonge Street/S19013-Crown Communities-Barrie-Concept-RVT2024.rvt
2024-08-26 1:39:39 PM



BLOCK C_LEVEL 1-FLOOR PLAN (1 / A5.4)
Scale: 1 : 250



BLOCK C_LEVEL 2 TO 3-FLOOR PLAN (2 / A5.4)
Scale: 1 : 250

THESE DRAWINGS ARE NOT TO BE SCALED:
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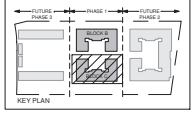
18	2024-04-26	ISSUED FOR TRAFFIC COORDINATION REVIEW
19	2024-06-03	ISSUED FOR COORDINATION
20	2024-06-21	ISSUED FOR SPA

ADDITIONAL NOTES:



NO.	DATE:	ISSUED FOR:

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SRN ARCHITECTS
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO. L4K 5Y2
PHONE: 905.417.5515 FAX: 905.417.5517

STAMP:
ONTARIO ASSOCIATION OF ARCHITECTS
GREGORY ANDREW RASPIN
LICENCE 4599
DATE: 2024-06-26

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CLIENT:
CROWN COMMUNITIES DEVELOPMENTS INC.

PROJECT:
RESIDENTIAL DEVELOPMENT
1012 YONGE ST
BARRIE, ON

DRAWING TITLE:
Block C - LEVEL 1 & 2 TO 3-FLOOR PLAN

DATE:	APRIL 23 2023	SCALE:	As indicated
DRAWN BY:	MJ/AG	CHECKED BY:	RS
PROJECT NUMBER:	S19013	DRAWING NUMBER:	A5.4

Autodesk Docs://S19013-Crown Communities-1012 Yonge Street/S19013-Crown Communities-Barrie-Concept-RVT2024.rvt
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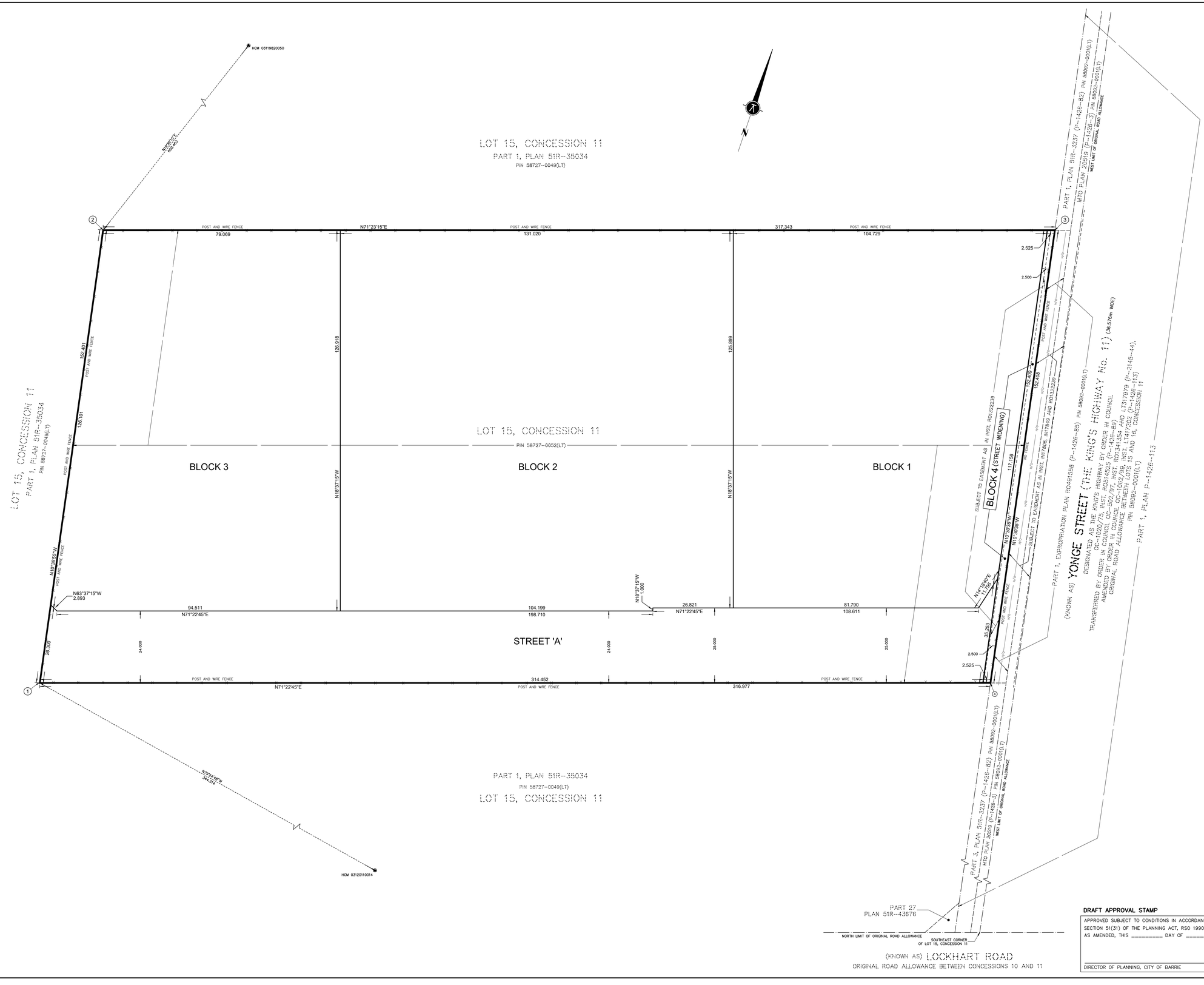
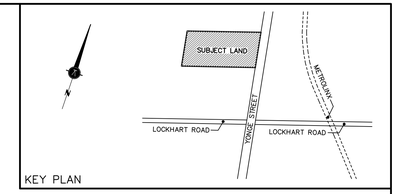
Appendix D:
Draft Plan of Subdivision





DRAFT PLAN OF SUBDIVISION
PART OF LOT 15
CONCESSION 11
(GEOGRAPHIC TOWNSHIP OF INNISFIL)
TOWN OF INNISFIL
COUNTY OF SIMCOE

SCALE 1:500

10 0 10 20 30 40 50m

KRCMAR SURVEYORS LTD. 2024

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

BEARING

BEARINGS SHOWN HEREON ARE GRID DERIVED FROM HORIZONTAL CONTROL MONUMENTS No. 03119820050 AND No. 03120110014 AND ARE REFERRED TO THE 6° UTM COORDINATE SYSTEM, ZONE 17, CENTRAL MERIDIAN 81°00' WEST LONGITUDE. (NAD 83 (CSRS)(2010)).

DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999711495.

INTEGRATION DATA

6° UTM ZONE 17 COORDINATES
NAD 83 (CSRS)(2010) (CENTRAL MERIDIAN 81°00' WEST LONGITUDE)
THE UTM COORDINATES LISTED BELOW ARE TO URBAN ACCURACY AND COMPLY WITH SUBSECTION 14(2) OF ONTARIO REGULATION 216/10 FILED UNDER THE SURVEYORS ACT.

SPECIFIED CONTROL POINTS

MONUMENT ID.	NORTHING	EASTING
HCM 03119820050	4 911 119.632	609 627.703
HCM 03120110014	4 910 284.662	609 772.678

REFERENCE POINTS

POINT	NORTHING	EASTING
1	4 910 347.90	609 434.32
2	4 910 497.64	609 406.17
3	4 910 598.89	609 706.83
4	4 910 449.08	609 734.62

COORDINATE VALUES SHOWN ARE FOR GEOGRAPHIC INFORMATION SYSTEM INTEGRATION ONLY. COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT.

A) AS SHOWN ON DRAFT PLAN
B) AS SHOWN ON KEY PLAN
C) AS SHOWN ON THE KEY PLAN
D) AS SHOWN IN LAND USE SCHEDULE
E) AS SHOWN ON DRAFT PLAN
F) AS SHOWN ON DRAFT PLAN
G) AS SHOWN ON DRAFT PLAN
H) MUNICIPAL SERVICES TO BE PROVIDED
I) CLAY LOAM
J) AS SHOWN ON DRAFT PLAN
K) MUNICIPAL SERVICES TO BE PROVIDED
L) AS SHOWN ON DRAFT PLAN

LAND USE		AREA (ha)
MIXED USE	BLOCK 1	1.2031
MIXED USE	BLOCK 2	1.6600
MIXED USE	BLOCK 3	1.1161
STREET WIDENING (2.5 Wide)	BLOCK 4	0.0381
ROAD (IRREGULAR WIDTH)	STREET 'A'	0.7688

NOTES

UNDERLYING TOPOGRAPHIC INFORMATION SHOWN HEREON IS DERIVED FROM SKETCH SHOWING TOPOGRAPHY BY GUIDO PAPA SURVEYING (A DIVISION OF J. D. BARNES LIMITED), O.L.S., DATED JANUARY 4, 2019.

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE DERIVED FROM STATION 03120110014 (COSINE), HAVING AN ELEVATION OF 268.681m AND VERIFIED BY STATION 03120110013, HAVING AN ELEVATION OF 252.807M.

LEGEND

HCM DENOTES HORIZONTAL CONTROL MONUMENT
—O/H— DENOTES HYDRO SERVICE (OVERHEAD)

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS BEING SUBDIVIDED AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN ON THIS PLAN.

DATE _____, 2024

_____
Krcmar Surveyors Ltd.
Ontario Land Surveyors

OWNER'S CERTIFICATE

I HEREBY AUTHORIZE THE PREPARATION AND SUBMISSION OF THIS DRAFT PLAN OF SUBDIVISION FOR APPROVAL.

CROWN (BARRIE) DEVELOPMENTS INC.

DATE _____, 2024

_____
name — A.S.O.
"I HAVE AUTHORITY TO BIND THE CORPORATION"

DRAFT APPROVAL STAMP

APPROVED SUBJECT TO CONDITIONS IN ACCORDANCE WITH SECTION 51(31) OF THE PLANNING ACT, RSO 1990, CHAP. P. 13, AS AMENDED, THIS _____ DAY OF _____, 20___.

_____
DIRECTOR OF PLANNING, CITY OF BARRIE

MUNICIPAL ADDRESS: No. 1012 YONGE STREET, INNISFIL

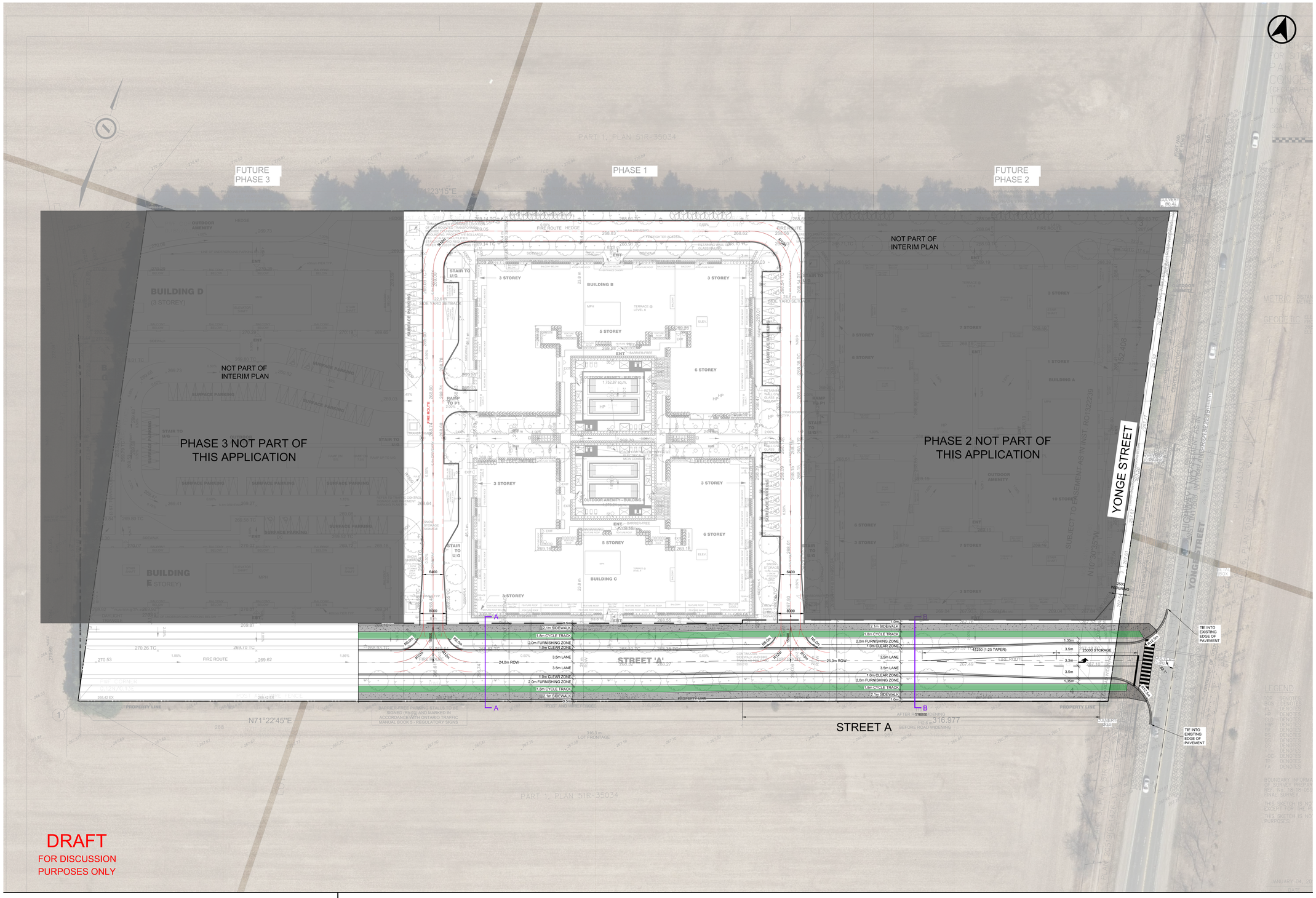
FIELD:	--	DRAWN:	C.L.	CHECKED:	W.G.	JOB NO:	24-048
DWG NAME:	24-048DM01	PLOT INFO:	10:10 08/Jul/2024	WORK ORDER NO:	39908		

1137 Centre Street Thornhill ON L4J 3M6 905.738.0053 F 905.738.9221 www.krcmar.ca

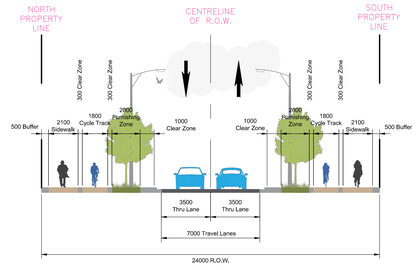
PLAN AVAILABLE AT www.ProtectYourBoundaries.ca

KRCMAR

Appendix E:
Functional Road Plans

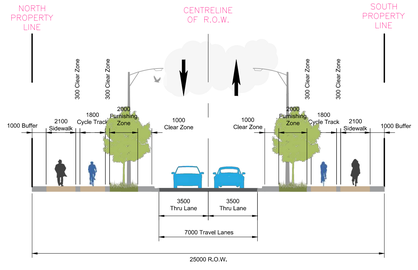


Section A-A: Street A Cross-Section (1:150)
24.0m R.O.W. - 2 Directional Lanes, 2.0m Furnishing Areas, 1.8m Cycle Tracks, and 2.0m Sidewalks



NOTE: CROSS SECTION BASED ON CITY STANDARD R303 WITH MODIFICATIONS

Section B-B: Street A Cross-Section (1:150)
25.0m R.O.W. - 2 Directional Lanes, 2.0m Furnishing Areas, 1.8m Cycle Tracks, and 2.0m Sidewalks



NOTE: CROSS SECTION BASED ON CITY STANDARD R303 WITH MODIFICATIONS

01	08-15-24	TC	ISSUED FOR SPA SUBMISSION
00	06-03-24	TC	ISSUED FOR INTERNAL REVIEW
00	MM-DD-YR	INT	REVISION NOTE

BA Group

BA Consulting Group Ltd.
1000 - 95 St. Clair Ave. W.
Toronto ON M4V 1N6
tel. 416 961 7110
www.bagroup@bagroup.com

MOVEMENT IN URBAN ENVIRONMENTS
BAGROUP.COM

1012 YONGE - PHASE 1

FUNCTIONAL ROAD PLAN

INTERIM CONDITION

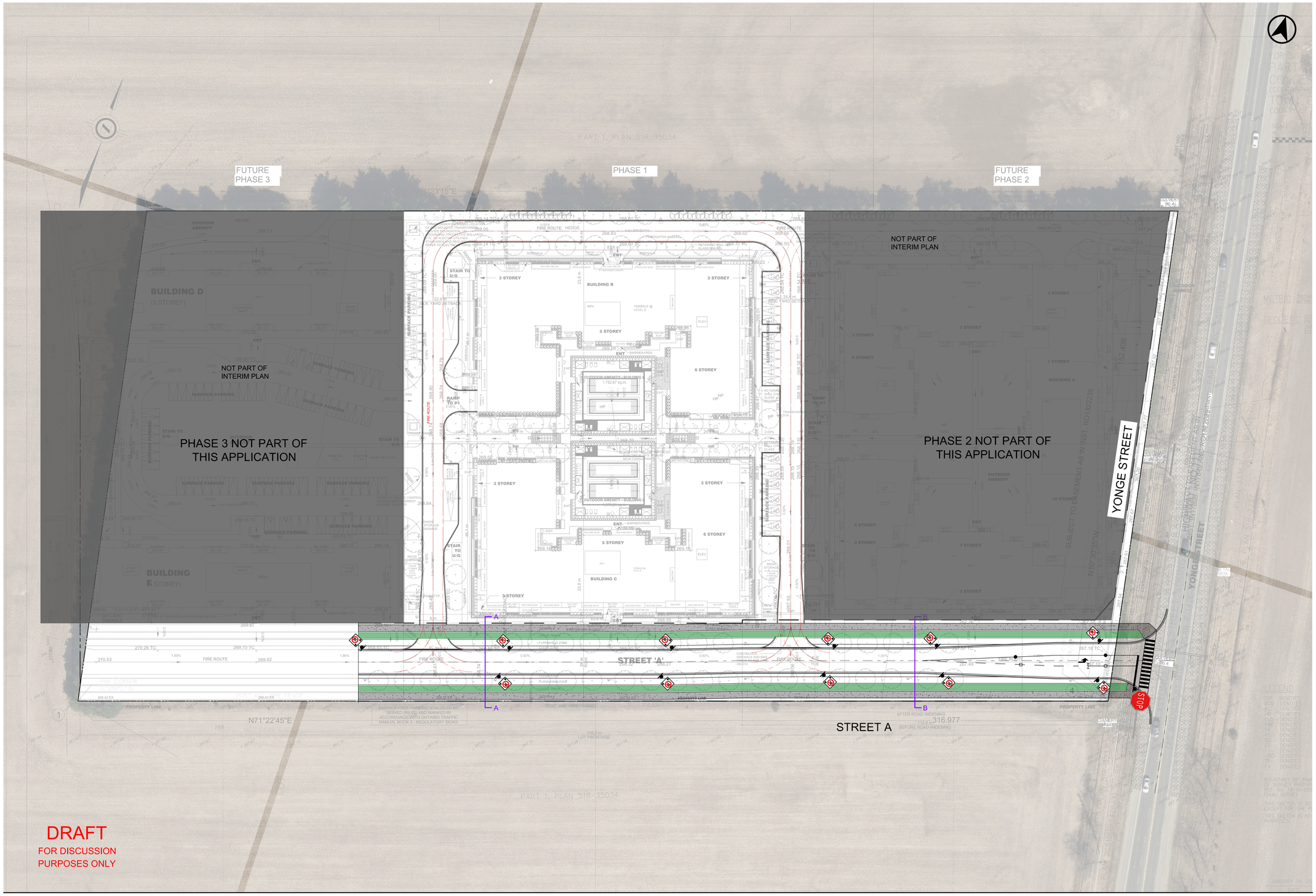
Date: June 3, 2024

Project No.: 7809-07

Scale: 1:400 (0 2 4 6 8 10 20m)

FD-01

Date Plotted: August 16, 2024 Filename: J:\7809-07\BA\Functional Design\2024\Street A\5. Aug15-24\ba-1012 Yonge\FD-R02-7809-07 - Interim.dwg



PAVEMENT MARKING:

(NOTE-ALL MARKINGS MUST CONFORM TO THE ONTARIO TRAFFIC MANUAL (OTM) BOOK 11

- 10cm (4 in.) WHITE SOLID
- 10cm (4 in.) YELLOW SOLID
- 10cm (4 in.) WHITE (3m (10ft.) LINE, 1m (3ft.) GAP)
- DENOTES LIMIT OF SYMBOLS
- LEFT TURN ARROW (3m (10ft.))
- ALL STOP BARS TO BE 60cm (2ft.) WHITE SOLID
- PEDESTRIAN CORSSING
  - COLD PLASTIC "POLYMERIC"
  - WIDTH AS SHOWN
  - PATTERN: 60cm PAINTED, 60cm GAP
  - TRAFFIC WHITE

SIGN MOUNT LEGEND

ALL SIGNS ARE SHOWN IN APPROXIMATE LOCATIONS AND TO BE DETERMINED ON SITE. SIGNS MUST BE VISIBLE TO DRIVER AND NOT OBSTRUCTED BY LANDSCAPE.

