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593-601 Laurier Avenue West

Transportation Impact Assessment

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593-601 Laurier Avenue West
Transportation Impact Assessment

Prepared By:

NOVATECH
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario
K2M 1P6

December 18, 2024
Revised: November 14, 2025

Novatech File: 124024
Ref: R-2024-118

November 14th, 2025

City of Ottawa
Planning, Development, and Building Services Department
110 Laurier Ave. W., 4th Floor,
Ottawa, Ontario K1P 1J1

**Attention: Mrs. Rochelle Fortier-Lesage
Transportation Project Manager, Infrastructure Approvals**

Dear Mrs. Fortier-Lesage:

**Reference: 593-601 Laurier Avenue West
Transportation Impact Assessment Report
Novatech File No. 124024**

We are pleased to submit the following revised Transportation Impact Assessment (TIA) report in support of Official Plan Amendment and Zoning By-law Amendment applications for the above address. The structure and format of this report is in accordance with the City of Ottawa Transportation Impact Assessment Guidelines (June 2017). This TIA has been revised to address comments from the previous TIA.

If you have any questions or comments regarding this report, please feel free to contact the undersigned.

Yours truly,

NOVATECH



Trevor Van Wiechen, P.Eng.
Project Engineer | Transportation



TIA Plan Reports

On 14 June 2017, the Council of the City of Ottawa adopted new Transportation Impact Assessment (TIA) Guidelines. In adopting the guidelines, Council established a requirement for those preparing and delivering transportation impact assessments and reports to sign a letter of certification.

Individuals submitting TIA reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Ottawa's Official Plan, the Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines.

By submitting the attached TIA report (and any associated documents) and signing this document, the individual acknowledges that s/he meets the four criteria listed below.

CERTIFICATION

1. I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines;
2. I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
3. I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and
4. I am either a licensed¹ or registered² professional in good standing, whose field of expertise [check appropriate field(s)] is either transportation engineering or transportation planning .

^{1,2} License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.

Dated at Ottawa this 14 day of November, 2025 .
(City)

Name: Brad Byvelds
(Please Print)

Professional Title: P. Eng. - Senior Project Manager

B. Byvelds

Signature of Individual certifier that s/he meets the above four criteria

Office Contact Information (Please Print)	
Address:	240 Michael Cowpland Drive
City / Postal Code:	Ottawa, ON K2M 1P6
Telephone / Extension:	613-254-9643 ext. 286
E-Mail Address:	b.byvelds@novaetch-eng.com

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EXECUTIVE SUMMARY

This Transportation Impact Assessment (TIA) report has been prepared in support of Official Plan Amendment and Zoning By-law Amendment applications for 593-601 Laurier Avenue West. Currently the properties are occupied by a heritage building at 593 Laurier Avenue West and two low-rise residential buildings at 601 and 603 Laurier Avenue West. As part of a different application the property at 593 Laurier Avenue West had previously received site plan approval from an application completed in 2022.

The subject properties are located at the northwest corner of the Bronson Avenue/Laurier Avenue West intersection and is surrounded by the following:

- An apartment building to the north;
- Bronson Avenue and the Nanny Goat Hill Community Garden to the east;
- Laurier Avenue West and an apartment building to the south; and
- Slater and Albert Street to the west.

593 Laurier Avenue is currently zoned Residential Fifth Density (R5Q) and 601 Laurier Avenue is currently zoned Residential Fourth Density (R4UD). Both 593 and 601 Laurier Avenue are located in a neighbourhood with an Evolving Neighbourhood overlay, Bronson Avenue is designated as a Mainstreet Corridor.

The proposed redevelopment includes a 28-storey tower plus additional 6-storey podium in addition to the existing residential building at 593 Laurier Avenue West. The proposed redevelopment will maintain the six dwelling units in the existing building and provide 326 units in the new addition. As part of the development 102 vehicle parking spaces and 302 bicycle parking spaces are proposed. A single loading/underground parking access is proposed on Laurier Avenue West.

The development is anticipated to be completed in a single phase, with full build out by 2026.

The conclusions and recommendations of this TIA can be summarized as follows:

Access Design

- The site proposes one combined access for passenger vehicles entering the underground parking garage and truck access for an MSU truck to reverse into a loading area to assist residents with moving in/out.
- Sight lines looking east from the access meet the SSD and ISD requirements. Sight lines looking west meet the SSD requirements but do not meet ISD requirements. As the SSD requirements are met, drivers along Laurier Avenue will have adequate distance to slow or stop, in the event that a driver exiting the proposed development chooses an inadequate gap in traffic.
- The TAC Geometric Design Guide for Canadian Roads identifies a minimum corner clearance distance of 15m for an access downstream of a signal on an undivided local road. As the access is roughly 20m away this requirement is met.

Trip Generation

- The proposed redevelopment is estimated to generate 144 person trips (including 19 vehicle trips) during the AM peak hour, and 141 person trips (including 19 vehicle trips) during the PM peak hour.

Development Design

- Pedestrian walkways will be provided between the proposed building entrances and the sidewalk along Laurier Avenue West.
- OC Transpo's service design guideline for peak period service is to provide service within a five minute (400m) walk of the home, school and work location of 95% of urban residents. The actual walking distance from the main building entrance to the nearest bus stops was measured. Stop #6626 is a 75m walk, stop #6627 is a 60m walk, stop #3004 is a 360m walk, and stop #3005 is a 240m walk from the proposed redevelopment.
- Bicycle parking for the proposed redevelopment will be in accordance with the City of Ottawa's Zoning By-Law (ZBL). Bicycle parking will be provided in a storage room on the second parking level.
- Garbage collection and loading will occur in the alleyway between the parking ramp and the existing house on the corner of Bronson Avenue and Laurier Avenue. Garbage bins will be wheeled out to meet the garbage trucks within the alleyway.

Parking

- The proposed 302 bicycle parking spaces will exceed the minimum requirement of 164 bicycle parking spaces per the ZBL. However, relief from the minimum vehicle parking provisions is required for the resident parking as 142 parking spaces is required, and 71 resident parking spaces are provided. The requirement of 30 visitor parking spaces as specified in the ZBL is met.

Boundary Streets

- Laurier Avenue West meets the target BLOS but does not meet the target PLOS. Opportunities to widen the sidewalk and improve the PLOS along the site frontage will be investigated as part of the Site Plan application.
- The east side of Bronson Avenue is currently operating with a PLOS F and the west side of Bronson Avenue is currently operating with a PLOS E. The target PLOS A is unachievable due to the operating speed of 60km/hr and the average daily curb traffic in excess of 3,000 vehicles on both sides of the road.
- Mixed use traffic lanes are currently provided along Bronson Avenue adjacent to the subject site, achieving a BLOS F. To achieve the target BLOS D, bike lanes are required along Bronson Avenue.

Transportation Demand Management

- The following measures will be implemented upon opening of the proposed redevelopment:
 - Display local area maps with walking/cycling access routes and key destinations;
 - Display relevant transit schedules and route maps;

- Provide a multimodal travel option information package to new residents; and
- Unbundle parking cost from monthly rent.
- In addition to the TDM measures identified above, the proposed redevelopment will provide a reduced number of vehicle parking spaces and an increased number of bicycle parking spaces.

1.0 SCREENING

1.1 Introduction

This Transportation Impact Assessment (TIA) report has been prepared in support of Official Plan Amendment and Zoning By-law Amendment applications for 593-601 Laurier Avenue West. Currently the properties are occupied by a heritage building at 593 Laurier Avenue West and two low-rise residential buildings at 601 and 603 Laurier Avenue West. As part of a different application the property at 593 Laurier Avenue West had previously received site plan approval from an application completed in 2022.