- PROPOSED POST

SIGNAGE LEGEND:



Rb-1
(600 x 600mm

Rb-51
(300 x 300mm

01	06-15-24	TC	ISSUED FOR SPA SUBMISSION
00	06-03-24	TC	ISSUED FOR INTERNAL REVIEW
00	MM-DD-YR	INT	REVISION NOTE

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1012 YONGE - PHASE 1

FUNCTIONAL ROAD PLAN

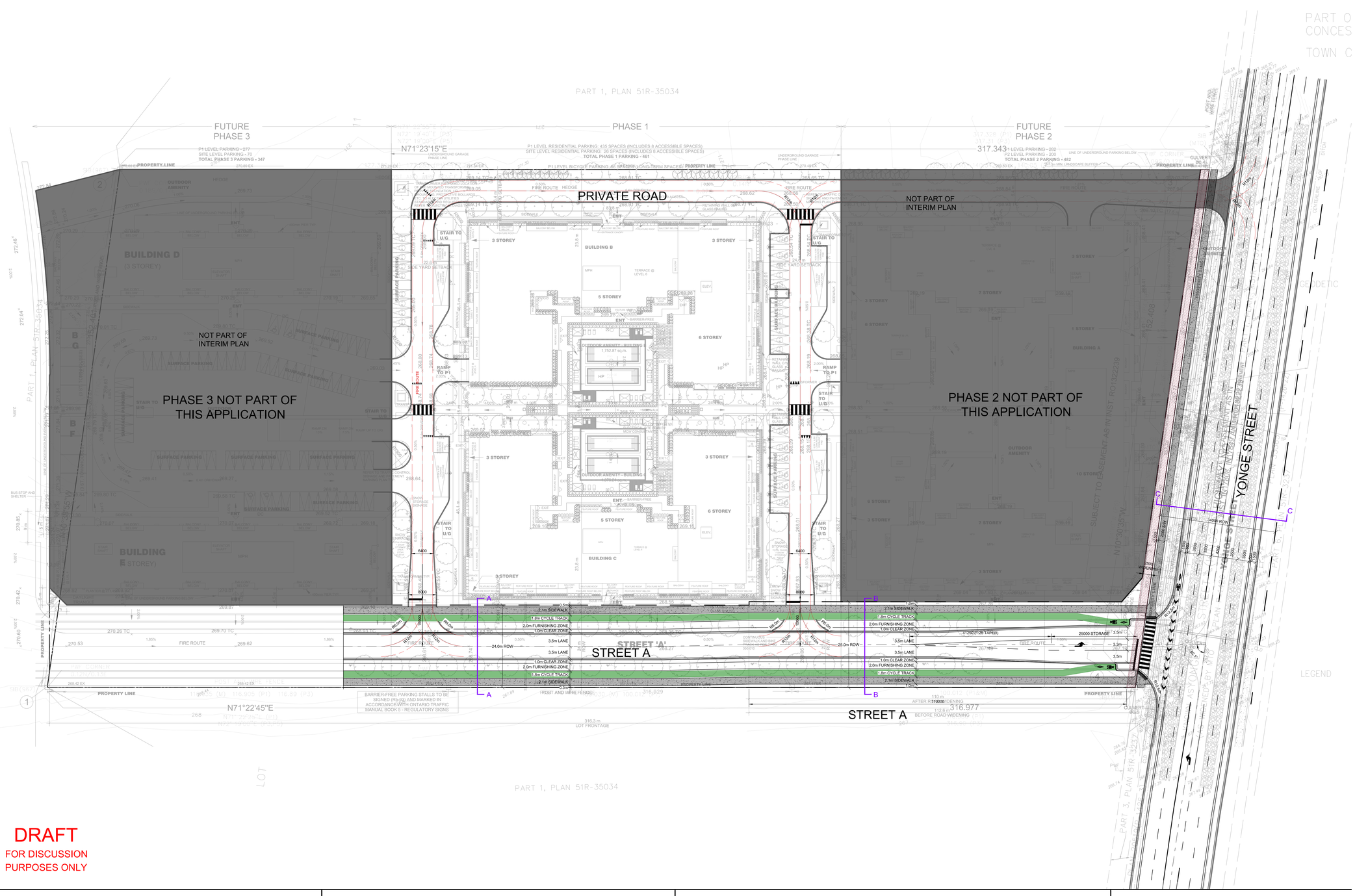
INTERIM CONDITION

Date: June 3, 2024

Project No.: 7809-07

Scale: 1:400 (0 2 4 6 8 10 20m)

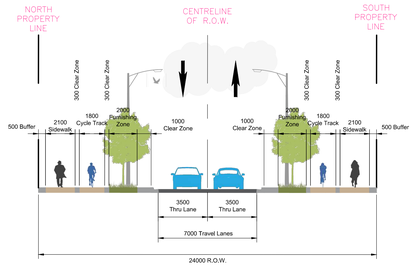
SN-01



DRAFT

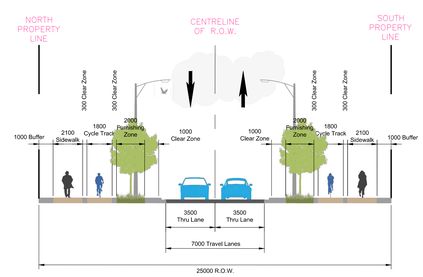
FOR DISCUSSION PURPOSES ONLY

Section A-A: Street A Cross-Section (1:150)
24.0m R.O.W. - 2 Directional Lanes, 2.0m Furnishing Areas, 1.8m Cycle Tracks, and 2.0m Sidewalks



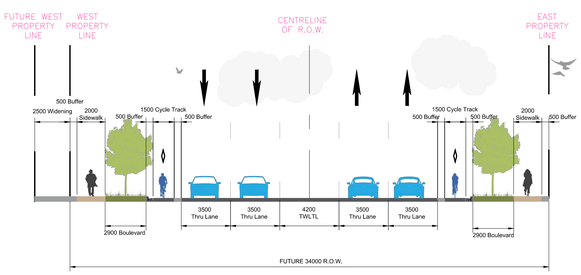
NOTE: CROSS SECTION BASED ON CITY STANDARD R303 WITH MODIFICATIONS

Section B-B: Street A Cross-Section (1:150)
25.0m R.O.W. - 2 Directional Lanes, 2.0m Furnishing Areas, 1.8m Cycle Tracks, and 2.0m Sidewalks



NOTE: CROSS SECTION BASED ON CITY STANDARD R303 WITH MODIFICATIONS

Section C-C: Yonge Street Cross Section (1:150)
Future 45.0m R.O.W. - 4 Directional Lanes, 2.9m Boulevards, 1.5m Cycle Tracks, and 2.0m Sidewalks



NOTE: CROSS SECTION BASED ON CITY OF BARRIE YONGE STREET IMPROVEMENTS PLAN

Date Plotted: August 15, 2024 Filename: J:\7809-07\BA\Functional Design\2024 Street A/S_Aug15-24\ba-1012 Yonge-FD-R02-7809-07 - Ultimate.dwg

01	06-15-24	TC	ISSUED FOR SPA SUBMISSION
00	06-03-24	TC	ISSUED FOR INTERNAL REVIEW
00	MM-DD-YR	INT	REVISION NOTE

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1012 YONGE - PHASE 1

FUNCTIONAL ROAD PLAN

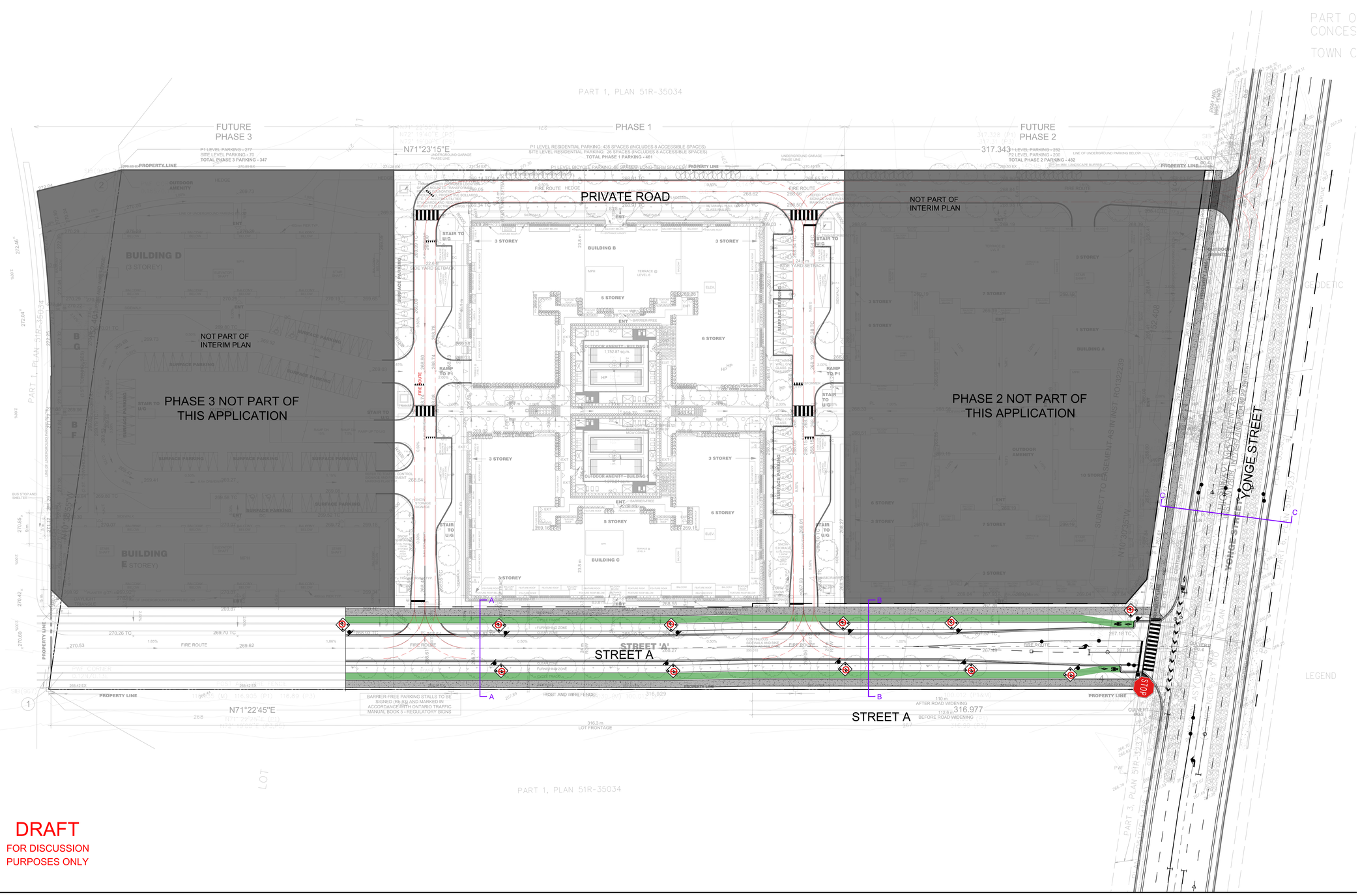
ULTIMATE CONDITION

Date: June 3, 2024

Project No.: 7809-07

Scale: 1:400 (0 2 4 6 8 10 20m)

FD-02



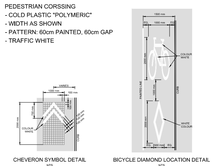
DRAFT

FOR DISCUSSION PURPOSES ONLY

PAVEMENT MARKING:

(NOTE-ALL MARKINGS MUST CONFORM TO THE ONTARIO TRAFFIC MANUAL (OTM) BOOK 11

- 10cm (4 in.) WHITE SOLID
- 10cm (4 in.) YELLOW SOLID
- 10cm (4 in.) WHITE (3m (10ft.) LINE, 1m (3ft.) GAP)
- 10cm (4 in.) WHITE (1m (3 ft.) LINE, 1m (3 ft.) GAP)
- 10cm (4 in.) WHITE (3m (10 ft.) LINE, 6m (20 ft.) GAP)
- DENOTES LIMIT OF SYMBOLS
- LEFT TURN ARROW (3m (10ft.))
- ALL STOP BARS TO BE 60cm (2ft.) WHITE SOLID
- PEDESTRIAN CORSSING
  - COLD PLASTIC "POLYMERIC"
  - WIDTH AS SHOWN
  - PATTERN: 60cm PAINTED, 60cm GAP
  - TRAFFIC WHITE



CHEVERON SYMBOL DETAIL
N.T.S

BICYCLE DIAMOND LOCATION DETAIL
N.T.S

SIGN MOUNT LEGEND

ALL SIGNS ARE SHOWN IN APPROXIMATE LOCATIONS AND TO BE DETERMINED ON SITE. SIGNS MUST BE VISIBLE TO DRIVER AND NOT OBSTRUCTED BY LANDSCAPE.

- PROPOSED POST

SIGNAGE LEGEND:



Rb-1
(600 x 600)mm



Rb-51
(300 x 300)mm

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00	MM-DD-YR	INT	REVISION NOTE

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1012 YONGE - PHASE 1

FUNCTIONAL ROAD PLAN

INTERIM CONDITION

Date: June 3, 2024

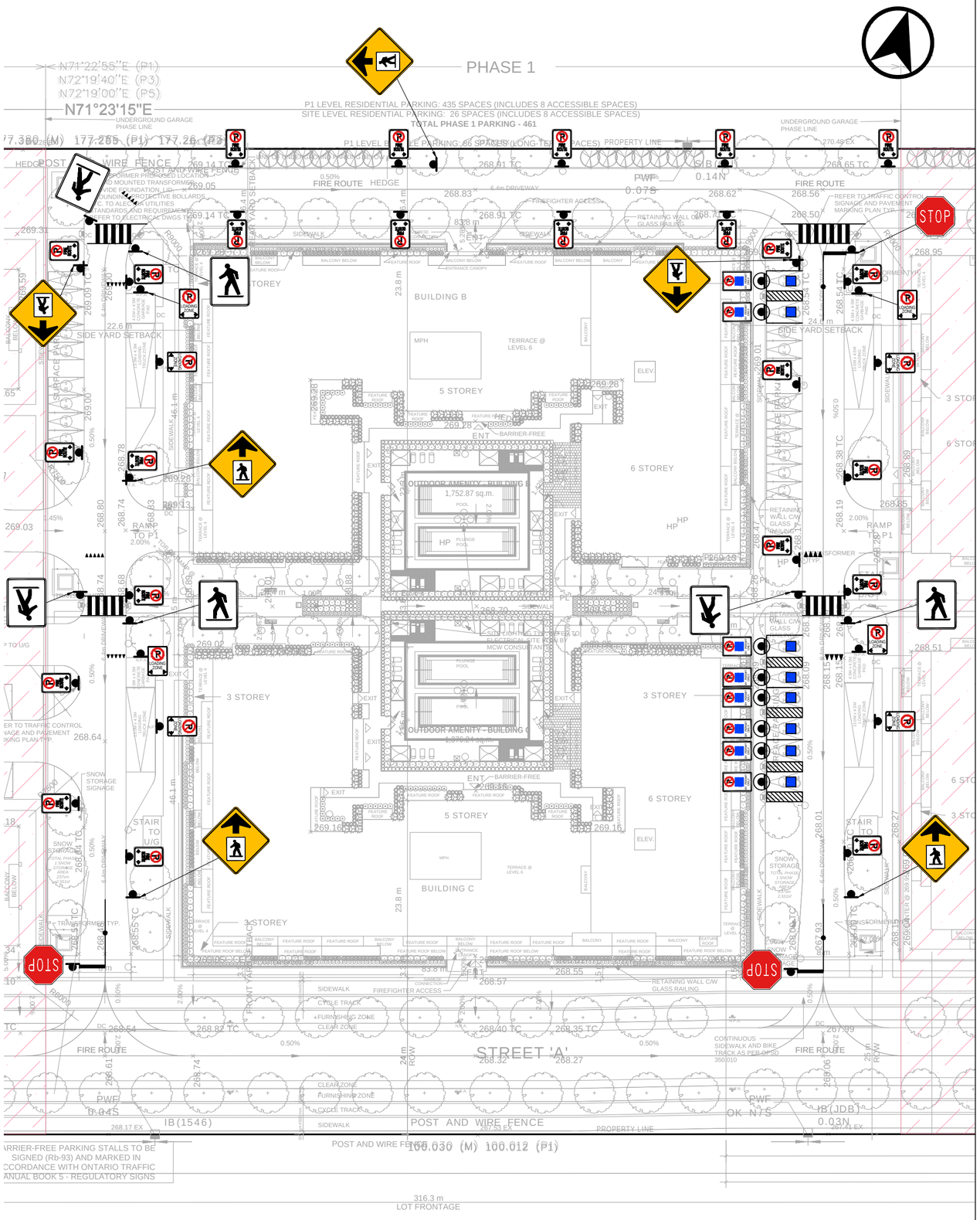
Project No.: 7809-07

Scale: 1:400 (0 2 4 6 8 10 20m)

SN-01

Date Plotted: August 15, 2024 Filename: J:\7809-07\BA\Functional Design\2024 Street A\5. Aug15-24\ba-1012 Yonge-FD-R02-7809-07 - Ultimate.dwg

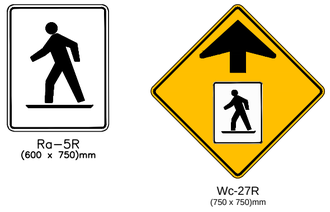
Appendix F:
Signage and Pavement Marking Plans



SIGN LEGEND



Ra-1 (600 x 600)mm | Rb-93 (300 x 450)mm | LZ_LR (300 x 450)mm | FIRE ROUTE (300 x 450)mm



Ra–5R (600 x 750)mm

Wc-27R (750 x 750)mm

PAVEMENT MARKING:

(NOTE-ALL MARKINGS MUST CONFORM TO THE ONTARIO TRAFFIC MANUAL (OTM) BOOK 11

- YELLOW HATCHING (10cm WIDE YELLOW STRIPS)
- INTERNATIONAL SYMBOL OF ACCESS
  - 1.5m x 1.5m
  - 10cm BORDER - TRAFFIC WHITE
  - SYMBOL - TRAFFIC WHITE
  - BLUE BACKGROUND
- PEDESTRIAN COROSSING
  - COLD PLASTIC "POLYMERIC"
  - WIDTH AS SHOWN
  - PATTERN: 60cm PAINTED, 60cm GAP
  - TRAFFIC WHITE
- 10cm (4in.) YELLOW SOLID
- ALL STOP BARS TO BE 60cm (2 ft.) WHITE SOLID
- SHARK TEETH (0.3m x 0.45m TRIANGLE, 0.3m GAP

SIGN MOUNT LEGEND:

ALL SIGNS ARE SHOWN IN APPROXIMATE LOCATIONS AND TO BE DETERMINED ON SITE. SIGNS MUST BE VISIBLE TO DRIVER AND NOT OBSTRUCTED BY LANDSCAPE.

- PROPOSED WALL/COLUMN MOUNT SIGN
- PROPOSED SIGN POST
- PROPOSED FLEX SIGN POST
- CONVEX MIRROR

SIGN INSTALLATION:

1. ALL SIGNS MUST CONFORM TO AND/BE EQUIVALENT TO THE STANDARDS AND SPECIFICATIONS SET OUT IN THE ONTARIO TRAFFIC MANUAL (OTM) BOOKS 1 THROUGH 10, EXCEPT WHERE OTHERWISE NOTED.
2. ALL SIGNS ARE SHOWN IN APPROXIMATE LOCATIONS AND TO BE DETERMINED ON SITE. SIGNS MUST BE VISIBLE TO DRIVER NOT OBSTRUCTED BY LANDSCAPE.
3. ALL SIGN POST LOCATIONS MUST BE PLACED SUCH THAT THE SIGN FACE OR EDGE OF SIGN WILL NOT PROJECT BEYOND THE CURB LINE.
4. REGULATORY TRAFFIC CONTROL SIGNS MUST BE MOUNTED SUCH THAT THERE IS A MINIMUM 2.1 METRES CLEARANCE FROM THE BOTTOM OF SIGN TO THE SURFACE.

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Toronto ON M4V 1N6
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1012 Yonge

Phase 1

Traffic Control Signage and Pavement Marking Plan

Ground Floor

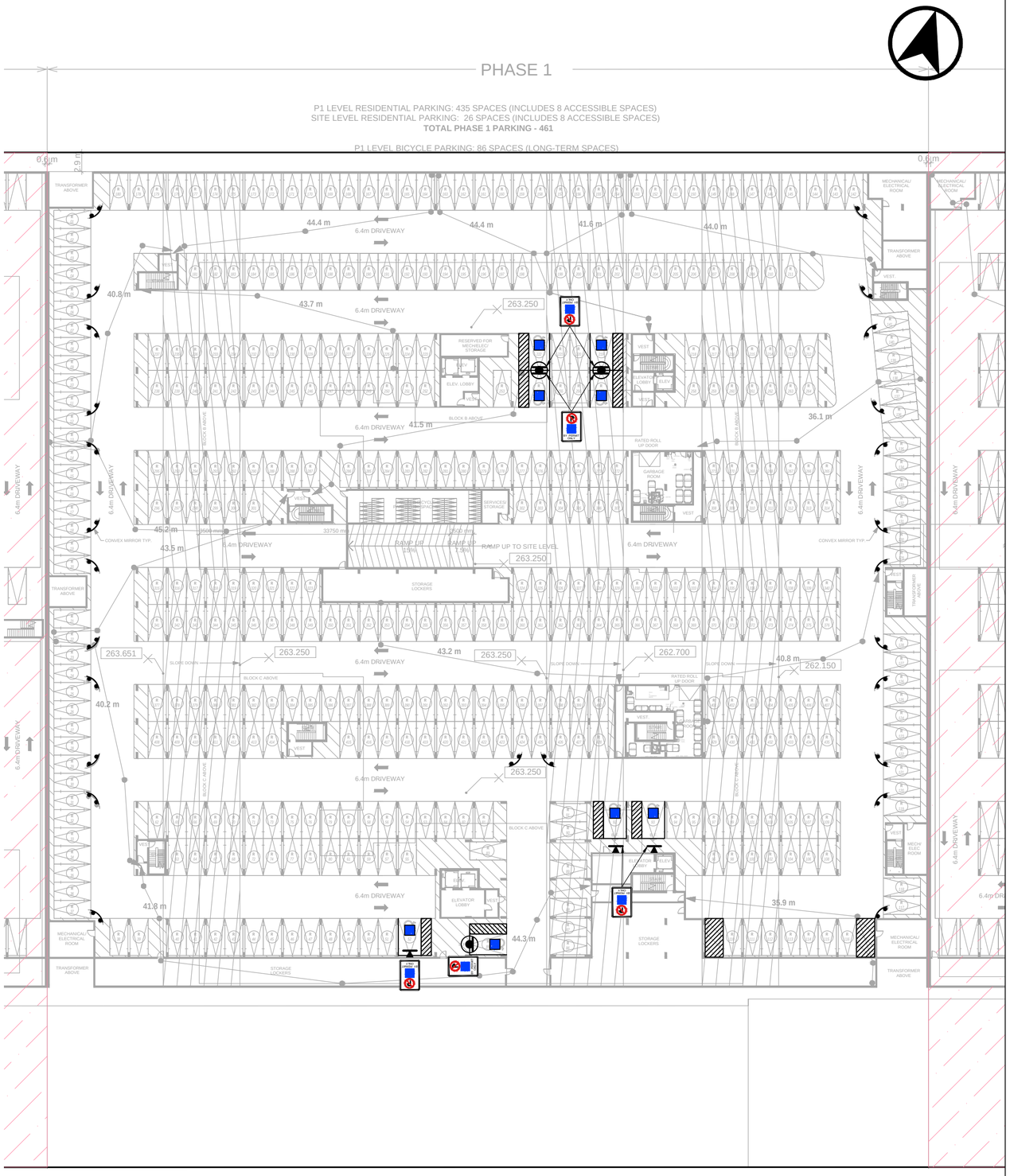
Date: August 27, 2024

Project No.: 7809-07

Scale: 1:500 (0 5 10 15 20m)

SN-01

Date Plotted: August 27, 2024 Filename: J:\7809-07\BA\Signage Plan\3. Aug27-24\ba-1012 Yonge-SN-R02-7809-07.dwg



SIGN LEGEND



Ra-1
(600 x 600)mm



Rb-93
(300 x 450)mm



LZ_LR
(300 x 450)mm



FIRE ROUTE
(300 x 450)mm



Ra-5R
(600 x 750)mm



Wc-27R
(750 x 750)mm

PAVEMENT MARKING:

(NOTE-ALL MARKINGS MUST CONFORM TO THE ONTARIO TRAFFIC MANUAL (OTM) BOOK 11

YELLOW HATCHING
(10cm WIDE YELLOW STRIPS)

INTERNATIONAL SYMBOL OF ACCESS
- 1.5m x 1.5m
- 10cm BORDER - TRAFFIC WHITE
- SYMBOL - TRAFFIC WHITE
- BLUE BACKGROUND

PEDESTRIAN COROSSING
- COLD PLASTIC "POLYMERIC"
- WIDTH AS SHOWN
- PATTERN: 60cm PAINTED, 60cm GAP
- TRAFFIC WHITE

10cm (4in.) YELLOW SOLID

ALL STOP BARS TO BE 60cm (2 ft.) WHITE SOLID

SHARK TEETH (0.3m x 0.45m TRIANGLE, 0.3m GAP

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PROPOSED SIGN POST

PROPOSED FLEX SIGN POST

CONVEX MIRROR

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4. REGULATORY TRAFFIC CONTROL SIGNS MUST BE MOUNTED SUCH THAT THERE IS A MINIMUM 2.1 METRES CLEARANCE FROM THE BOTTOM OF SIGN TO THE SURFACE.