The subject properties are located at the northwest corner of the Bronson Avenue/Laurier Avenue West intersection and is surrounded by the following:

- An apartment building to the north;
- Bronson Avenue and the Nanny Goat Hill Community Garden to the east;
- Laurier Avenue West and an apartment building to the south; and
- Slater and Albert Street to the west.

It is worth noting that the section of Slater Street north of the subject properties has been decommissioned as part of the Albert Street and Slater Street Reconstruction project. An aerial view of the subject site is provided in **Figure 1**.

1.2 Proposed Development

593 Laurier Avenue is currently zoned Residential Fifth Density (R5Q) and 601 Laurier Avenue is currently zoned Residential Fourth Density (R4UD). Both 593 and 601 Laurier Avenue are located in a neighbourhood with an Evolving Neighbourhood overlay, Bronson Avenue is designated as a Mainstreet Corridor.

The proposed redevelopment includes a 28-storey tower plus additional 6-storey podium in addition to the existing residential building at 593 Laurier Avenue West. The proposed redevelopment will maintain the six dwelling units in the existing building and provide 326 units in the new addition. As part of the development 102 vehicle parking spaces and 302 bicycle parking spaces are proposed. A single loading/underground parking access is proposed on Laurier Avenue West.

The development is anticipated to be completed in a single phase, with full build out by 2026.

A copy of the proposed site plan is included in **Appendix A**.

Figure 1: Aerial View of the Subject Site

1.3 Screening Form

The City's 2017 TIA Guidelines identifies three triggers for completing a TIA report, including trip generation, location, and safety. The criteria for each trigger are outlined in the City's TIA Screening Form. A copy of the TIA screening form is included in **Appendix B**.

The trigger results are as follows:

- Trip Generation Trigger – The development is anticipated to generate over 60 person trips/peak hour; further assessment is required based on this trigger.
- Location Triggers – The development has frontage to a Mainstreet Corridor within a Design Priority Area (Bronson Avenue); further assessment is required based on this trigger

- Safety Triggers – A driveway is within 150m of the traffic signal at Bronson Avenue/Laurier Avenue West; further assessment is required based on this trigger.

Based on the foregoing, the proposed redevelopment meets the trip generation, location, and safety triggers for completing a TIA.