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EMAIL bagroup@bagroup.com
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1012 Yonge

Phase 1

Traffic Control Signage and Pavement Marking Plan

Level P1

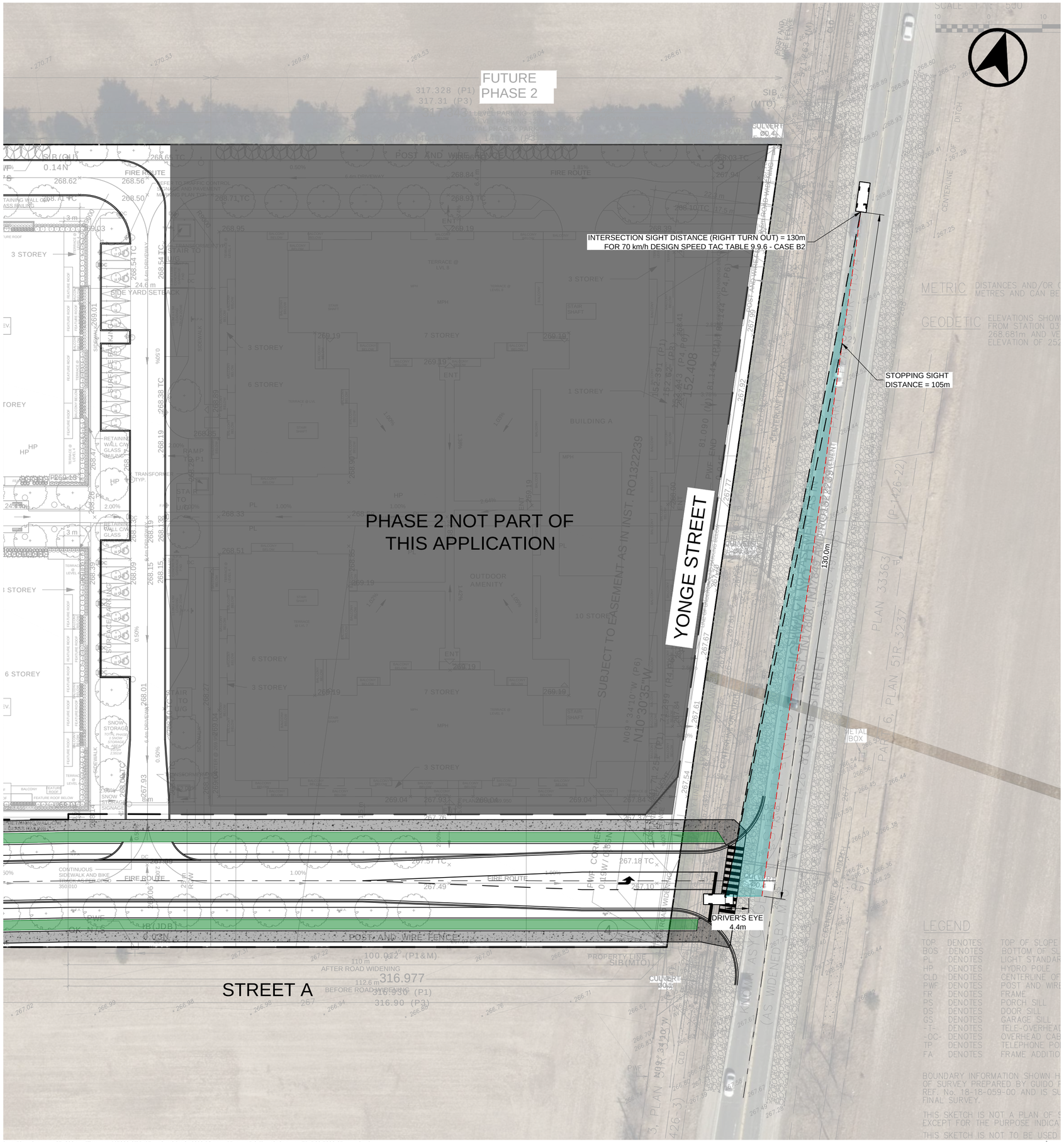
Date: August 15, 2024

Project No.: 7809-07

Scale: 1:500 (0 5 10 15 20m)

SN-02

Appendix G:
Stopping Sight Distance Diagrams



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01	08-15-24	TC	ISSUED FOR SPA SUBMISSION
00	07-22-24	KIC	ISSUED FOR REVIEW
00	MM-DD-YR	INT	REVISION NOTE

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Toronto ON M4V 1N6
TEL 416 961 7110
EMAIL bagroup@bagroup.com

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1012 YONGE ST

SIGHT DISTANCE REVIEW

RIGHT TURN FROM STOP

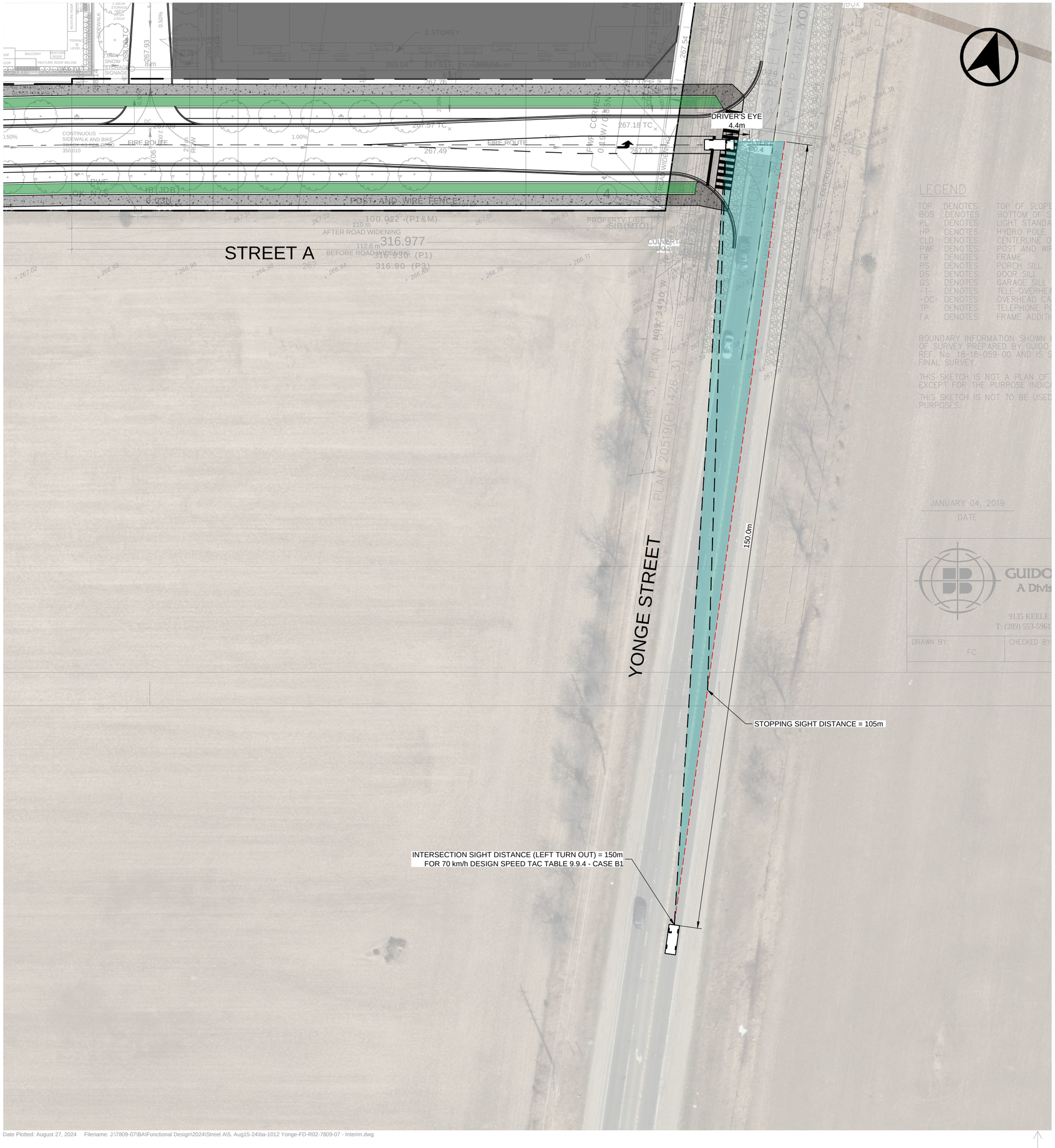
INTERIM CONDITION

Date: July 22, 2024

Project No.: 7809-07

Scale: 1:500 (0 5 10 15 20m)

SD-01A



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EMAIL bagroup@bagroup.com

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1012 YONGE ST

SIGHT DISTANCE REVIEW

LEFT TURN FROM STOP

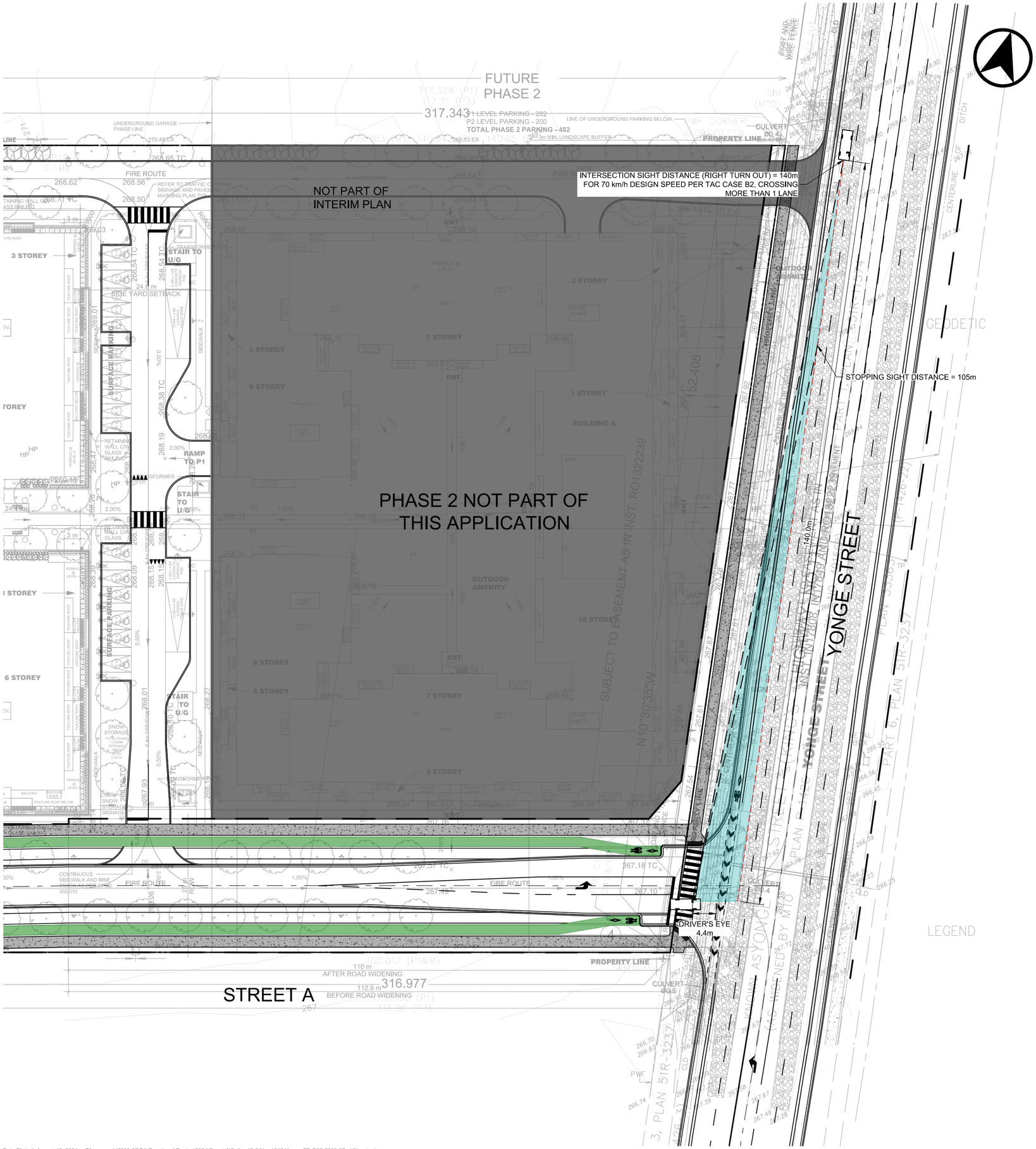
INTERIM CONDITION

Date: July 22, 2024

Project No.: 7809-07

Scale: 1:500 (0 5 10 15 20m)

SD-01B



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00	07-22-24	KIC	ISSUED FOR REVIEW
00	MM-DD-YR	INT	REVISION NOTE

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1012 YONGE ST

SIGHT DISTANCE REVIEW

RIGHT TURN FROM STOP

ULTIMATE CONDITION

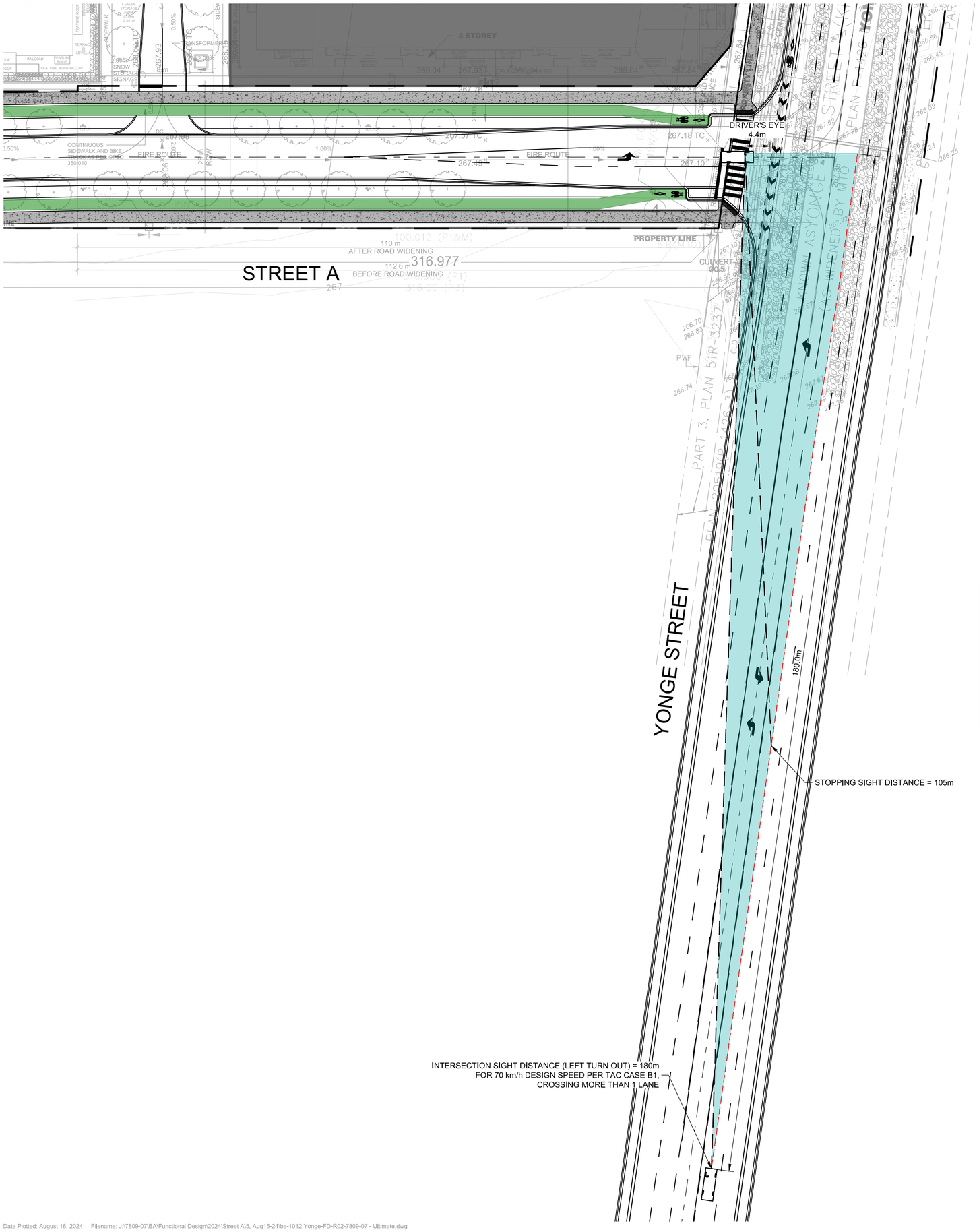
Date: July 22, 2024

Project No.: 7809-07

Scale: 1:500 (0 5 10 15 20m)

SD-02A

Date Plotted: August 16, 2024 Filename: J:\7809-07\BA\Functional Design\2024\Street A\5, Aug15-24\ba-1012 Yonge-FD-R02-7809-07 - Ultimate.dwg



LEGEND

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1012 YONGE ST

SIGHT DISTANCE REVIEW

LEFT TURN FROM STOP

ULTIMATE CONDITION

Date: July 22, 2024

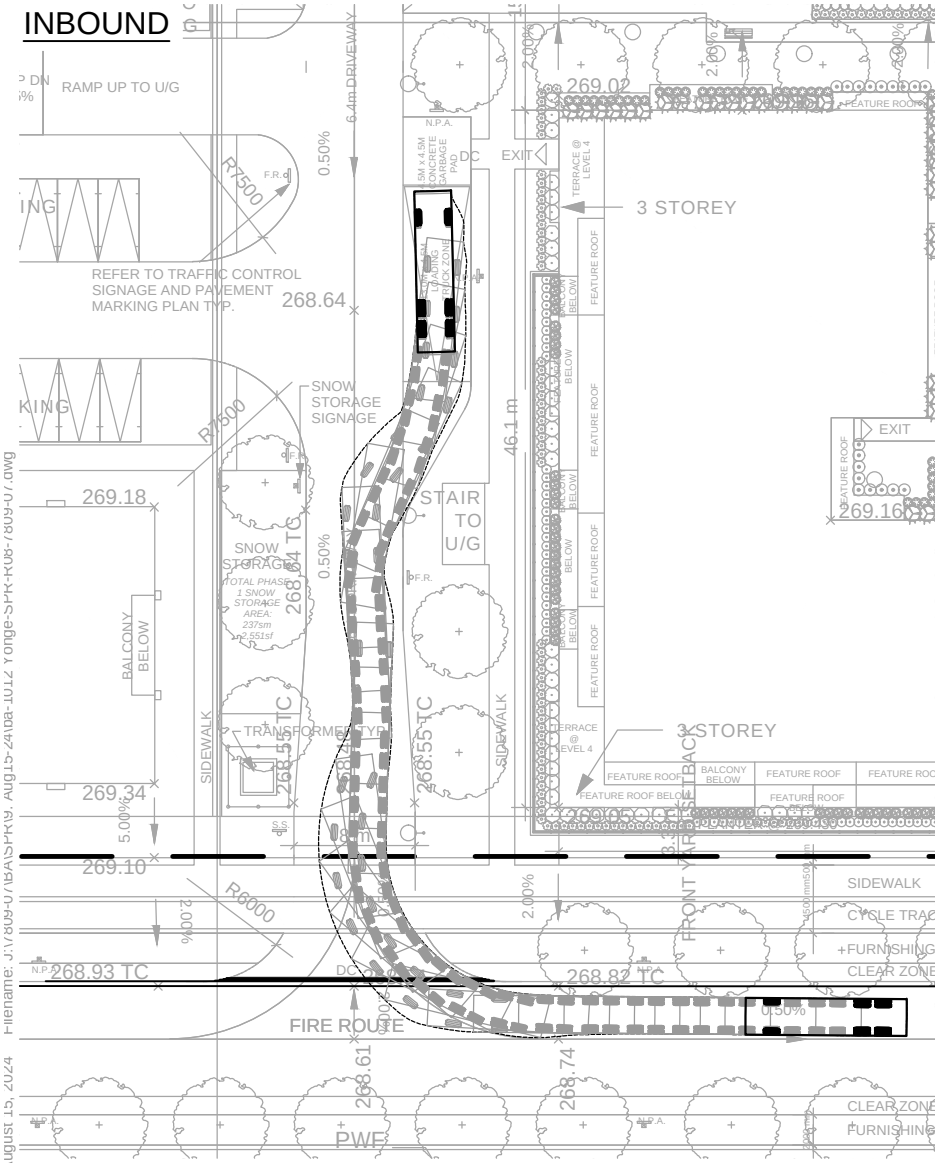
Project No.: 7809-07

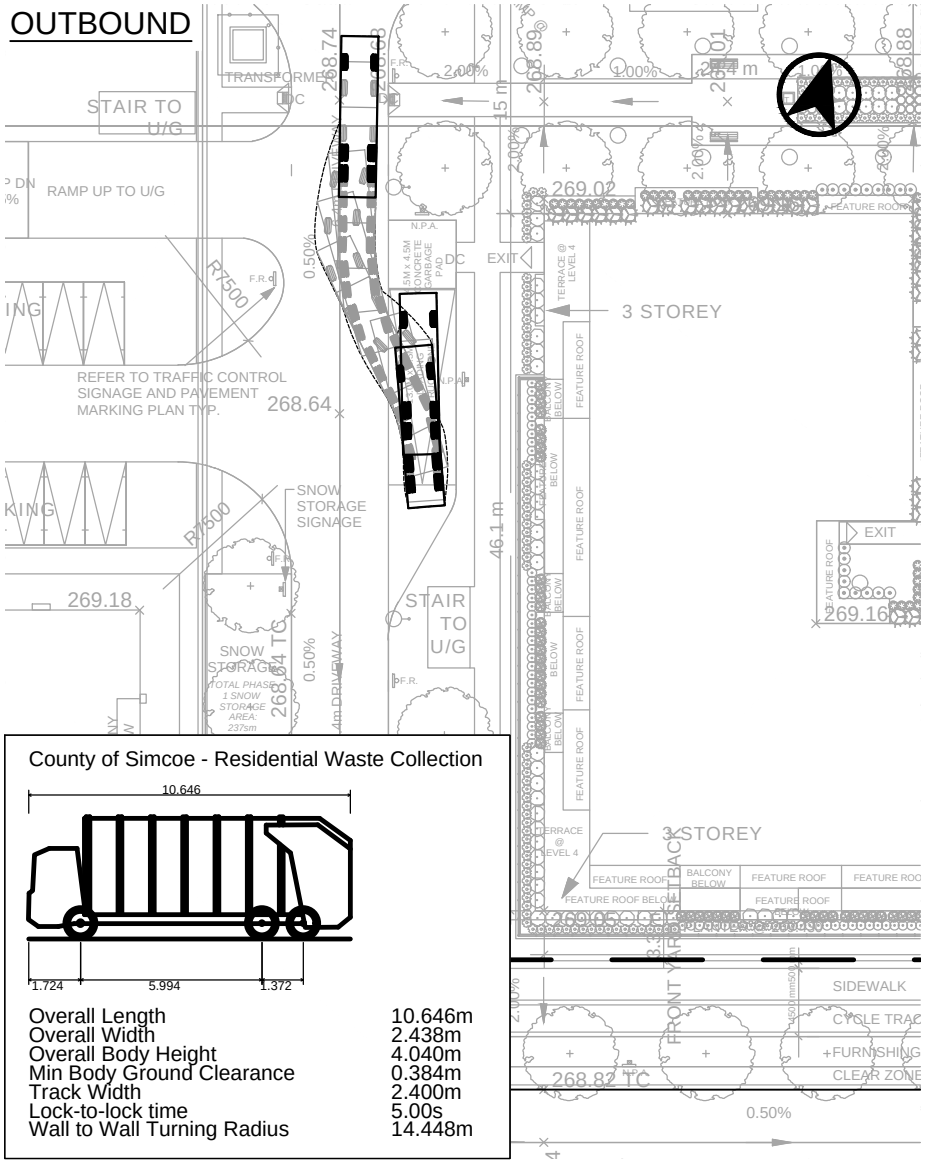
Scale: 1:500 (0 5 10 15 20m)

SD-02B

Date Plotted: August 16, 2024 Filename: J:\7809-07\BA\Functional Design\2024\Street A\5, Aug15-24\ba-1012 Yonge-FD-R02-7809-07 - Ultimate.dwg

Appendix H:
Vehicle Manoeuvring Diagrams





County of Simcoe - Residential Waste Collection

Overall Length	10.646m
Overall Width	2.438m
Overall Body Height	4.040m
Min Body Ground Clearance	0.384m
Track Width	2.400m
Lock-to-lock time	5.00s
Wall to Wall Turning Radius	14.448m

1:500 0 5 10 15 20m
Scale

Date Plotted: August 15, 2024 Filename: J:\7809-07\BA\SPR\9. Aug15-24\ba-1012 Yonge-SPR-R08-7809-07.dwg

BA Group

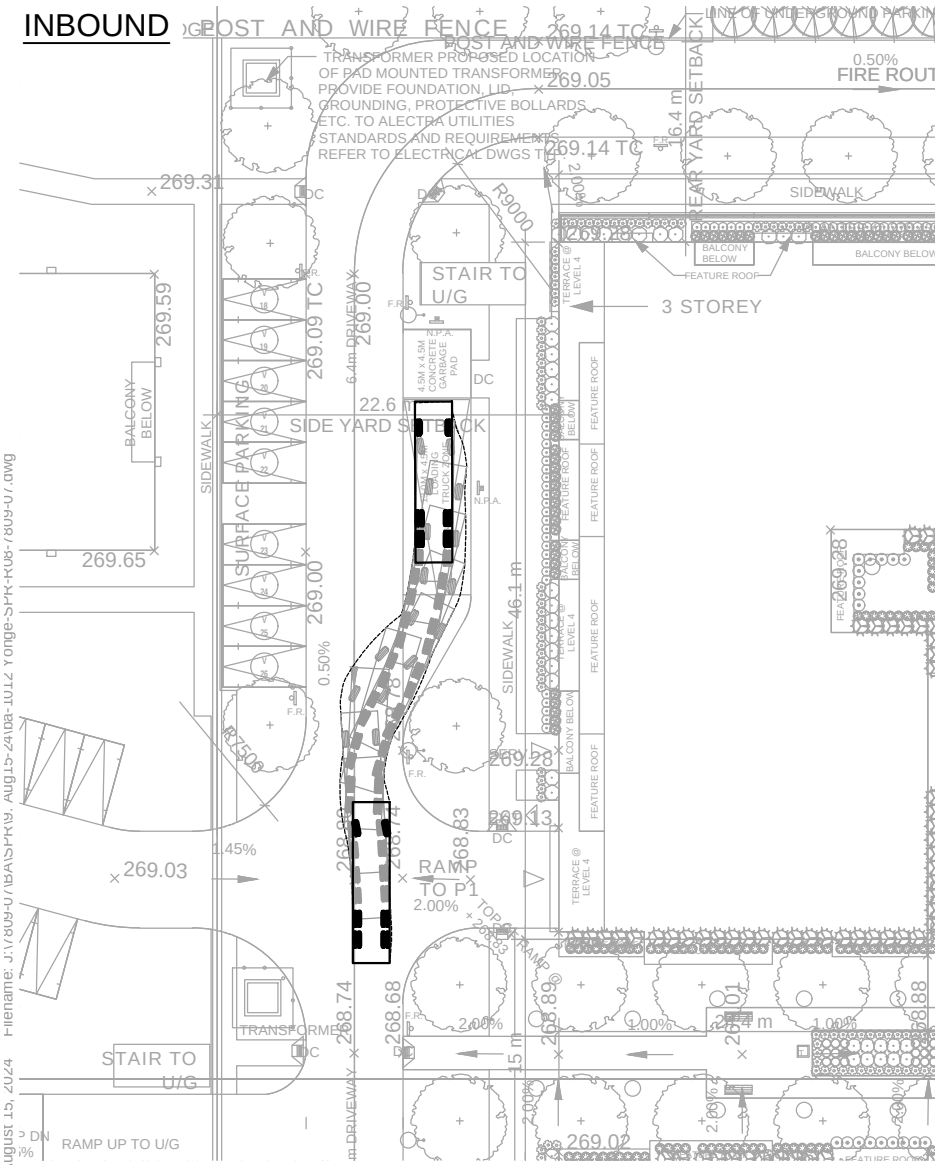
1012 Yonge

Vehicle Manoeuvring Diagram

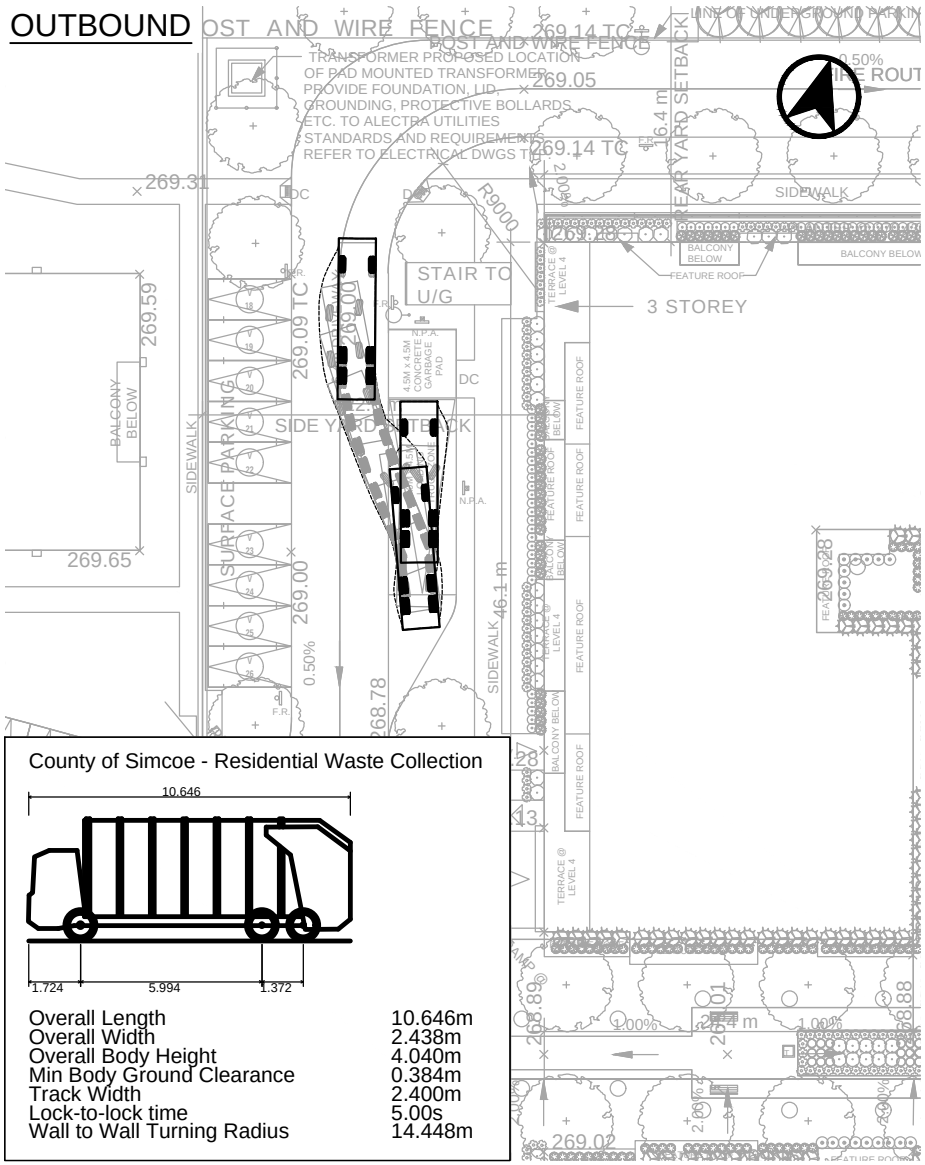
Simcoe County Refuse Collection Vehicle

Project:	1012 Yonge
Project No.	7809-07
Date:	August 15, 2024
Revised:	--
Drawing No.	VMD-01

INBOUND



OUTBOUND



County of Simcoe - Residential Waste Collection

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Lock-to-lock time	5.00s
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Date Plotted: August 15, 2024 Filename: J:\7809-07\BA\SPR\9. Aug15-24\ba-1012 Yonge-SPR-R08-7809-07.dwg

BA Group

1012 Yonge

Vehicle Manoeuvring Diagram

Simcoe County Refuse Collection Vehicle

Project:	1012 Yonge
Project No.	7809-07
Date:	August 15, 2024
Revised:	--
Drawing No.	VMD-02

Appendix I:
Turning Movements Counts

Spectrum

Turning Movement Count
Location Name: YONGE ST & LOCKHART RD
Date: Wed, Jan 31, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (1 . YONGE ST & LOCKHART RD)

Start Time	N Approach YONGE ST						E Approach ELEVENTH LINE						S Approach YONGE ST						W Approach ELEVENTH LINE						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:30:00	9	103	4	0	0	116	17	33	7	0	0	57	4	75	11	0	0	90	8	12	2	0	0	22	285	
07:45:00	8	107	6	0	0	121	9	32	6	0	0	47	4	85	24	0	0	113	7	8	3	0	0	18	299	
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08:30:00	6	100	12	0	0	118	18	30	5	0	0	53	2	92	16	0	0	110	14	12	4	0	0	30	311	1248
08:45:00	11	100	7	0	0	118	11	31	10	0	0	52	3	70	17	0	0	90	13	7	9	0	0	29	289	1238
09:00:00	8	76	4	0	0	88	12	27	8	0	0	47	7	81	18	0	0	106	14	19	5	0	0	38	279	1193
09:15:00	12	96	1	0	0	109	7	25	6	0	0	38	5	69	20	0	0	94	8	14	9	0	0	31	272	1151
BREAK																										
16:00:00	9	112	8	0	0	129	8	15	7	0	0	30	13	153	17	0	0	183	29	32	13	0	0	74	416	
16:15:00	3	121	13	0	0	137	15	18	8	0	0	41	10	126	16	0	0	152	26	32	13	0	0	71	401	
16:30:00	7	99	10	0	0	116	15	19	5	0	0	39	9	126	15	0	0	150	33	50	22	0	0	105	410	
16:45:00	7	113	14	0	0	134	11	18	7	0	0	36	10	137	18	0	0	165	31	49	15	0	0	95	430	1657
17:00:00	3	140	10	0	0	153	12	20	6	0	0	38	19	153	18	0	0	190	31	55	14	0	0	100	481	1722
17:15:00	8	120	12	0	0	140	14	16	8	0	0	38	9	118	15	0	0	142	25	53	20	0	0	98	418	1739
17:30:00	11	108	16	0	0	135	7	19	8	0	0	34	8	121	12	0	0	141	24	38	11	0	0	73	383	1712
17:45:00	6	105	11	0	0	122	9	11	4	0	0	24	9	90	11	0	0	110	29	23	11	0	0	63	319	1601
Grand Total	123	1727	141	0	0	1991	193	382	109	0	0	684	120	1668	257	0	0	2045	322	427	162	0	0	911	**5631**	-
Approach%	6.2%	86.7%	7.1%	0%		-	28.2%	55.8%	15.9%	0%		-	5.9%	81.6%	12.6%	0%		-	35.3%	46.9%	17.8%	0%		-	**-**	-
Totals %	2.2%	30.7%	2.5%	0%		35.4%	3.4%	6.8%	1.9%	0%		12.1%	2.1%	29.6%	4.6%	0%		36.3%	5.7%	7.6%	2.9%	0%		16.2%	**-**	-
Heavy	5	24	4	0		-	5	9	4	0		-	5	27	6	0		-	2	8	5	0		-	**-**	-
Heavy %	4.1%	1.4%	2.8%	0%		-	2.6%	2.4%	3.7%	0%		-	4.2%	1.6%	2.3%	0%		-	0.6%	1.9%	3.1%	0%		-	**-**	-
Bicycles	0	1	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	0.1%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: YONGE ST & LOCKHART RD
Date: Wed, Jan 31, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast Clouds (-1.02 °C)

Start Time	N Approach YONGE ST						E Approach ELEVENTH LINE						S Approach YONGE ST						W Approach ELEVENTH LINE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	8	107	6	0	0	121	9	32	6	0	0	47	4	85	24	0	0	113	7	8	3	0	0	18	299
08:00:00	6	115	5	0	0	126	17	32	10	0	0	59	5	90	14	0	0	109	11	15	4	0	0	30	324
08:15:00	9	112	8	0	0	129	11	36	4	0	0	51	3	82	15	0	0	100	19	8	7	0	0	34	314
08:30:00	6	100	12	0	0	118	18	30	5	0	0	53	2	92	16	0	0	110	14	12	4	0	0	30	311
Grand Total	29	434	31	0	0	494	55	130	25	0	0	210	14	349	69	0	0	432	51	43	18	0	0	112	**1248**
Approach%	5.9%	87.9%	6.3%	0%		-	26.2%	61.9%	11.9%	0%		-	3.2%	80.8%	16%	0%		-	45.5%	38.4%	16.1%	0%		-	**-**
Totals %	2.3%	34.8%	2.5%	0%		39.6%	4.4%	10.4%	2%	0%		16.8%	1.1%	28%	5.5%	0%		34.6%	4.1%	3.4%	1.4%	0%		9%	**-**
PHF	0.81	0.94	0.65	0		0.96	0.76	0.9	0.63	0		0.89	0.7	0.95	0.72	0		0.96	0.67	0.72	0.64	0		0.82	**-**
Heavy	4	7	0	0		11	0	2	1	0		3	2	10	0	0		12	0	3	2	0		5	**-**
Heavy %	13.8%	1.6%	0%	0%		2.2%	0%	1.5%	4%	0%		1.4%	14.3%	2.9%	0%	0%		2.8%	0%	7%	11.1%	0%		4.5%	**-**
Lights	25	427	31	0		483	55	128	24	0		207	12	339	69	0		420	51	40	16	0		107	**-**
Lights %	86.2%	98.4%	100%	0%		97.8%	100%	98.5%	96%	0%		98.6%	85.7%	97.1%	100%	0%		97.2%	100%	93%	88.9%	0%		95.5%	**-**
Single-Unit Trucks	1	2	0	0		3	0	0	0	0		0	2	6	0	0		8	0	1	0	0		1	**-**
Single-Unit Trucks %	3.4%	0.5%	0%	0%		0.6%	0%	0%	0%	0%		0%	14.3%	1.7%	0%	0%		1.9%	0%	2.3%	0%	0%		0.9%	**-**
Buses	3	5	0	0		8	0	2	1	0		3	0	2	0	0		2	0	2	2	0		4	**-**
Buses %	10.3%	1.2%	0%	0%		1.6%	0%	1.5%	4%	0%		1.4%	0%	0.6%	0%	0%		0.5%	0%	4.7%	11.1%	0%		3.6%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.5%	0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	1	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		**-**

Spectrum

Turning Movement Count
Location Name: YONGE ST & LOCKHART RD
Date: Wed, Jan 31, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:30 PM - 05:30 PM Weather: Overcast Clouds (2.12 °C)

Start Time	N Approach YONGE ST						E Approach ELEVENTH LINE						S Approach YONGE ST						W Approach ELEVENTH LINE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:30:00	7	99	10	0	0	116	15	19	5	0	0	39	9	126	15	0	0	150	33	50	22	0	0	105	410
16:45:00	7	113	14	0	0	134	11	18	7	0	0	36	10	137	18	0	0	165	31	49	15	0	0	95	430
17:00:00	3	140	10	0	0	153	12	20	6	0	0	38	19	153	18	0	0	190	31	55	14	0	0	100	481
17:15:00	8	120	12	0	0	140	14	16	8	0	0	38	9	118	15	0	0	142	25	53	20	0	0	98	418
Grand Total	25	472	46	0	0	543	52	73	26	0	0	151	47	534	66	0	0	647	120	207	71	0	0	398	**1739**
Approach%	4.6%	86.9%	8.5%	0%		-	34.4%	48.3%	17.2%	0%		-	7.3%	82.5%	10.2%	0%		-	30.2%	52%	17.8%	0%		-	**-**
Totals %	1.4%	27.1%	2.6%	0%		31.2%	3%	4.2%	1.5%	0%		8.7%	2.7%	30.7%	3.8%	0%		37.2%	6.9%	11.9%	4.1%	0%		22.9%	**-**
PHF	0.78	0.84	0.82	0		0.89	0.87	0.91	0.81	0		0.97	0.62	0.87	0.92	0		0.85	0.91	0.94	0.81	0		0.95	**-**
Heavy	0	4	1	0		5	0	2	1	0		3	0	5	0	0		5	1	0	0	0		1	**-**
Heavy %	0%	0.8%	2.2%	0%		0.9%	0%	2.7%	3.8%	0%		2%	0%	0.9%	0%	0%		0.8%	0.8%	0%	0%	0%		0.3%	**-**
Lights	25	468	45	0		538	52	71	25	0		148	47	529	66	0		642	119	207	71	0		397	**-**
Lights %	100%	99.2%	97.8%	0%		99.1%	100%	97.3%	96.2%	0%		98%	100%	99.1%	100%	0%		99.2%	99.2%	100%	100%	0%		99.7%	**-**
Single-Unit Trucks	0	3	1	0		4	0	1	0	0		1	0	2	0	0		2	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0.6%	2.2%	0%		0.7%	0%	1.4%	0%	0%		0.7%	0%	0.4%	0%	0%		0.3%	0%	0%	0%	0%		0%	**-**
Buses	0	1	0	0		1	0	1	1	0		2	0	3	0	0		3	1	0	0	0		1	**-**
Buses %	0%	0.2%	0%	0%		0.2%	0%	1.4%	3.8%	0%		1.3%	0%	0.6%	0%	0%		0.5%	0.8%	0%	0%	0%		0.3%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		**-**

Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast Clouds (-1.02 °C)



Peak Hour: 04:30 PM - 05:30 PM Weather: Overcast Clouds (2.12 °C)



Spectrum

Turning Movement Count
Location Name: YONGE ST & MAPLEVIEW DR E
Date: Wed, Jan 31, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (3 . YONGE ST & MAPLEVIEW DR E)