2.0 SCOPING

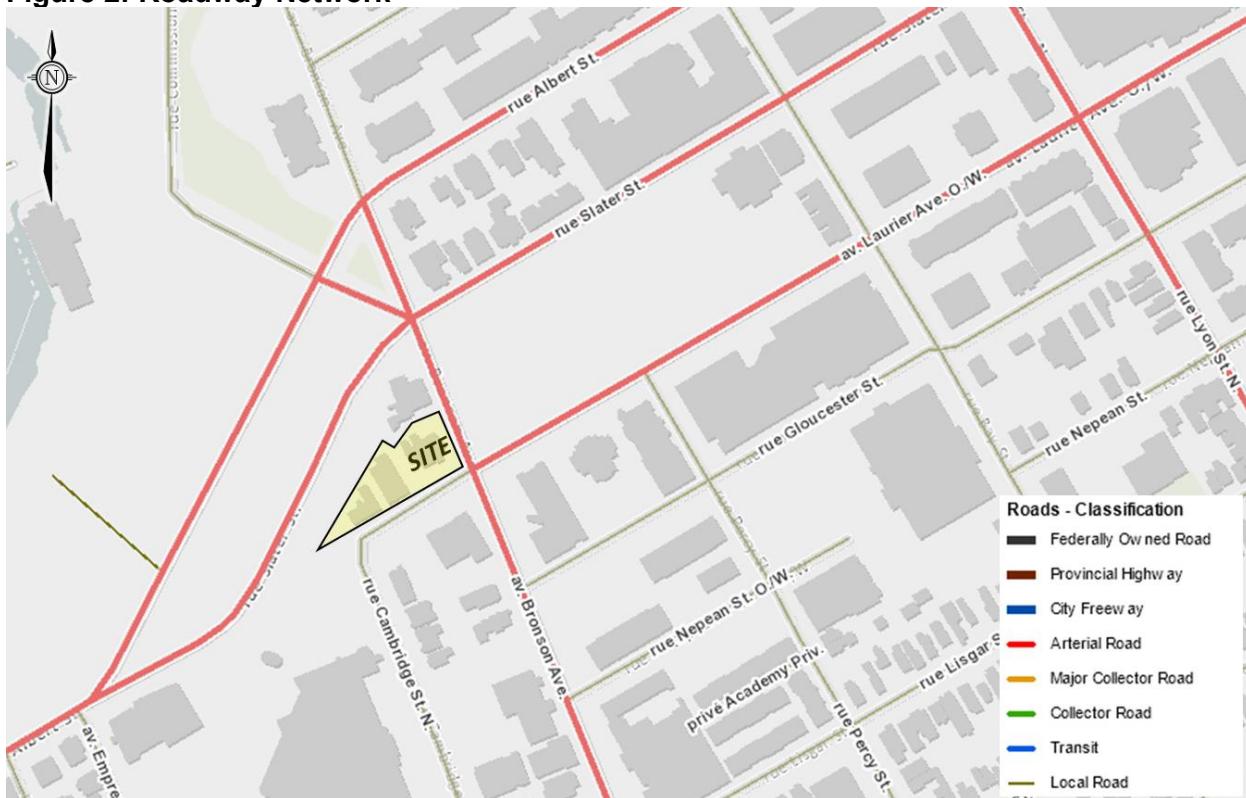
2.1 Existing Conditions

This section provides a review of existing conditions in the vicinity of the subject site including: roadways, intersections, driveways, pedestrian and cycling facilities, transit, area traffic management measures, traffic volumes, and collision records.

2.1.1 Roadways

The roadway network of the greater area surrounding the subject site is illustrated in **Figure 2**.

Figure 2: Roadway Network



All study area roadways fall under the jurisdiction of the City of Ottawa.

Laurier Avenue West is an east-west roadway that is classified as a local road west of Bronson Avenue and an arterial road east of Bronson Avenue. West of Bronson Avenue, it has a two-lane undivided urban cross section with on-street parking prohibitions on both sides of the roadway. East of Bronson Avenue it has a two-lane undivided urban cross section with cycle tracks and an

eastbound parking lane. Laurier Avenue West has a posted speed limit of 30km/hr in the vicinity of the subject site. East of Bronson, Laurier Avenue West is a truck route.

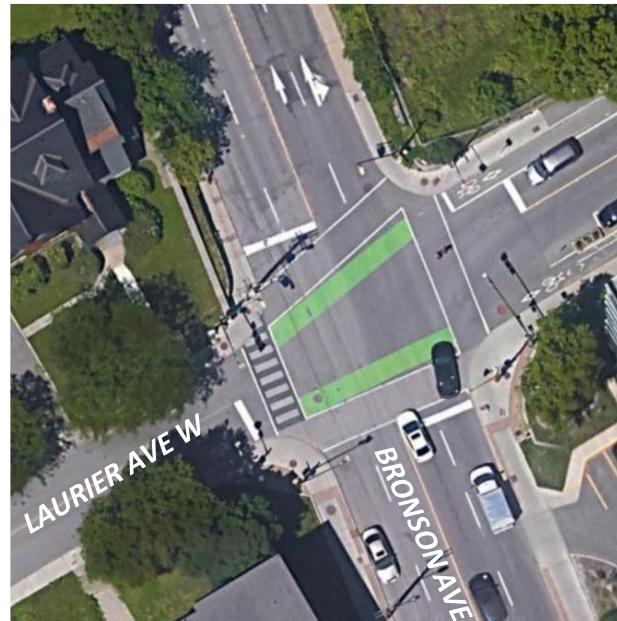
Bronson Avenue is a north-south arterial roadway with a four-lane undivided urban cross section and a regulatory speed limit of 50km/h in the vicinity of the subject site. South of Laurier Avenue West, the curbside lanes are generally used for parking on evenings and weekends. Bronson Avenue is a truck route. The City of Ottawa's Official Plan identifies a right of way (ROW) protection of 23m along Bronson Avenue between Albert Street and Colonel By Drive. The existing right-of-way along the frontage of the subject site is approximately 20m. Given the location of the existing retaining wall abutting the eastern property line which has been identified as a contributing heritage feature, it will not be practical to provide a widening along the Bronson Avenue frontage.