Start Time	N Approach YONGE ST						E Approach MAPLEVIEW DR						S Approach YONGE ST						W Approach MAPLEVIEW DR						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:30:00	9	75	31	0	0	115	24	90	27	0	0	141	7	58	19	0	2	84	9	76	14	0	2	99	439	
07:45:00	18	66	29	0	4	113	24	101	26	0	2	151	6	53	19	0	0	78	12	63	25	0	0	100	442	
08:00:00	9	77	26	0	0	112	24	90	29	0	0	143	9	77	23	0	0	109	15	60	13	0	0	88	452	
08:15:00	9	72	16	0	1	97	21	109	21	0	0	151	7	68	17	0	1	92	18	72	11	0	1	101	441	1774
08:30:00	14	57	20	0	0	91	36	113	25	0	0	174	10	71	22	0	0	103	12	46	15	0	0	73	441	1776
08:45:00	15	74	21	0	2	110	32	69	17	0	0	118	6	56	11	0	0	73	9	69	11	0	0	89	390	1724
09:00:00	23	54	33	0	1	110	21	92	19	0	0	132	4	68	19	0	0	91	15	59	17	0	0	91	424	1696
09:15:00	16	67	27	0		111	18	75	18	0	0	111	4	60	8	0	1	72	13	50	14	0	1	77	371	1626
BREAK																										
16:00:00	7	79	55	0	0	141	36	90	18	0	0	144	14	86	27	0	0	127	33	137	28	0	0	198	610	
16:15:00	15	89	44	0	3	148	43	82	21	0	0	146	13	102	15	0	0	130	25	109	13	0	0	147	571	
16:30:00	17	79	40	0	0	136	25	102	16	0	0	143	10	99	27	0	0	136	19	130	22	0	0	171	586	
16:45:00	8	100	40	0	1	148	31	81	14	0	0	126	14	95	22	0	0	131	33	122	30	0	0	185	590	2357
17:00:00	13	89	48	0	1	150	33	112	22	0	0	167	14	97	17	0	0	128	39	139	39	0	0	217	662	2409
17:15:00	9	79	41	0	1	129	34	72	17	0	0	123	12	82	29	0	0	123	25	108	27	0	0	160	535	2373
17:30:00	40	110	62	0	0	212	44	88	17	0	0	149	16	73	19	0	0	108	17	135	24	0	0	176	645	2432
17:45:00	17	80	43	0	1	140	35	68	13	0	0	116	8	73	17	0	0	98	10	102	20	0	0	132	486	2328
Grand Total	239	1247	576	0	16	2063	481	1434	320	0	2	2235	154	1218	311	0	4	1683	304	1477	323	0	4	2104	**8085**	-
Approach%	11.6%	60.4%	27.9%	0%		-	21.5%	64.2%	14.3%	0%		-	9.2%	72.4%	18.5%	0%		-	14.4%	70.2%	15.4%	0%		-	**-**	-
Totals %	3%	15.4%	7.1%	0%		25.5%	5.9%	17.7%	4%	0%		27.6%	1.9%	15.1%	3.8%	0%		20.8%	3.8%	18.3%	4%	0%		26%	**-**	-
Heavy	12	12	15	0		-	14	15	8	0		-	8	20	4	0		-	4	18	12	0		-	**-**	-
Heavy %	5%	1%	2.6%	0%		-	2.9%	1%	2.5%	0%		-	5.2%	1.6%	1.3%	0%		-	1.3%	1.2%	3.7%	0%		-	**-**	-
Bicycles	0	1	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	0.1%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: YONGE ST & MAPLEVIEW DR E
Date: Wed, Jan 31, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast Clouds (-1.02 °C)

Start Time	N Approach YONGE ST						E Approach MAPLEVIEW DR						S Approach YONGE ST						W Approach MAPLEVIEW DR						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	18	66	29	0	4	113	24	101	26	0	2	151	6	53	19	0	0	78	12	63	25	0	0	100	442
08:00:00	9	77	26	0	0	112	24	90	29	0	0	143	9	77	23	0	0	109	15	60	13	0	0	88	452
08:15:00	9	72	16	0	1	97	21	109	21	0	0	151	7	68	17	0	1	92	18	72	11	0	1	101	441
08:30:00	14	57	20	0	0	91	36	113	25	0	0	174	10	71	22	0	0	103	12	46	15	0	0	73	441
Grand Total	50	272	91	0	5	413	105	413	101	0	2	619	32	269	81	0	1	382	57	241	64	0	1	362	**1776**
Approach%	12.1%	65.9%	22%	0%		-	17%	66.7%	16.3%	0%		-	8.4%	70.4%	21.2%	0%		-	15.7%	66.6%	17.7%	0%		-	**-**
Totals %	2.8%	15.3%	5.1%	0%		23.3%	5.9%	23.3%	5.7%	0%		34.9%	1.8%	15.1%	4.6%	0%		21.5%	3.2%	13.6%	3.6%	0%		20.4%	**-**
PHF	0.69	0.88	0.78	0		0.91	0.73	0.91	0.87	0		0.89	0.8	0.87	0.88	0		0.88	0.79	0.84	0.64	0		0.9	**-**
Heavy	3	4	5	0		12	4	5	2	0		11	5	4	2	0		11	1	9	4	0		14	**-**
Heavy %	6%	1.5%	5.5%	0%		2.9%	3.8%	1.2%	2%	0%		1.8%	15.6%	1.5%	2.5%	0%		2.9%	1.8%	3.7%	6.3%	0%		3.9%	**-**
Lights	47	268	86	0		401	101	408	99	0		608	27	265	79	0		371	56	232	60	0		348	**-**
Lights %	94%	98.5%	94.5%	0%		97.1%	96.2%	98.8%	98%	0%		98.2%	84.4%	98.5%	97.5%	0%		97.1%	98.2%	96.3%	93.8%	0%		96.1%	**-**
Single-Unit Trucks	0	0	0	0		0	1	1	0	0		2	2	0	1	0		3	1	4	1	0		6	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	1%	0.2%	0%	0%		0.3%	6.3%	0%	1.2%	0%		0.8%	1.8%	1.7%	1.6%	0%		1.7%	**-**
Buses	3	4	5	0		12	3	3	2	0		8	1	3	0	0		4	0	4	2	0		6	**-**
Buses %	6%	1.5%	5.5%	0%		2.9%	2.9%	0.7%	2%	0%		1.3%	3.1%	1.1%	0%	0%		1%	0%	1.7%	3.1%	0%		1.7%	**-**
Street-Car	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Street-Car %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0	0		0	0	1	0	0		1	2	1	1	0		4	0	1	1	0		2	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	6.3%	0.4%	1.2%	0%		1%	0%	0.4%	1.6%	0%		0.6%	**-**
Pedestrians	-	-	-	-	5	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	55.6%		-	-	-	-	22.2%		-	-	-	-	11.1%		-	-	-	-	11.1%		**-**
Bicycles on Road	0	1	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: YONGE ST & MAPLEVIEW DR E
Date: Wed, Jan 31, 2024 Deployment Lead: David Chu

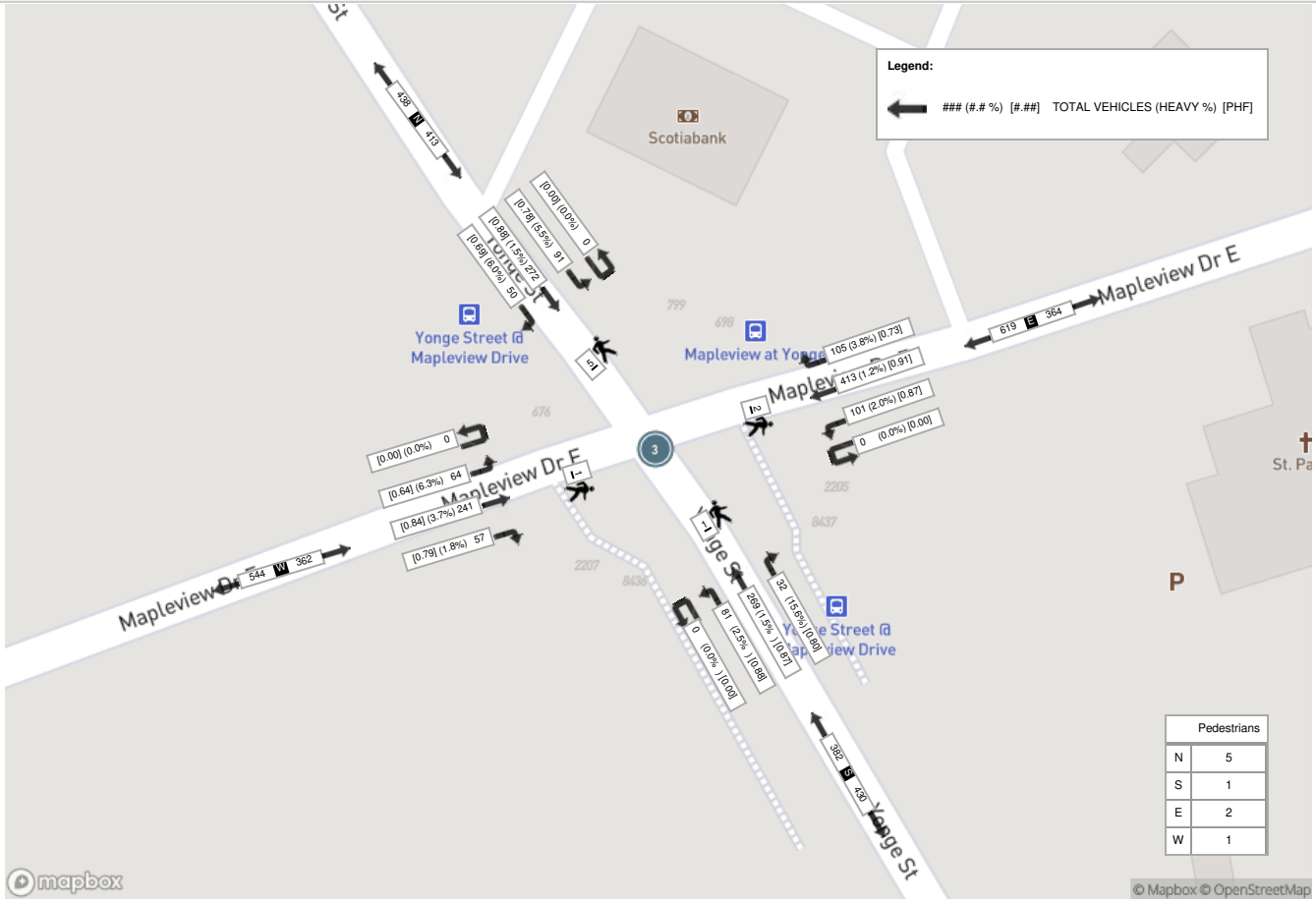
BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.12 °C)

Start Time	N Approach YONGE ST						E Approach MAPLEVIEW DR						S Approach YONGE ST						W Approach MAPLEVIEW DR						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	8	100	40	0	1	148	31	81	14	0	0	126	14	95	22	0	0	131	33	122	30	0	0	185	590
17:00:00	13	89	48	0	1	150	33	112	22	0	0	167	14	97	17	0	0	128	39	139	39	0	0	217	662
17:15:00	9	79	41	0	1	129	34	72	17	0	0	123	12	82	29	0	0	123	25	108	27	0	0	160	535
17:30:00	40	110	62	0	0	212	44	88	17	0	0	149	16	73	19	0	0	108	17	135	24	0	0	176	645
Grand Total	70	378	191	0	3	639	142	353	70	0	0	565	56	347	87	0	0	490	114	504	120	0	0	738	**2432**
Approach%	11%	59.2%	29.9%	0%		-	25.1%	62.5%	12.4%	0%		-	11.4%	70.8%	17.8%	0%		-	15.4%	68.3%	16.3%	0%		-	**-**
Totals %	2.9%	15.5%	7.9%	0%		26.3%	5.8%	14.5%	2.9%	0%		23.2%	2.3%	14.3%	3.6%	0%		20.1%	4.7%	20.7%	4.9%	0%		30.3%	**-**
PHF	0.44	0.86	0.77	0		0.75	0.81	0.79	0.8	0		0.85	0.88	0.89	0.75	0		0.94	0.73	0.91	0.77	0		0.85	**-**
Heavy	2	1	2	0		5	2	2	1	0		5	0	3	0	0		3	1	0	2	0		3	**-**
Heavy %	2.9%	0.3%	1%	0%		0.8%	1.4%	0.6%	1.4%	0%		0.9%	0%	0.9%	0%	0%		0.6%	0.9%	0%	1.7%	0%		0.4%	**-**
Lights	68	377	189	0		634	140	351	69	0		560	56	344	87	0		487	113	504	118	0		735	**-**
Lights %	97.1%	99.7%	99%	0%		99.2%	98.6%	99.4%	98.6%	0%		99.1%	100%	99.1%	100%	0%		99.4%	99.1%	100%	98.3%	0%		99.6%	**-**
Single-Unit Trucks	0	0	0	0		0	0	2	1	0		3	0	0	0	0		0	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.6%	1.4%	0%		0.5%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Buses	2	1	2	0		5	2	0	0	0		2	0	3	0	0		3	1	0	2	0		3	**-**
Buses %	2.9%	0.3%	1%	0%		0.8%	1.4%	0%	0%	0%		0.4%	0%	0.9%	0%	0%		0.6%	0.9%	0%	1.7%	0%		0.4%	**-**
Street-Car	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Street-Car %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	100%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

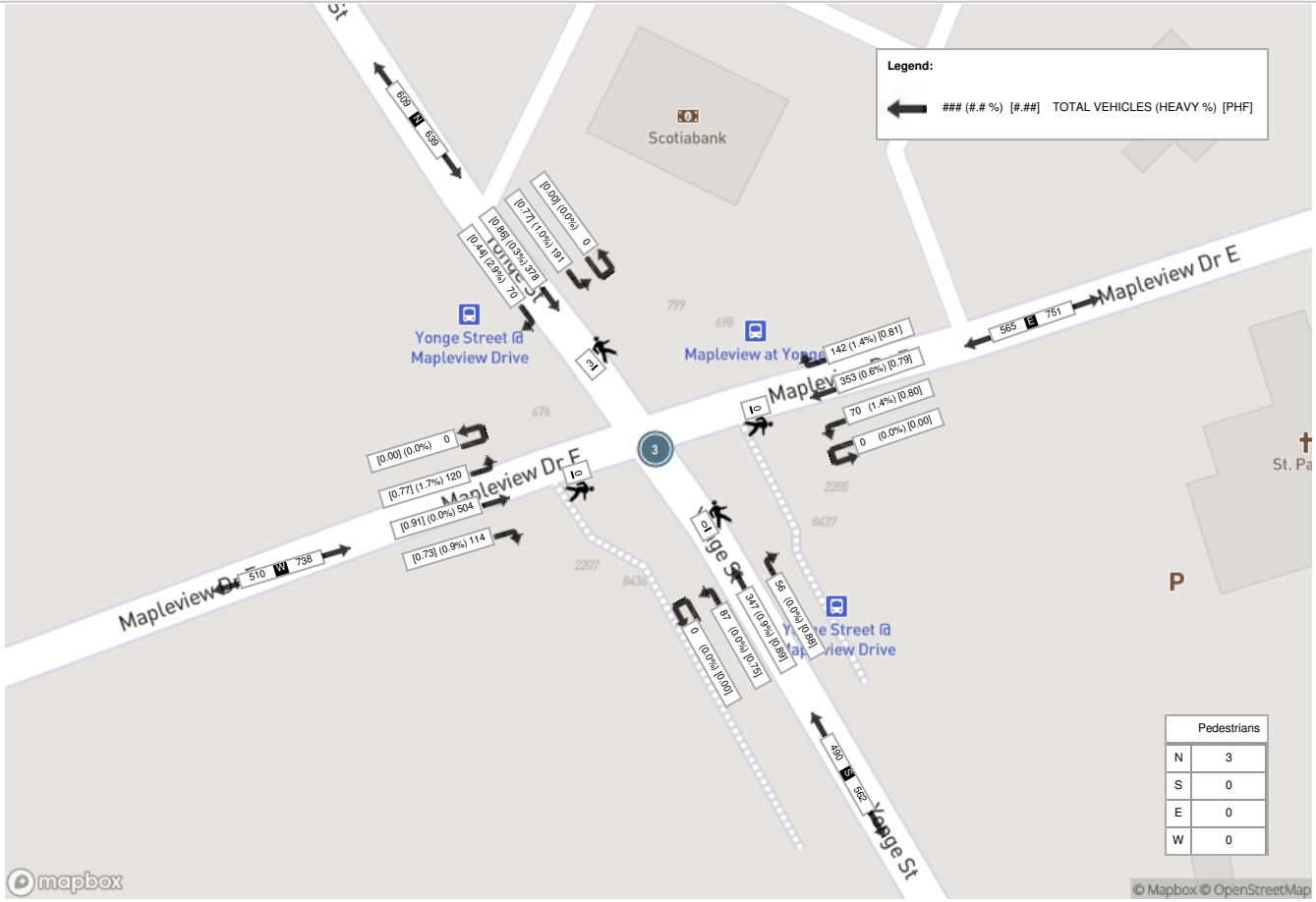
BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 07:45 AM - 08:45 AM **Weather: Overcast Clouds (-1.02 °C)**



BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM **Weather: Overcast Clouds (2.12 °C)**



Spectrum

Turning Movement Count
Location Name: YONGE ST & 1012 YONGE ST
Date: Wed, Jan 31, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (2 . YONGE ST & 1012 YONGE ST)

Start Time	N Approach YONGE ST					S Approach YONGE ST					W Approach 1012 YONGE ST (DRIVEWAY)					Approach			Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	UTurn N:N	Peds N:	Approach Total	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Left W:N	UTurn W:W	Peds W:	Approach Total	:	:	Approach Total		
07:30:00	0	123	0	0	123	93	0	0	0	93	0	0	0	0	0	0	0		216	
07:45:00	0	118	0	0	118	94	0	0	0	94	0	0	0	0	0	0	0		212	
08:00:00	0	130	0	0	130	114	0	0	0	114	0	0	0	0	0	0	0		244	
08:15:00	0	132	0	0	132	102	0	0	0	102	0	0	0	0	0	0	0		234	906
08:30:00	0	108	0	0	108	111	0	0	0	111	0	0	0	0	0	0	0		219	909
08:45:00	0	115	0	0	115	93	0	0	0	93	0	0	0	0	0	0	0		208	905
09:00:00	0	90	0	0	90	102	0	0	0	102	0	0	0	0	0	0	0		192	853
09:15:00	0	107	0	0	107	81	0	0	0	81	0	0	0	0	0	96	75		188	807
BREAK																				
16:00:00	0	129	0	0	129	173	0	0	0	173	0	0	0	0	0	129	173		302	
16:15:00	0	139	0	0	139	154	0	0	0	154	0	0	0	0	0	139	154		293	
16:30:00	0	115	0	0	115	162	0	0	0	162	0	0	0	0	0	115	162		277	
16:45:00	0	143	0	0	143	164	0	0	0	164	0	0	0	0	0	143	164		307	1179
17:00:00	0	148	0	0	148	175	0	0	0	175	0	0	0	0	0	148	175		323	1200
17:15:00	0	134	0	0	134	152	0	0	0	152	0	0	0	0	0	134	152		286	1193
17:30:00	0	146	0	0	146	143	0	0	0	143	0	0	0	0	0	146	143		289	1205
17:45:00	0	114	0	0	114	111	0	0	0	111	0	0	0	0	0	114	111		225	1123
Grand Total	0	1991	0	0	1991	2024	0	0	0	2024	0	0	0	0	0				**4015**	-
Approach%	0%	100%	0%		-	100%	0%	0%		-	0%	0%	0%		-			-	**-**	-
Totals %	0%	49.6%	0%		49.6%	50.4%	0%	0%		50.4%	0%	0%	0%		0%			%	**-**	-
Heavy	0	29	0		-	37	0	0		-	0	0	0		-	-	-	-	**-**	-
Heavy %	0%	1.5%	0%		-	1.8%	0%	0%		-	0%	0%	0%		-	-	-	-	**-**	-
Bicycles	0	1	0		-	0	0	0		-	0	0	0		-	-	-	-	**-**	-
Bicycle %	0%	0.1%	0%		-	0%	0%	0%		-	0%	0%	0%		-	-	-	-	**-**	-

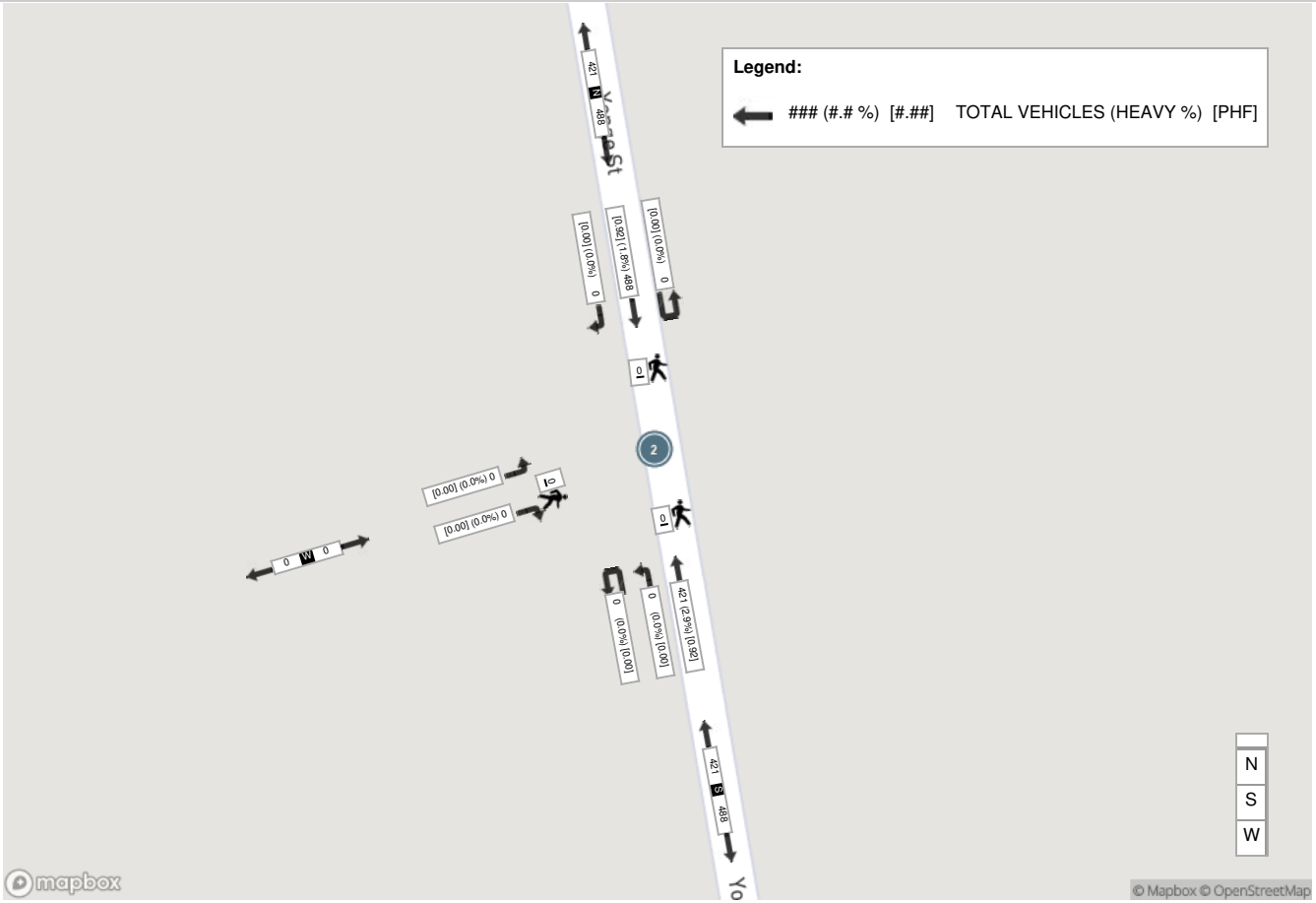
Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast Clouds (-1.02 °C)

Start Time	N Approach YONGE ST					S Approach YONGE ST					W Approach 1012 YONGE ST (DRIVEWAY)					Approach			Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total			Approach Total	
07:45:00	0	118	0	0	118	94	0	0	0	94	0	0	0	0	0	0	0		212
08:00:00	0	130	0	0	130	114	0	0	0	114	0	0	0	0	0	0	0		244
08:15:00	0	132	0	0	132	102	0	0	0	102	0	0	0	0	0	0	0		234
08:30:00	0	108	0	0	108	111	0	0	0	111	0	0	0	0	0	0	0		219
Grand Total	0	488	0	0	488	421	0	0	0	421	0	0	0	0	0				**909**
Approach%	0%	100%	0%		-	100%	0%	0%		-	0%	0%	0%		-			-	**-**
Totals %	0%	53.7%	0%		53.7%	46.3%	0%	0%		46.3%	0%	0%	0%		0%			%	**-**
PHF	0	0.92	0		0.92	0.92	0	0		0.92	0	0	0		0				**-**
Heavy	0	9	0		9	12	0	0		12	0	0	0		0	-	-		**-**
Heavy %	0%	1.8%	0%		1.8%	2.9%	0%	0%		2.9%	0%	0%	0%		0%	-	-	-	**-**
Lights	0	479	0		479	409	0	0		409	0	0	0		0	-	-		**-**
Lights %	0%	98.2%	0%		98.2%	97.1%	0%	0%		97.1%	0%	0%	0%		0%	-	-	%	**-**
Single-Unit Trucks	0	2	0		2	6	0	0		6	0	0	0		0	-	-		**-**
Single-Unit Trucks %	0%	0.4%	0%		0.4%	1.4%	0%	0%		1.4%	0%	0%	0%		0%	-	-	%	**-**
Buses	0	7	0		7	4	0	0		4	0	0	0		0	-	-		**-**
Buses %	0%	1.4%	0%		1.4%	1%	0%	0%		1%	0%	0%	0%		0%	-	-	%	**-**
Articulated Trucks	0	0	0		0	2	0	0		2	0	0	0		0	-	-		**-**
Articulated Trucks %	0%	0%	0%		0%	0.5%	0%	0%		0.5%	0%	0%	0%		0%	-	-	%	**-**
Bicycles on Road	0	1	0	0	-	0	0	0	0	-	0	0	0	0	-	-	-	-	**-**
Bicycles on Road%	-	-	-	%		-	-	-	%		-	-	-	%		-	-		**-**

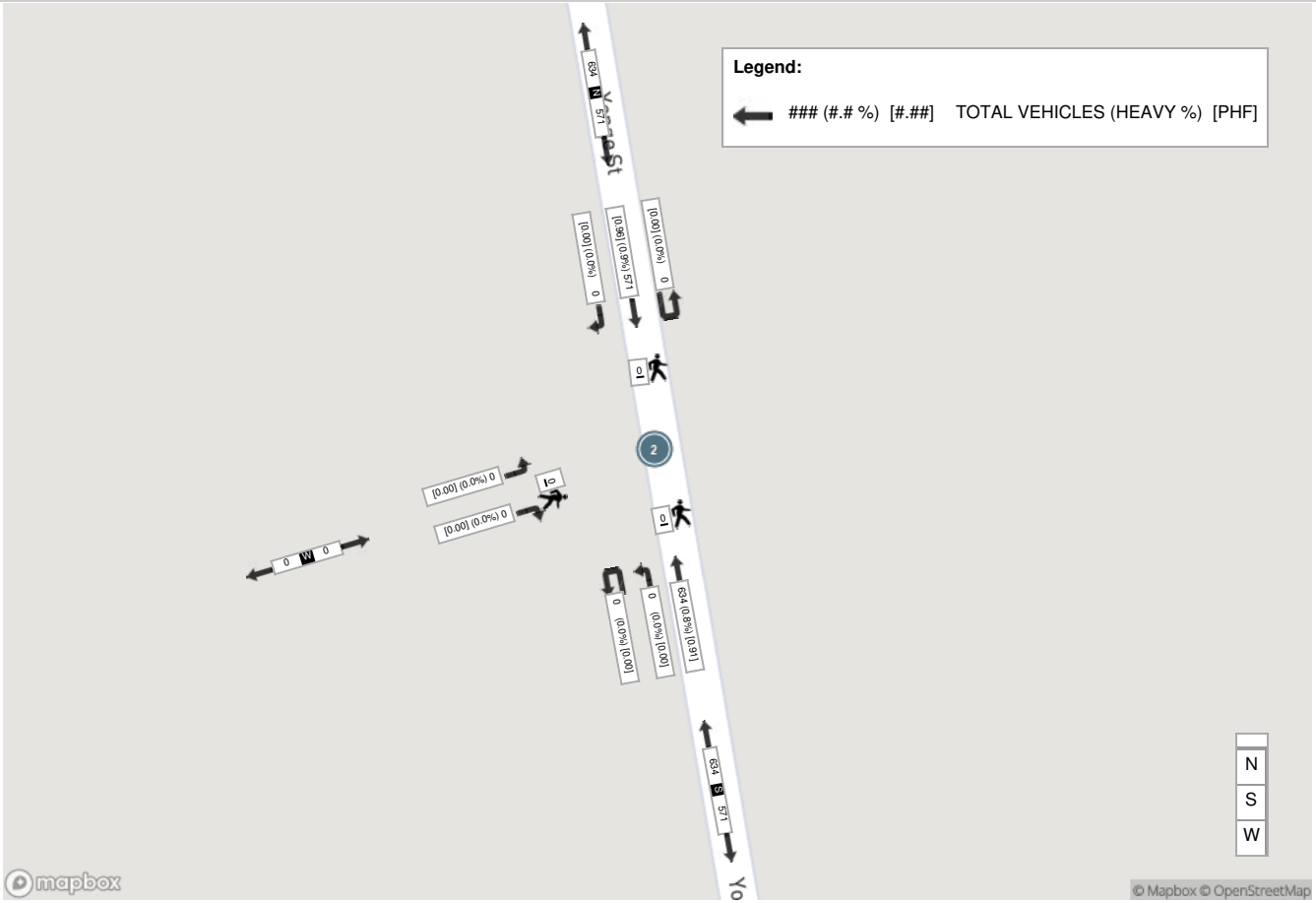
Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.12 °C)

Start Time	N Approach YONGE ST					S Approach YONGE ST					W Approach 1012 YONGE ST (DRIVEWAY)					Approach			Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total			Approach Total	
16:45:00	0	143	0	0	143	164	0	0	0	164	0	0	0	0	0	143	164		307
17:00:00	0	148	0	0	148	175	0	0	0	175	0	0	0	0	0	148	175		323
17:15:00	0	134	0	0	134	152	0	0	0	152	0	0	0	0	0	134	152		286
17:30:00	0	146	0	0	146	143	0	0	0	143	0	0	0	0	0	146	143		289
Grand Total	0	571	0	0	571	634	0	0	0	634	0	0	0	0	0				**1205**
Approach%	0%	100%	0%		-	100%	0%	0%		-	0%	0%	0%		-			-	**-**
Totals %	0%	47.4%	0%		47.4%	52.6%	0%	0%		52.6%	0%	0%	0%		0%			%	**-**
PHF	0	0.96	0		0.96	0.91	0	0		0.91	0	0	0		0				**-**
Heavy	0	5	0		5	5	0	0		5	0	0	0		0	-	-		**-**
Heavy %	0%	0.9%	0%		0.9%	0.8%	0%	0%		0.8%	0%	0%	0%		0%	-	-	-	**-**
Lights	0	566	0		566	629	0	0		629	0	0	0		0	-	-		**-**
Lights %	0%	99.1%	0%		99.1%	99.2%	0%	0%		99.2%	0%	0%	0%		0%	-	-	%	**-**
Single-Unit Trucks	0	3	0		3	2	0	0		2	0	0	0		0	-	-		**-**
Single-Unit Trucks %	0%	0.5%	0%		0.5%	0.3%	0%	0%		0.3%	0%	0%	0%		0%	-	-	%	**-**
Buses	0	2	0		2	3	0	0		3	0	0	0		0	-	-		**-**
Buses %	0%	0.4%	0%		0.4%	0.5%	0%	0%		0.5%	0%	0%	0%		0%	-	-	%	**-**
Articulated Trucks	0	0	0		0	0	0	0		0	0	0	0		0	-	-		**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-	-	%	**-**
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-	-	-	**-**
Bicycles on Road%	-	-	-	%		-	-	-	%		-	-	-	%		-	-		**-**

Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast Clouds (-1.02 °C)



Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.12 °C)



Appendix J:
Transportation Tomorrow Survey Data

1012 Yonge St

7809-07

Residential Vehicular Site Traffic Distribution (AM Peak Hour)
Outbound
BA Group - COF
2024-08-16

Tue Jun 04 2024 10:25:30 GMT-0400 (Eastern Daylight Time) - Run Time: 2579ms

Cross Tabulation Query Form - Trip - 2016

Row: Planning district of destination - pd_dest
Column: 2006 GTA zone of origin - gta06_orig

Filters:
Start time of trip - start_time In 600-859
and
Trip purpose of origin
and
Primary travel mode M P T U
and
2006 GTA zone of ori 8530

Trip 2016
Table:

	8529	8530	sum
PD 10 of Toronto	21	0	21
PD 11 of Toronto	18	0	18
PD 12 of Toronto	0	18	18
East Gwillimbury	0	21	21
Newmarket	48	81	129
Aurora	4	105	109
Richmond Hill	43	29	72
Markham	93	0	93
King	24	0	24
Vaughan	107	62	169
Brampton	25	38	63
Mississauga	96	0	96
Halton Hills	0	39	39
Orangeville	29	0	29
Barrie	1565	1947	3512
Innisfil	139	246	385
Bradford-West Gwillir	23	57	80
New Tecumseth	32	39	71
Essa	21	60	81
Springwater	0	60	60
Collingwood	0	29	29
Penetanguishene	29	0	29
Tay	31	0	31
Oro-Medonte	29	65	94
Orillia	61	89	150
Shelburne	14	0	14

Tue Jun 04 2024 10:26:42 GMT-0400 (Eastern Daylight Time) - Run Time: 2624ms

Cross Tabulation Query Form - Trip - 2016

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of origin - gta06_orig

Filters:
Start time of trip - start_time In 600-859
and
Trip purpose of c
and
Primary travel m M P T U
and
2006 GTA zone 8530
and
Planning district of destination - pd_dest In 81

Trip 2016
Table:

	8529	8530	sum
8501	71	46	117
8503	74	17	91
8504	42	43	85
8505	28	0	28
8509	53	244	297
8510	0	20	20
8514	45	36	81
8515	0	54	54
8516	0	37	37
8517	11	0	11
8520	23	0	23
8521	143	91	234
8522	58	53	111
8523	51	46	97
8,524	194	182	376
8526	98	254	352
8527	302	244	546
8528	116	118	234
8529	244	148	392
8530	14	268	282
8531	0	17	17
8532	0	28	28

1012 Yonge St
7809-07
Residential Vehicular Site Traffic Distribution (PM Peak Hour)
Inbound
BA Group - COF
2024-08-16

Tue Jun 04 2024 10:32:03 GMT-0400 (Eastern Daylight Time) - Run Time: 2408ms

Cross Tabulation Query Form - Trip - 2016

Row: Planning district of origin - pd_orig
Column: 2006 GTA zone of destination - gta06_dest

Filters:
Start time of trip - start_time In 1500-1759
and
Trip purpose of destir
and
Primary travel mode (M P T U
and
2006 GTA zone of de 8530

Trip 2016
Table:

	8529	8530	sum
PD 1 of Toronto	0	53	53
PD 3 of Toronto	43	0	43
PD 7 of Toronto	14	0	14
PD 9 of Toronto	12	0	12
PD 10 of Toronto	0	60	60
PD 12 of Toronto	0	18	18
Ajax	39	0	39
East Gwillimbury	0	21	21
Newmarket	80	67	147
Aurora	4	22	26
Richmond Hill	15	53	68
Whitchurch-Stouffville	21	0	21
Markham	104	13	117
King	24	0	24
Vaughan	58	93	151
Caledon	14	0	14
Brampton	51	57	108
Mississauga	56	32	88
Halton Hills	0	39	39
Stoney Creek	23	0	23
Barrie	1447	1960	3407
Innisfil	139	181	320
Bradford-West Gwillir	46	33	79
New Tecumseth	68	45	113
Essa	21	34	55
Springwater	12	58	70
Wasaga Beach	0	29	29
Tay	31	0	31
Oro-Medonte	29	65	94
Ramara	0	12	12
Orillia	59	36	95
Shelburne	14	0	14

Tue Jun 04 2024 10:36:49 GMT-0400 (Eastern Daylight Time) - Run Time: 2900ms

Cross Tabulation Query Form - Trip - 2016

Row: 2006 GTA zone of origin - gta06_orig
Column: 2006 GTA zone of destination - gta06_dest

Filters:
Start time of trip - start_time In 1500-1759
and
Trip purpose of
and
Primary travel ı M P T U
and
2006 GTA zon 8530
and
Planning distric

Trip 2016
Table:

	8529	8530	sum
8501	41	99	140
8503	0	17	17
8504	49	151	200
8509	0	232	232
8510	0	20	20
8514	137	134	271
8515	0	54	54
8516	0	19	19
8518	39	0	39
8521	155	74	229
8522	0	53	53
8523	40	0	40
8524	344	140	484
8525	18	0	18
8526	10	80	90
8527	259	332	591
8528	24	47	71
8529	332	214	546
8530	0	233	233
8531	0	33	33
8532	0	28	28

Appendix K:
Signal Timing Plans

The Corporation of the City of Barrie
Traffic Signal Timing Card

GENERAL INFORMATION				
Intersection Name				**Intersection Number**
Yonge Street @ Lockhart Road				211
Traffic Control Device Type		**Operation**	**Timing Revision**	**Installation Date**
Intersection Traffic Signals		Semi-Actuated	1	10-Sep-2001
Cabinet Mfr.	**Type**	**Schematic**	**Serial No.**	**Date**
TACEL	TS2	TTP8D0058	1091741712	10-Sep-2001
Controller Mfr.	**Firmware**	**Model**	**Serial No.**	**Date**
EAGLE		EPAC300	86267	
Conflict Monitor Mfr.		**Model**	**Serial No.**	**Date**
EDI		SSM12LE	2.12877E+14	

RECORD OF REVISIONS

Rev No.	Date	Description	Prepared By	Field Change by	Approved By
0	10-Sep-01	Intersection Energization			
1	12-Jul-23	Pedestrian Clearance Review	BF	BF	TH

Intersection Name			Intersection Number
Yonge Street @ Lockhart Road			211
Traffic Control Device Type	**Operation**	**Timing Revision**	**Installation Date**
Intersection Traffic Signals	Semi-Actuated	1	9-10-2001

PHASE DESCRIPTION

Phase 1	N/A	**Phase 5**	N/A
Phase 2	Main Street - Northbound	**Phase 6**	Main Street - Southbound
Phase 3	N/A	**Phase 7**	N/A
Phase 4	Side Street - Westbound	**Phase 8**	Side Street - Eastbound

PHASE DATA - VEHICLE TIMINGS (MM-2-1)

Basic Timings — Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green...	.	30	.	10	.	30	.	10
Extension Time...	.	0	.	3	.	0	.	3
Maximum Green...	.	30	.	27	.	30	.	27
Amber...	.	5	.	5	.	5	.	5
Red...	.	2	.	2	.	2	.	2

PHASE DATA - PEDESTIAN TIMINGS (MM-2-1)

Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Walk...	.		.	7	.		.	7
Ped Clearance...	.		.	20	.		.	20

CONTROLLER CONFIGURATION - PHASES IN USE (MM-1-2)

Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
In Use...	.	X	.	X	.	X	.	X
Exclusive Ped...	.	.	.	.	.	.	.	.

COORDINATOR - COORDINATION PATTERN DATA (MM-3-2)

Coordinator Pattern #1 - FREE

Cycle Length... N/A seconds Offset Value... N/A seconds

Split Pattern Data

Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Split Timings...	.	.	.	.	.	.	.	.

Intersection Name			Intersection Number
Yonge Street @ Lockhart Road			211
Traffic Control Device Type	**Operation**	**Timing Revision**	**Installation Date**
Intersection Traffic Signals	Semi-Actuated	1	9-10-2001

COORDINATOR - COORDINATION PATTERN DATA (MM-3-2)

Coordinator Pattern #2

Cycle Length... N/A seconds Offset Value... N/A seconds

Split Pattern Data

Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Split Timings...	.	.	.	.	.	.	.	.

Coordinator Pattern #3

Cycle Length... N/A seconds Offset Value... N/A seconds

Split Pattern Data

Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Split Timings...	.	.	.	.	.	.	.	.

Coordinator Pattern #4

Cycle Length... N/A seconds Offset Value... N/A seconds

Split Pattern Data

Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Split Timings...	.	.	.	.	.	.	.	.

TIME BASE - DAY PLAN (MM-5-3)

Day Plan #1

Event	Action Plan	Start Time
1	1	.
2	2	.
3	3	.
4	4	.
5	3	.
6	1	.

Day Plan #2

Event	Action Plan	Start Time
1	1	.
2	3	.
3	1	.

Intersection Name			Intersection Number
Yonge Street @ Lockhart Road			211
Traffic Control Device Type	**Operation**	**Timing Revision**	**Installation Date**
Intersection Traffic Signals	Semi-Actuated	1	9-10-2001

TIME BASE - SCHEDULE (MM-5-4)

Schedule Number #1

Day Plan.... 1

Months		Day of Week		Day of Month					
Jan...	.	Sun...	.	01...	.	14...	.	27...	.
Feb...	.	Mon...	.	02...	.	15...	.	28...	.
Mar...	.	Tues...	.	03...	.	16...	.	29...	.
Apr...	.	Wed...	.	05...	.	17...	.	20...	.
May...	.	Thurs...	.	06...	.	18...	.	31...	.
June...	.	Fri...	.	07...	.	19...	.		
July...	.	Sat...	.	08...	.	20...	.		
Aug...	.			09...	.	21...	.		
Sept...	.			10...	.	22...	.		
Oct...	.			11...	.	23...	.		
Nov...	.			12...	.	24...	.		
Dec...	.			13...	.	25...	.		

Schedule Number #2

Day Plan.... 2

Months		Day of Week		Day of Month					
Jan...	.	Sun...	.	01...	.	14...	.	27...	.
Feb...	.	Mon...	.	02...	.	15...	.	28...	.
Mar...	.	Tues...	.	03...	.	16...	.	29...	.
Apr...	.	Wed...	.	05...	.	17...	.	20...	.
May...	.	Thurs...	.	06...	.	18...	.	31...	.
June...	.	Fri...	.	07...	.	19...	.		
July...	.	Sat...	.	08...	.	20...	.		
Aug...	.			09...	.	21...	.		
Sept...	.			10...	.	22...	.		
Oct...	.			11...	.	23...	.		
Nov...	.			12...	.	24...	.		
Dec...	.			13...	.	25...	.		

The Corporation of the City of Barrie
Traffic Signal Timing Card

GENERAL INFORMATION				
Intersection Name				**Intersection Number**
Yonge Street @ Mapleview Drive				133
Traffic Control Device Type		**Operation**	**Timing Revision**	**Installation Date**
Intersection Traffic Signals		Semi-Actuated	1	20-Sep-1979
Cabinet Mfr.	**Type**	**Schematic**	**Serial No.**	**Date**
Econolite	TS2	-	-	-
Controller Mfr.	**Firmware**	**Model**	**Serial No.**	**Date**
Econolite		Cobalt	Q10798	25-Nov-2022
Conflict Monitor Mfr.		**Model**	**Serial No.**	**Date**
Econolite		MMU 16LE	-	-

RECORD OF REVISIONS

Rev No.	Date	Description	Prepared By	Field Change by	Approved By
0	20-Sep-79	Intersection Energization			
1	08-Nov-23	Ped clearance review and timer replacemen	BF/NB	BF/NB	TH

Intersection Name			Intersection Number
Yonge Street @ Mapleview Drive			133
Traffic Control Device Type	**Operation**	**Timing Revision**	**Installation Date**
Intersection Traffic Signals	Semi-Actuated	1	9-20-1979

PHASE DESCRIPTION

Phase 1	Yonge St - Prot/Perm NBLT	**Phase 5**	Yonge St - Prot/Perm SBLT
Phase 2	Yonge St - Southbound	**Phase 6**	Yonge St - Northbound
Phase 3	Mapleview Dr - Prot/Perm WBLT	**Phase 7**	Mapleview Dr - Prot/Perm EBLT
Phase 4	Mapleview Dr - Eastbound	**Phase 8**	Mapleview Dr - Westbound

PHASE DATA - VEHICLE TIMINGS (MM-2-1)

Basic Timings — Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green...	7	45	7	12	7	45	7	12
Extension Time...	3	0	3	3	3	0	3	3
Maximum Green...	10	45	10	35	10	45	10	35
Amber...	3	4	3	4	3	4	3	4
Red...	1	2	1	2	1	2	1	2

PHASE DATA - PEDESTIAN TIMINGS (MM-2-1)

Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Walk...	.	7	.	7	.	7	.	7
Ped Clearance...	.	29	.	28	.	29	.	28

CONTROLLER CONFIGURATION - PHASES IN USE (MM-1-2)

Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
In Use...	X	X	X	X	X	X	X	X
Exclusive Ped...	.	.	.	.	.	.	.	.

COORDINATOR - COORDINATION PATTERN DATA (MM-3-2)

Coordinator Pattern #1 - FREE

Cycle Length... N/A seconds Offset Value... N/A seconds

Split Pattern Data

Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Split Timings...	.	.	.	.	.	.	.	.

Intersection Name			Intersection Number
Yonge Street @ Mapleview Drive			133
Traffic Control Device Type	**Operation**	**Timing Revision**	**Installation Date**
Intersection Traffic Signals	Semi-Actuated	1	9-20-1979

COORDINATOR - COORDINATION PATTERN DATA (MM-3-2)

Coordinator Pattern #2

Cycle Length... 120 seconds Offset Value... 24 seconds

Split Pattern Data

Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Split Timings...	12	56	12	40	12	56	12	40

Coordinator Pattern #3

Cycle Length... 120 seconds Offset Value... 31 seconds

Split Pattern Data

Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Split Timings...	12	60	12	36	12	60	12	36

Coordinator Pattern #4

Cycle Length... 120 seconds Offset Value... 31 seconds

Split Pattern Data

Phase:	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Split Timings...	12	60	12	36	12	60	12	36

TIME BASE - DAY PLAN (MM-5-3)

Day Plan #1

Event	Action Plan	Start Time
1	1	00:00
2	2	06:30
3	3	09:00
4	4	15:30
5	1	18:30

Day Plan #2

Event	Action Plan	Start Time
1	1	.
2	3	.
3	1	.

Intersection Name			Intersection Number
Yonge Street @ Mapleview Drive			133
Traffic Control Device Type	**Operation**	**Timing Revision**	**Installation Date**
Intersection Traffic Signals	Semi-Actuated	1	9-20-1979

TIME BASE - SCHEDULE (MM-5-4)

Schedule Number #1

Day Plan.... 1

Months		Day of Week		Day of Month					
Jan...	X	Sun...	.	01...	X	14...	X	27...	X
Feb...	X	Mon...	X	02...	X	15...	X	28...	X
Mar...	X	Tues...	X	03...	X	16...	X	29...	X
Apr...	X	Wed...	X	05...	X	17...	X	20...	X
May...	X	Thurs...	X	06...	X	18...	X	31...	X
June...	X	Fri...	X	07...	X	19...	X		
July...	X	Sat...	.	08...	X	20...	X		
Aug...	X			09...	X	21...	X		
Sept...	X			10...	X	22...	X		
Oct...	X			11...	X	23...	X		
Nov...	X			12...	X	24...	X		
Dec...	X			13...	X	25...	X		

Schedule Number #2

Day Plan.... 2

Months		Day of Week		Day of Month					
Jan...	.	Sun...	.	01...	.	14...	.	27...	.
Feb...	.	Mon...	.	02...	.	15...	.	28...	.
Mar...	.	Tues...	.	03...	.	16...	.	29...	.
Apr...	.	Wed...	.	05...	.	17...	.	20...	.
May...	.	Thurs...	.	06...	.	18...	.	31...	.
June...	.	Fri...	.	07...	.	19...	.		
July...	.	Sat...	.	08...	.	20...	.		
Aug...	.			09...	.	21...	.		
Sept...	.			10...	.	22...	.		
Oct...	.			11...	.	23...	.		
Nov...	.			12...	.	24...	.		
Dec...	.			13...	.	25...	.		

Appendix L:
Synchro Worksheets

1: Yonge Street & Mapleview Drive E



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	66	301	102	423	107	82	276	31	92	398
v/c Ratio	0.20	0.49	0.27	0.58	0.27	0.13	0.31	0.04	0.14	0.24
Control Delay	23.6	35.9	24.4	39.3	10.3	8.6	17.9	0.1	8.6	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	35.9	24.4	39.3	10.3	8.6	17.9	0.1	8.6	15.6
Queue Length 50th (m)	9.0	26.4	14.1	41.8	1.2	5.9	33.3	0.0	6.6	23.0
Queue Length 95th (m)	18.6	39.9	26.3	58.3	15.4	13.5	57.6	0.0	14.9	37.0
Internal Link Dist (m)		752.3		111.7			107.5			189.8
Turn Bay Length (m)	30.0		35.0		30.0	35.0		30.0		
Base Capacity (vph)	345	1238	384	1291	615	653	999	786	675	1859
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.24	0.27	0.33	0.17	0.13	0.28	0.04	0.14	0.21

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	240	55	100	415	105	80	270	30	90	340	50
Future Volume (vph)	65	240	55	100	415	105	80	270	30	90	340	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	6.0		2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1701	3386		1770	3574	1528	1752	1881	1392	1719	3483	
Flt Permitted	0.42	1.00		0.48	1.00	1.00	0.51	1.00	1.00	0.55	1.00	
Satd. Flow (perm)	760	3386		888	3574	1528	942	1881	1392	992	3483	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	66	245	56	102	423	107	82	276	31	92	347	51
RTOR Reduction (vph)	0	19	0	0	0	80	0	0	16	0	9	0
Lane Group Flow (vph)	66	282	0	102	423	27	82	276	15	92	389	0
Confl. Peds. (#/hr)	5					5						
Heavy Vehicles (%)	6%	4%	2%	2%	1%	4%	3%	1%	16%	5%	1%	6%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8		8	6		6	2		
Actuated Green, G (s)	23.5	17.5		27.1	19.3	19.3	51.2	45.4	45.4	51.4	45.5	
Effective Green, g (s)	27.5	17.5		31.1	19.3	19.3	55.2	45.4	45.4	55.4	45.5	
Actuated g/C Ratio	0.28	0.18		0.32	0.20	0.20	0.57	0.47	0.47	0.57	0.47	
Clearance Time (s)	4.0	6.0		4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	0.2	0.2	3.0	0.2	
Lane Grp Cap (vph)	294	613		375	714	305	603	884	654	628	1640	
v/s Ratio Prot	0.02	0.08		c0.03	c0.12		0.01	c0.15		c0.01	0.11	
v/s Ratio Perm	0.05			0.06		0.02	0.07		0.01	0.07		
v/c Ratio	0.22	0.46		0.27	0.59	0.09	0.14	0.31	0.02	0.15	0.24	
Uniform Delay, d1	25.8	35.3		23.6	35.1	31.5	9.3	15.9	13.7	9.3	15.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.5		0.4	1.3	0.1	0.1	0.1	0.0	0.1	0.0	
Delay (s)	26.2	35.9		24.0	36.4	31.6	9.4	16.0	13.7	9.5	15.2	
Level of Service	C	D		C	D	C	A	B	B	A	B	
Approach Delay (s)		34.1			33.6			14.4			14.2	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	96.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	430	495	0
Future Volume (Veh/h)	0	0	0	430	495	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	462	532	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				322		
pX, platoon unblocked	0.96					
vC, conflicting volume	994	532	532			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	974	532	532			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	271	551	1046			

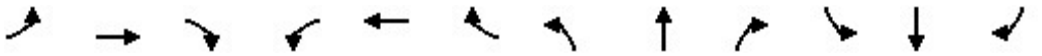
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	462	532
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1046	1700
Volume to Capacity	0.00	0.00	0.31
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	29.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	68	52	218	73	370	16	31	453	31
v/c Ratio	0.21	0.13	0.56	0.14	0.37	0.02	0.05	0.45	0.04
Control Delay	19.5	5.7	22.8	7.3	9.5	0.1	6.5	10.4	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	5.7	22.8	7.3	9.5	0.1	6.5	10.4	1.2
Queue Length 50th (m)	6.0	0.0	18.0	3.0	19.8	0.0	1.2	25.5	0.0
Queue Length 95th (m)	14.7	6.1	35.6	9.9	42.7	0.0	5.0	54.3	1.7
Internal Link Dist (m)	935.4		1072.9		482.9			297.6	
Turn Bay Length (m)		20.0		120.0		120.0			20.0
Base Capacity (vph)	728	810	843	514	988	787	587	997	787
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.06	0.26	0.14	0.37	0.02	0.05	0.45	0.04

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	45	50	25	130	55	70	355	15	30	435	30
Future Volume (vph)	20	45	50	25	130	55	70	355	15	30	435	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0		7.0		5.0	7.0	7.0	5.0	7.0	7.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1729	1615		1802		1805	1845	1417	1805	1863	1417
Flt Permitted		0.86	1.00		0.95		0.47	1.00	1.00	0.54	1.00	1.00
Satd. Flow (perm)		1510	1615		1718		901	1845	1417	1028	1863	1417
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	47	52	26	135	57	73	370	16	31	453	31
RTOR Reduction (vph)	0	0	41	0	23	0	0	0	7	0	0	14
Lane Group Flow (vph)	0	68	11	0	195	0	73	370	9	31	453	17
Heavy Vehicles (%)	11%	7%	0%	4%	1%	0%	0%	3%	14%	0%	2%	14%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		8			4			2			6	
Permitted Phases	8		8	4			2		2	6		6
Actuated Green, G (s)		12.0	12.0		12.0		30.1	30.1	30.1	30.1	30.1	30.1
Effective Green, g (s)		12.0	12.0		12.0		32.1	30.1	30.1	32.1	30.1	30.1
Actuated g/C Ratio		0.21	0.21		0.21		0.57	0.54	0.54	0.57	0.54	0.54
Clearance Time (s)		7.0	7.0		7.0		7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		3.0	3.0		3.0		0.2	0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)		322	345		367		515	989	760	588	999	760
v/s Ratio Prot								0.20			c0.24	
v/s Ratio Perm		0.05	0.01		c0.11		0.08		0.01	0.03		0.01
v/c Ratio		0.21	0.03		0.53		0.14	0.37	0.01	0.05	0.45	0.02
Uniform Delay, d1		18.2	17.5		19.6		5.6	7.5	6.1	5.3	8.0	6.1
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.3	0.0		1.5		0.0	0.1	0.0	0.0	0.1	0.0
Delay (s)		18.5	17.5		21.0		5.6	7.6	6.1	5.3	8.1	6.1
Level of Service		B	B		C		A	A	A	A	A	A
Approach Delay (s)		18.1			21.0			7.3			7.8	
Approach LOS		B			C			A			A	

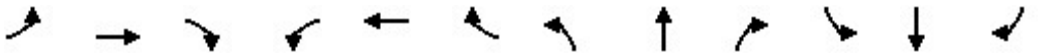
Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	56.1	Sum of lost time (s)	14.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

1: Yonge Street & Mapleview Drive E



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	130	674	76	386	152	92	375	60	207	494
v/c Ratio	0.35	0.75	0.28	0.48	0.32	0.16	0.46	0.08	0.38	0.30
Control Delay	24.0	41.2	23.1	36.8	7.4	12.0	25.0	1.3	13.9	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	41.2	23.1	36.8	7.4	12.0	25.0	1.3	13.9	19.7
Queue Length 50th (m)	18.4	70.5	10.4	38.0	0.5	8.6	58.0	0.0	20.6	35.6
Queue Length 95th (m)	31.6	91.5	20.1	52.3	15.9	18.6	94.7	2.7	38.4	54.2
Internal Link Dist (m)		752.3		111.7			107.5			189.8
Turn Bay Length (m)	30.0		35.0		30.0	35.0		30.0		
Base Capacity (vph)	372	1155	279	1163	611	576	900	825	538	1744
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.58	0.27	0.33	0.25	0.16	0.42	0.07	0.38	0.28

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	505	115	70	355	140	85	345	55	190	385	70
Future Volume (vph)	120	505	115	70	355	140	85	345	55	190	385	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	6.0		2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1768	3503		1787	3574	1571	1805	1881	1615	1787	3510	
Flt Permitted	0.41	1.00		0.22	1.00	1.00	0.45	1.00	1.00	0.41	1.00	
Satd. Flow (perm)	760	3503		411	3574	1571	861	1881	1615	773	3510	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	549	125	76	386	152	92	375	60	207	418	76
RTOR Reduction (vph)	0	17	0	0	0	115	0	0	34	0	12	0
Lane Group Flow (vph)	130	657	0	76	386	37	92	375	26	207	482	0
Confl. Peds. (#/hr)	5					5						
Heavy Vehicles (%)	2%	0%	1%	1%	1%	1%	0%	1%	0%	1%	0%	3%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8		8	6		6	2		
Actuated Green, G (s)	34.3	26.4		30.7	24.6	24.6	52.2	46.2	46.2	56.2	48.2	
Effective Green, g (s)	38.3	26.4		34.7	24.6	24.6	56.2	46.2	46.2	60.2	48.2	
Actuated g/C Ratio	0.36	0.25		0.33	0.23	0.23	0.53	0.43	0.43	0.56	0.45	
Clearance Time (s)	4.0	6.0		4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	0.2	0.2	3.0	0.2	
Lane Grp Cap (vph)	366	866		238	823	362	524	814	699	531	1585	
v/s Ratio Prot	c0.03	c0.19		0.02	0.11		0.01	c0.20		c0.04	0.14	
v/s Ratio Perm	0.09			0.08		0.02	0.08		0.02	0.18		
v/c Ratio	0.36	0.76		0.32	0.47	0.10	0.18	0.46	0.04	0.39	0.30	
Uniform Delay, d1	23.9	37.2		26.1	35.4	32.4	12.6	21.4	17.4	12.3	18.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	3.8		0.8	0.4	0.1	0.2	0.2	0.0	0.5	0.0	
Delay (s)	24.5	41.0		26.9	35.8	32.5	12.8	21.6	17.4	12.8	18.6	
Level of Service	C	D		C	D	C	B	C	B	B	B	
Approach Delay (s)		38.4			33.9			19.6			16.9	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	106.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	655	570	0
Future Volume (Veh/h)	0	0	0	655	570	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	704	613	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				322		
pX, platoon unblocked	0.76					
vC, conflicting volume	1317	613	613			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1260	613	613			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	145	496	976			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	704	613
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	976	1700
Volume to Capacity	0.00	0.00	0.36
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		

3: Yonge Street & Lockhart Road



Lane Group	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	306	133	167	72	594	50	50	556	28
v/c Ratio	0.68	0.26	0.37	0.20	0.63	0.06	0.15	0.59	0.03
Control Delay	28.0	5.5	15.4	11.0	16.3	3.0	10.6	15.4	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	5.5	15.4	11.0	16.3	3.0	10.6	15.4	1.2
Queue Length 50th (m)	31.7	0.8	11.6	3.9	46.4	0.0	2.7	42.1	0.0
Queue Length 95th (m)	54.2	10.9	25.0	13.8	100.2	4.5	10.3	91.3	1.6
Internal Link Dist (m)	935.4		1072.9		482.9			297.6	
Turn Bay Length (m)		20.0		120.0		120.0			20.0
Base Capacity (vph)	745	785	732	366	937	835	328	937	835
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.17	0.23	0.20	0.63	0.06	0.15	0.59	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	205	120	25	75	50	65	535	45	45	500	25
Future Volume (vph)	70	205	120	25	75	50	65	535	45	45	500	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0		7.0		5.0	7.0	7.0	5.0	7.0	7.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1876	1599		1761		1805	1881	1615	1770	1881	1615
Flt Permitted		0.87	1.00		0.89		0.36	1.00	1.00	0.33	1.00	1.00
Satd. Flow (perm)		1662	1599		1580		690	1881	1615	618	1881	1615
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	78	228	133	28	83	56	72	594	50	50	556	28
RTOR Reduction (vph)	0	0	91	0	30	0	0	0	25	0	0	14
Lane Group Flow (vph)	0	306	42	0	137	0	72	594	25	50	556	14
Heavy Vehicles (%)	0%	0%	1%	4%	3%	0%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		8			4			2			6	
Permitted Phases	8		8	4			2		2	6		6
Actuated Green, G (s)		16.3	16.3		16.3		30.2	30.2	30.2	30.2	30.2	30.2
Effective Green, g (s)		16.3	16.3		16.3		32.2	30.2	30.2	32.2	30.2	30.2
Actuated g/C Ratio		0.27	0.27		0.27		0.53	0.50	0.50	0.53	0.50	0.50
Clearance Time (s)		7.0	7.0		7.0		7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		3.0	3.0		3.0		0.2	0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)		447	430		425		367	938	806	328	938	806
v/s Ratio Prot								c0.32			0.30	
v/s Ratio Perm		c0.18	0.03		0.09		0.10		0.02	0.08		0.01
v/c Ratio		0.68	0.10		0.32		0.20	0.63	0.03	0.15	0.59	0.02
Uniform Delay, d1		19.8	16.6		17.7		7.4	11.1	7.7	7.2	10.8	7.7
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		4.3	0.1		0.4		0.1	1.0	0.0	0.1	0.7	0.0
Delay (s)		24.1	16.7		18.1		7.5	12.1	7.7	7.3	11.4	7.7
Level of Service		C	B		B		A	B	A	A	B	A
Approach Delay (s)		21.9			18.1			11.4			11.0	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	60.5	Sum of lost time (s)	14.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

1: Yonge Street & Mapleview Drive E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	71	449	77	189	781	270	128	413	56	148	479
v/c Ratio	0.29	0.52	0.16	0.52	0.79	0.52	0.25	0.28	0.09	0.27	0.33
Control Delay	22.9	36.6	4.1	27.1	43.2	20.8	13.9	22.7	1.1	14.1	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	36.6	4.1	27.1	43.2	20.8	13.9	22.7	1.1	14.1	22.5
Queue Length 50th (m)	9.7	45.2	0.0	27.8	87.7	26.0	13.8	33.2	0.0	16.1	38.1
Queue Length 95th (m)	19.1	61.1	7.2	44.4	110.9	52.7	25.3	47.5	1.9	28.9	54.0
Internal Link Dist (m)		752.3			111.7			107.5			189.8
Turn Bay Length (m)	30.0		30.0	35.0		30.0	35.0		30.0		
Base Capacity (vph)	247	1094	567	364	1126	571	526	1657	699	554	1626
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.41	0.14	0.52	0.69	0.47	0.24	0.25	0.08	0.27	0.29

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	440	75	185	765	265	125	405	55	145	415	55
Future Volume (vph)	70	440	75	185	765	265	125	405	55	145	415	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1703	3471	1583	1770	3574	1527	1752	3574	1392	1719	3491	
Flt Permitted	0.17	1.00	1.00	0.37	1.00	1.00	0.43	1.00	1.00	0.48	1.00	
Satd. Flow (perm)	310	3471	1583	684	3574	1527	800	3574	1392	868	3491	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	71	449	77	189	781	270	128	413	56	148	423	56
RTOR Reduction (vph)	0	0	57	0	0	95	0	0	33	0	9	0
Lane Group Flow (vph)	71	449	20	189	781	175	128	413	23	148	470	0
Confl. Peds. (#/hr)	5					5						
Heavy Vehicles (%)	6%	4%	2%	2%	1%	4%	3%	1%	16%	5%	1%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		
Actuated Green, G (s)	34.3	28.2	28.2	38.1	30.1	30.1	53.1	45.3	45.3	53.1	45.3	
Effective Green, g (s)	38.3	28.2	28.2	42.1	30.1	30.1	57.1	45.3	45.3	57.1	45.3	
Actuated g/C Ratio	0.35	0.26	0.26	0.39	0.28	0.28	0.52	0.41	0.41	0.52	0.41	
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.2	0.2	3.0	0.2	
Lane Grp Cap (vph)	211	895	408	362	984	420	503	1481	576	529	1446	
v/s Ratio Prot	0.02	0.13		c0.05	c0.22		0.02	0.12		c0.03	c0.13	
v/s Ratio Perm	0.09		0.01	0.15		0.11	0.11		0.02	0.12		
v/c Ratio	0.34	0.50	0.05	0.52	0.79	0.42	0.25	0.28	0.04	0.28	0.33	
Uniform Delay, d1	25.3	34.6	30.5	23.5	36.7	32.4	13.6	21.2	19.1	13.7	21.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.4	0.0	1.4	4.5	0.7	0.3	0.0	0.0	0.3	0.0	
Delay (s)	26.3	35.0	30.5	24.9	41.2	33.1	13.8	21.2	19.1	14.0	21.7	
Level of Service	C	D	C	C	D	C	B	C	B	B	C	
Approach Delay (s)		33.4			36.9			19.4			19.9	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	109.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	510	670	0
Future Volume (Veh/h)	0	0	0	510	670	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	548	720	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				322		
pX, platoon unblocked	0.90					
vC, conflicting volume	1268	720	720			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1243	720	720			
tC, single (s)	*5.0	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	285	431	891			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	0	0	0	548	720	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.32	0.42	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	0.0		0.0		0.0	
Approach LOS	A					

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	38.6%	ICU Level of Service		A
Analysis Period (min)	15			

* User Entered Value

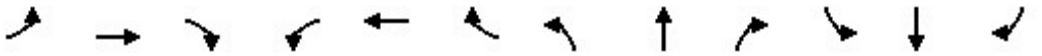
3: Yonge Street & Lockhart Road



Lane Group	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	167	94	308	83	464	26	42	661	99
v/c Ratio	0.57	0.20	0.68	0.28	0.49	0.03	0.09	0.70	0.13
Control Delay	27.5	5.4	26.2	12.0	12.7	0.9	8.6	17.4	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	5.4	26.2	12.0	12.7	0.9	8.6	17.4	5.2
Queue Length 50th (m)	16.5	0.0	29.1	4.5	31.2	0.0	2.0	51.6	2.0
Queue Length 95th (m)	33.3	8.7	51.5	15.7	66.5	1.2	7.7	#115.1	9.9
Internal Link Dist (m)	935.4		1072.9		482.9			297.6	
Turn Bay Length (m)		20.0		120.0		120.0	100.0		20.0
Base Capacity (vph)	528	791	813	297	940	752	463	949	752
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.12	0.38	0.28	0.49	0.03	0.09	0.70	0.13

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	85	90	25	210	60	80	445	25	40	635	95
Future Volume (vph)	75	85	90	25	210	60	80	445	25	40	635	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0		7.0		5.0	7.0	7.0	5.0	7.0	7.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1705	1615		1821		1805	1845	1417	1805	1863	1417
Flt Permitted		0.66	1.00		0.96		0.29	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)		1152	1615		1747		547	1845	1417	854	1863	1417
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	78	89	94	26	219	62	83	464	26	42	661	99
RTOR Reduction (vph)	0	0	70	0	16	0	0	0	13	0	0	30
Lane Group Flow (vph)	0	167	24	0	292	0	83	464	13	42	661	69
Heavy Vehicles (%)	11%	7%	0%	4%	1%	0%	0%	3%	14%	0%	2%	14%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		8			4			2			6	
Permitted Phases	8		8	4			2		2	6		6
Actuated Green, G (s)		14.9	14.9		14.9		30.1	30.1	30.1	30.1	30.1	30.1
Effective Green, g (s)		14.9	14.9		14.9		32.1	30.1	30.1	32.1	30.1	30.1
Actuated g/C Ratio		0.25	0.25		0.25		0.54	0.51	0.51	0.54	0.51	0.51
Clearance Time (s)		7.0	7.0		7.0		7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		3.0	3.0		3.0		0.2	0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)		290	407		441		297	941	722	464	950	722
v/s Ratio Prot								0.25			c0.35	
v/s Ratio Perm		0.15	0.01		c0.17		0.15		0.01	0.05		0.05
v/c Ratio		0.58	0.06		0.66		0.28	0.49	0.02	0.09	0.70	0.10
Uniform Delay, d1		19.3	16.7		19.8		7.2	9.5	7.1	6.4	11.0	7.4
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.8	0.1		3.7		0.2	0.1	0.0	0.0	1.8	0.0
Delay (s)		22.0	16.8		23.5		7.4	9.6	7.1	6.5	12.8	7.5
Level of Service		C	B		C		A	A	A	A	B	A
Approach Delay (s)		20.2			23.5			9.2			11.8	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	59.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

1: Yonge Street & Mapleview Drive E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	141	989	190	125	723	261	125	489	109	359	658
v/c Ratio	0.48	0.92	0.35	0.61	0.76	0.50	0.30	0.36	0.15	0.71	0.46
Control Delay	26.5	53.4	16.9	35.3	45.9	21.1	15.8	26.8	2.6	25.4	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	53.4	16.9	35.3	45.9	21.1	15.8	26.8	2.6	25.4	26.4
Queue Length 50th (m)	20.8	121.1	16.1	18.2	85.0	24.6	14.6	44.4	0.0	49.0	59.8
Queue Length 95th (m)	34.8	#159.3	36.2	#33.7	110.3	52.6	25.1	58.9	7.4	71.1	77.1
Internal Link Dist (m)		752.3			111.7			107.5			189.8
Turn Bay Length (m)	30.0		30.0	35.0		30.0	35.0		30.0		
Base Capacity (vph)	323	1111	561	205	950	517	417	1436	730	508	1487
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.89	0.34	0.61	0.76	0.50	0.30	0.34	0.15	0.71	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	910	175	115	665	240	115	450	100	330	530	75
Future Volume (vph)	130	910	175	115	665	240	115	450	100	330	530	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1769	3610	1599	1787	3574	1571	1805	3574	1615	1787	3529	
Flt Permitted	0.17	1.00	1.00	0.12	1.00	1.00	0.33	1.00	1.00	0.40	1.00	
Satd. Flow (perm)	321	3610	1599	227	3574	1571	626	3574	1615	745	3529	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	989	190	125	723	261	125	489	109	359	576	82
RTOR Reduction (vph)	0	0	70	0	0	100	0	0	67	0	10	0
Lane Group Flow (vph)	141	989	120	125	723	161	125	489	42	359	648	0
Confl. Peds. (#/hr)	5					5						
Heavy Vehicles (%)	2%	0%	1%	1%	1%	1%	0%	1%	0%	1%	0%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		
Actuated Green, G (s)	45.9	35.0	35.0	38.1	31.1	31.1	52.8	45.0	45.0	57.2	47.2	
Effective Green, g (s)	48.0	35.0	35.0	42.1	31.1	31.1	56.8	45.0	45.0	61.0	47.2	
Actuated g/C Ratio	0.41	0.30	0.30	0.36	0.27	0.27	0.49	0.38	0.38	0.52	0.40	
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.2	0.2	3.0	0.2	
Lane Grp Cap (vph)	291	1079	478	201	950	417	402	1374	621	495	1423	
v/s Ratio Prot	c0.05	c0.27		c0.05	0.20		0.03	0.14		c0.07	c0.18	
v/s Ratio Perm	0.15		0.07	0.18		0.10	0.12		0.03	0.30		
v/c Ratio	0.48	0.92	0.25	0.62	0.76	0.39	0.31	0.36	0.07	0.73	0.46	
Uniform Delay, d1	24.0	39.6	31.1	28.6	39.5	35.1	17.0	25.7	22.7	18.3	25.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	11.9	0.3	5.9	3.6	0.6	0.4	0.1	0.0	5.2	0.1	
Delay (s)	25.3	51.5	31.3	34.4	43.2	35.7	17.4	25.7	22.8	23.5	25.6	
Level of Service	C	D	C	C	D	D	B	C	C	C	C	
Approach Delay (s)		45.8			40.4			23.8			24.9	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	117.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	800	695	0
Future Volume (Veh/h)	0	0	0	800	695	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	860	747	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				322		
pX, platoon unblocked	0.64					
vC, conflicting volume	1607	747	747			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1668	747	747			
tC, single (s)	*5.0	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	131	416	870			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	0	0	0	860	747	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.51	0.44	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	0.0		0.0		0.0	
Approach LOS	A					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

3: Yonge Street & Lockhart Road



Lane Group	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	473	161	306	94	783	83	56	717	72
v/c Ratio	0.91	0.25	0.53	0.66	0.96	0.11	0.52	0.88	0.10
Control Delay	44.9	7.9	19.4	43.0	44.8	3.8	36.2	33.2	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	7.9	19.4	43.0	44.8	3.8	36.2	33.2	5.1
Queue Length 50th (m)	59.5	5.6	28.9	9.9	104.5	0.0	5.4	90.3	0.9
Queue Length 95th (m)	#113.4	17.3	51.4	#35.1	#179.6	7.2	#23.1	#158.1	7.7
Internal Link Dist (m)	935.4		1072.9		482.9			297.6	
Turn Bay Length (m)		20.0		120.0		120.0	100.0		20.0
Base Capacity (vph)	565	685	624	142	818	750	108	818	737
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.24	0.49	0.66	0.96	0.11	0.52	0.88	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	285	145	25	180	70	85	705	75	50	645	65
Future Volume (vph)	140	285	145	25	180	70	85	705	75	50	645	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0		7.0		5.0	7.0	7.0	5.0	7.0	7.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1869	1599		1785		1805	1881	1615	1770	1881	1615
Flt Permitted		0.76	1.00		0.86		0.16	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)		1443	1599		1549		309	1881	1615	232	1881	1615
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	156	317	161	28	200	78	94	783	83	56	717	72
RTOR Reduction (vph)	0	0	62	0	18	0	0	0	47	0	0	34
Lane Group Flow (vph)	0	473	99	0	288	0	94	783	36	56	717	38
Heavy Vehicles (%)	0%	0%	1%	4%	3%	0%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		8			4			2			6	
Permitted Phases	8		8	4			2		2	6		6
Actuated Green, G (s)		25.0	25.0		25.0		30.1	30.1	30.1	30.1	30.1	30.1
Effective Green, g (s)		25.0	25.0		25.0		32.1	30.1	30.1	32.1	30.1	30.1
Actuated g/C Ratio		0.36	0.36		0.36		0.46	0.44	0.44	0.46	0.44	0.44
Clearance Time (s)		7.0	7.0		7.0		7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		3.0	3.0		3.0		0.2	0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)		522	578		560		143	819	703	107	819	703
v/s Ratio Prot								c0.42			0.38	
v/s Ratio Perm		c0.33	0.06		0.19		0.30		0.02	0.24		0.02
v/c Ratio		0.91	0.17		0.51		0.66	0.96	0.05	0.52	0.88	0.05
Uniform Delay, d1		20.9	15.0		17.3		14.3	18.9	11.3	13.1	17.8	11.3
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		19.2	0.1		0.8		8.0	21.1	0.0	2.1	10.0	0.0
Delay (s)		40.2	15.1		18.1		22.3	39.9	11.3	15.2	27.8	11.3
Level of Service		D	B		B		C	D	B	B	C	B
Approach Delay (s)		33.8			18.1			35.7			25.6	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	69.1	Sum of lost time (s)	14.0
Intersection Capacity Utilization	121.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

1: Yonge Street & Mapleview Drive E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	71	449	92	189	781	270	163	449	61	148	490
v/c Ratio	0.29	0.52	0.19	0.52	0.79	0.52	0.32	0.30	0.10	0.28	0.33
Control Delay	22.9	36.6	6.2	27.1	43.2	20.8	14.6	22.9	1.5	14.3	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	36.6	6.2	27.1	43.2	20.8	14.6	22.9	1.5	14.3	22.7
Queue Length 50th (m)	9.7	45.2	0.0	27.8	87.7	26.0	17.9	36.5	0.0	16.1	39.2
Queue Length 95th (m)	19.1	61.1	10.8	44.4	110.9	52.7	31.6	51.8	2.9	28.9	55.6
Internal Link Dist (m)		752.3			111.7			107.5			189.8
Turn Bay Length (m)	30.0		30.0	35.0		30.0	35.0		30.0		
Base Capacity (vph)	247	1094	567	364	1126	571	519	1657	699	532	1627
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.41	0.16	0.52	0.69	0.47	0.31	0.27	0.09	0.28	0.30

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	440	90	185	765	265	160	440	60	145	425	55
Future Volume (vph)	70	440	90	185	765	265	160	440	60	145	425	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1703	3471	1583	1770	3574	1527	1752	3574	1392	1719	3493	
Flt Permitted	0.17	1.00	1.00	0.37	1.00	1.00	0.43	1.00	1.00	0.45	1.00	
Satd. Flow (perm)	310	3471	1583	684	3574	1527	786	3574	1392	822	3493	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	71	449	92	189	781	270	163	449	61	148	434	56
RTOR Reduction (vph)	0	0	68	0	0	95	0	0	36	0	8	0
Lane Group Flow (vph)	71	449	24	189	781	175	163	449	25	148	482	0
Confl. Peds. (#/hr)	5					5						
Heavy Vehicles (%)	6%	4%	2%	2%	1%	4%	3%	1%	16%	5%	1%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		
Actuated Green, G (s)	34.3	28.2	28.2	38.1	30.1	30.1	53.1	45.3	45.3	53.1	45.3	
Effective Green, g (s)	38.3	28.2	28.2	42.1	30.1	30.1	57.1	45.3	45.3	57.1	45.3	
Actuated g/C Ratio	0.35	0.26	0.26	0.39	0.28	0.28	0.52	0.41	0.41	0.52	0.41	
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.2	0.2	3.0	0.2	
Lane Grp Cap (vph)	211	895	408	362	984	420	497	1481	576	509	1447	
v/s Ratio Prot	0.02	0.13		c0.05	c0.22		c0.03	0.13		0.03	c0.14	
v/s Ratio Perm	0.09		0.01	0.15		0.11	0.14		0.02	0.13		
v/c Ratio	0.34	0.50	0.06	0.52	0.79	0.42	0.33	0.30	0.04	0.29	0.33	
Uniform Delay, d1	25.3	34.6	30.5	23.5	36.7	32.4	13.9	21.4	19.1	13.7	21.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.4	0.1	1.4	4.5	0.7	0.4	0.0	0.0	0.3	0.0	
Delay (s)	26.3	35.0	30.6	24.9	41.2	33.1	14.3	21.5	19.1	14.0	21.8	
Level of Service	C	D	C	C	D	C	B	C	B	B	C	
Approach Delay (s)		33.3			36.9			19.5			20.0	
Approach LOS		C			D			B			B	

Intersection Summary					
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.50				
Actuated Cycle Length (s)	109.3	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	91.1%	ICU Level of Service		F	
Analysis Period (min)	15				

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	80	40	10	510	670	30
Future Volume (Veh/h)	80	40	10	510	670	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	86	43	11	548	720	32
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				322		
pX, platoon unblocked	0.90					
vC, conflicting volume	1290	720	752			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1268	720	752			
tC, single (s)	*5.0	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	69	90	99			
cM capacity (veh/h)	275	431	867			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	86	43	11	548	720	32
Volume Left	86	0	11	0	0	0
Volume Right	0	43	0	0	0	32
cSH	275	431	867	1700	1700	1700
Volume to Capacity	0.31	0.10	0.01	0.32	0.42	0.02
Queue Length 95th (m)	10.4	2.6	0.3	0.0	0.0	0.0
Control Delay (s)	24.0	14.3	9.2	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s)	20.7		0.2		0.0	
Approach LOS	C					

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

3: Yonge Street & Lockhart Road



Lane Group	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	172	94	308	83	469	26	42	682	125
v/c Ratio	0.60	0.20	0.68	0.30	0.50	0.03	0.09	0.72	0.17
Control Delay	28.6	5.4	26.3	12.6	12.8	0.9	8.6	18.3	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	5.4	26.3	12.6	12.8	0.9	8.6	18.3	6.0
Queue Length 50th (m)	17.1	0.0	29.1	4.6	31.6	0.0	2.0	54.2	3.4
Queue Length 95th (m)	34.3	8.7	51.5	16.2	67.4	1.2	7.7	#129.5	13.0
Internal Link Dist (m)	935.4		1072.9		482.9			297.6	
Turn Bay Length (m)		20.0		120.0		120.0	100.0		20.0
Base Capacity (vph)	522	791	812	280	940	752	459	949	752
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.12	0.38	0.30	0.50	0.03	0.09	0.72	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	85	90	25	210	60	80	450	25	40	655	120
Future Volume (vph)	80	85	90	25	210	60	80	450	25	40	655	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0		7.0		5.0	7.0	7.0	5.0	7.0	7.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1703	1615		1821		1805	1845	1417	1805	1863	1417
Flt Permitted		0.65	1.00		0.96		0.27	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)		1138	1615		1746		516	1845	1417	846	1863	1417
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	89	94	26	219	62	83	469	26	42	682	125
RTOR Reduction (vph)	0	0	70	0	16	0	0	0	13	0	0	30
Lane Group Flow (vph)	0	172	24	0	292	0	83	469	13	42	682	95
Heavy Vehicles (%)	11%	7%	0%	4%	1%	0%	0%	3%	14%	0%	2%	14%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		8			4			2			6	
Permitted Phases	8		8	4			2		2	6		6
Actuated Green, G (s)		14.9	14.9		14.9		30.1	30.1	30.1	30.1	30.1	30.1
Effective Green, g (s)		14.9	14.9		14.9		32.1	30.1	30.1	32.1	30.1	30.1
Actuated g/C Ratio		0.25	0.25		0.25		0.54	0.51	0.51	0.54	0.51	0.51
Clearance Time (s)		7.0	7.0		7.0		7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		3.0	3.0		3.0		0.2	0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)		287	407		440		280	941	722	460	950	722
v/s Ratio Prot								0.25			c0.37	
v/s Ratio Perm		0.15	0.01		c0.17		0.16		0.01	0.05		0.07
v/c Ratio		0.60	0.06		0.66		0.30	0.50	0.02	0.09	0.72	0.13
Uniform Delay, d1		19.4	16.7		19.8		7.3	9.5	7.1	6.5	11.2	7.6
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		3.4	0.1		3.8		0.2	0.2	0.0	0.0	2.2	0.0
Delay (s)		22.8	16.8		23.6		7.5	9.6	7.1	6.5	13.3	7.6
Level of Service		C	B		C		A	A	A	A	B	A
Approach Delay (s)		20.7			23.6			9.2			12.2	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	59.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

1: Yonge Street & Mapleview Drive E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	141	989	234	130	723	261	147	511	114	359	685
v/c Ratio	0.48	0.92	0.43	0.63	0.76	0.50	0.37	0.37	0.16	0.72	0.48
Control Delay	26.5	53.4	20.9	37.0	45.9	21.1	16.7	27.0	3.1	26.4	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	53.4	20.9	37.0	45.9	21.1	16.7	27.0	3.1	26.4	26.8
Queue Length 50th (m)	20.8	121.1	25.0	19.0	85.0	24.6	17.4	46.6	0.0	49.0	63.1
Queue Length 95th (m)	34.8	#159.3	48.8	#38.4	110.3	52.6	28.8	61.5	8.3	71.1	81.0
Internal Link Dist (m)		752.3			111.7			107.5			189.8
Turn Bay Length (m)	30.0		30.0	35.0		30.0	35.0		30.0		
Base Capacity (vph)	323	1111	561	205	950	517	404	1436	730	496	1488
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.89	0.42	0.63	0.76	0.50	0.36	0.36	0.16	0.72	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	910	215	120	665	240	135	470	105	330	555	75
Future Volume (vph)	130	910	215	120	665	240	135	470	105	330	555	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1769	3610	1599	1787	3574	1571	1805	3574	1615	1787	3532	
Flt Permitted	0.17	1.00	1.00	0.12	1.00	1.00	0.31	1.00	1.00	0.38	1.00	
Satd. Flow (perm)	321	3610	1599	227	3574	1571	596	3574	1615	718	3532	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	989	234	130	723	261	147	511	114	359	603	82
RTOR Reduction (vph)	0	0	70	0	0	100	0	0	70	0	9	0
Lane Group Flow (vph)	141	989	164	130	723	161	147	511	44	359	676	0
Confl. Peds. (#/hr)	5					5						
Heavy Vehicles (%)	2%	0%	1%	1%	1%	1%	0%	1%	0%	1%	0%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		
Actuated Green, G (s)	45.9	35.0	35.0	38.1	31.1	31.1	52.8	45.0	45.0	57.2	47.2	
Effective Green, g (s)	48.0	35.0	35.0	42.1	31.1	31.1	56.8	45.0	45.0	61.0	47.2	
Actuated g/C Ratio	0.41	0.30	0.30	0.36	0.27	0.27	0.49	0.38	0.38	0.52	0.40	
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.2	0.2	3.0	0.2	
Lane Grp Cap (vph)	291	1079	478	201	950	417	390	1374	621	483	1424	
v/s Ratio Prot	c0.05	c0.27		c0.05	0.20		0.03	0.14		c0.08	c0.19	
v/s Ratio Perm	0.15		0.10	0.18		0.10	0.15		0.03	0.31		
v/c Ratio	0.48	0.92	0.34	0.65	0.76	0.39	0.38	0.37	0.07	0.74	0.47	
Uniform Delay, d1	24.0	39.6	32.0	28.7	39.5	35.1	17.3	25.9	22.8	18.5	25.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	11.9	0.4	7.0	3.6	0.6	0.6	0.1	0.0	6.1	0.1	
Delay (s)	25.3	51.5	32.5	35.7	43.2	35.7	17.9	25.9	22.8	24.6	25.8	
Level of Service	C	D	C	D	D	D	B	C	C	C	C	
Approach Delay (s)		45.5			40.6			23.9			25.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	117.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	35	30	30	795	680	70
Future Volume (Veh/h)	35	30	30	795	680	70
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	38	32	32	855	731	75
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				322		
pX, platoon unblocked	0.64					
vC, conflicting volume	1650	731	806			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1734	731	806			
tC, single (s)	*5.0	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	68	92	96			
cM capacity (veh/h)	118	425	828			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	38	32	32	855	731	75
Volume Left	38	0	32	0	0	0
Volume Right	0	32	0	0	0	75
cSH	118	425	828	1700	1700	1700
Volume to Capacity	0.32	0.08	0.04	0.50	0.43	0.04
Queue Length 95th (m)	10.1	1.9	1.0	0.0	0.0	0.0
Control Delay (s)	49.4	14.2	9.5	0.0	0.0	0.0
Lane LOS	E	B	A			
Approach Delay (s)	33.3		0.3		0.0	
Approach LOS	D					

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

3: Yonge Street & Lockhart Road



Lane Group	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	489	161	306	94	800	83	56	728	89
v/c Ratio	0.93	0.25	0.53	0.75	0.99	0.11	0.52	0.90	0.12
Control Delay	49.2	8.1	19.3	56.1	52.2	3.8	36.8	36.2	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	8.1	19.3	56.1	52.2	3.8	36.8	36.2	6.2
Queue Length 50th (m)	63.0	5.9	28.9	10.5	~109.6	0.0	5.4	92.5	2.2
Queue Length 95th (m)	#119.9	17.7	51.7	#37.2	#184.9	7.2	#23.1	#161.7	10.0
Internal Link Dist (m)	935.4		1072.9		482.9			297.6	
Turn Bay Length (m)		20.0		120.0		120.0	100.0		20.0
Base Capacity (vph)	551	676	609	126	808	742	107	808	729
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.24	0.50	0.75	0.99	0.11	0.52	0.90	0.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	285	145	25	180	70	85	720	75	50	655	80
Future Volume (vph)	155	285	145	25	180	70	85	720	75	50	655	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0		7.0		5.0	7.0	7.0	5.0	7.0	7.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1867	1599		1785		1805	1881	1615	1770	1881	1615
Flt Permitted		0.75	1.00		0.85		0.15	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)		1424	1599		1532		276	1881	1615	233	1881	1615
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	172	317	161	28	200	78	94	800	83	56	728	89
RTOR Reduction (vph)	0	0	59	0	18	0	0	0	47	0	0	35
Lane Group Flow (vph)	0	489	102	0	288	0	94	800	36	56	728	54
Heavy Vehicles (%)	0%	0%	1%	4%	3%	0%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		8			4			2			6	
Permitted Phases	8		8	4			2		2	6		6
Actuated Green, G (s)		25.8	25.8		25.8		30.0	30.0	30.0	30.0	30.0	30.0
Effective Green, g (s)		25.8	25.8		25.8		32.0	30.0	30.0	32.0	30.0	30.0
Actuated g/C Ratio		0.37	0.37		0.37		0.46	0.43	0.43	0.46	0.43	0.43
Clearance Time (s)		7.0	7.0		7.0		7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		3.0	3.0		3.0		0.2	0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)		526	591		566		126	808	694	106	808	694
v/s Ratio Prot								c0.43			0.39	
v/s Ratio Perm		c0.34	0.06		0.19		0.34		0.02	0.24		0.03
v/c Ratio		0.93	0.17		0.51		0.75	0.99	0.05	0.53	0.90	0.08
Uniform Delay, d1		21.1	14.8		17.1		15.6	19.8	11.6	13.5	18.5	11.7
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		22.9	0.1		0.7		18.7	29.1	0.0	2.2	12.9	0.0
Delay (s)		44.0	14.9		17.8		34.3	48.8	11.6	15.7	31.4	11.8
Level of Service		D	B		B		C	D	B	B	C	B
Approach Delay (s)		36.8			17.8			44.3			28.4	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	34.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	69.8	Sum of lost time (s)	14.0
Intersection Capacity Utilization	123.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			