Cambridge Street North is a north-south local roadway with a two-lane undivided urban cross section and a regulatory speed limit of 50km/h in the vicinity of the subject site. It connects to and continues as Laurier Avenue West at a 90-degree bend adjacent to the site. The west side of Cambridge Street has a parking prohibition.

2.1.2 Intersections

Bronson Avenue/Laurier Avenue West

- Signalized intersection, with bike signals on the east/west approaches
- Eastbound/Westbound: one approach lane.
- Northbound/Southbound: two approach lanes
- Eastbound/Westbound right turn on red prohibitions
- Westbound through movements are prohibited.
- Southbound left turns are prohibited.
- Zebra painted crosswalks are provided on the east and north approaches, a textured crosswalk is provided on the south approach, and a textured crosswalk with zebra/ladder markings is provided on the west approach.
- Cross-rides with green thermoplastic paint are provided in the east-west direction.
- The northern leg of Bronson Avenue has a significant downward slope travelling north



2.1.3 Driveways

In accordance with the City's 2017 TIA guidelines, a review of adjacent driveways along the boundary roads (within 200m of the subject site) was conducted:

Bronson Avenue, west side:

- One driveway to the residential building at 140 Bronson Avenue
- One driveway serving the residential building at 600 Laurier Avenue West and the law office at 176 Bronson Avenue
- One driveway to the office building at 176 Bronson Avenue
- One driveway to the office building at 190 Bronson Avenue
- One Driveway to a parking garage at 192 Bronson Avenue

Laurier Avenue West, north side:

- Access to residence at 593 Laurier Avenue

Bronson Avenue, east side:

- Two one-way accesses serving the lay-by for the residential building at 175 Bronson Avenue

Cambridge Street North, west side:

- Depressed curb along the northwest corner of the Laurier Avenue West/Cambridge Street North bend at 18 Cambridge Street North
- Four driveways to Saint-Vincent Hospital at 60 Cambridge Street North
- It is noteworthy that the existing parking lot at 18 Cambridge Street is currently used by the existing Dalhousie Co-op on the subject site. As part of the redevelopment, resident and visitor parking will be provided on-site and the parking at 18 Cambridge Street will no longer be utilized.

Cambridge Street North, east side:

- Four driveways to the residential building properties at 21-29 Cambridge Street North
- One access to above ground parking lot at 200 Bronson Avenue
- One access to underground parking for the residential building at 51 Cambridge Street North
- Two accesses to residential buildings at 57 Cambridge Street North and 23 Primrose Avenue East

2.1.4 Pedestrian and Cycling Facilities

The existing pedestrian and cycling infrastructure provided in the greater area surrounding the subject site is illustrated in **Figure 3**.

Figure 3: Existing Pedestrian and Cycling Infrastructure

Within the vicinity of the subject site, sidewalks are provided along both sides of all study area roadways.

Cycle tracks are provided on Laurier Avenue West, east of Bronson Avenue. Sharrows are painted along Laurier Avenue West, west of Bronson Avenue. Bike lanes are provided along Percy Street, Bay Street and Lyon Street. A Multi-Use Pathway (MUP) is provided along the north side of Albert Street, west of Commissioner Street. A MUP is also provided from Laurier Avenue West at Percy Street, to Bronson Avenue at Slater Street, continuing along the south side of Commissioner Street/Albert Street and crossing Albert Street at a midblock location.

Part 1 of the City's 2023 Transportation Master Plan identifies a Cross-town Bikeway on Laurier Avenue West east of Bronson Street and connects to Albert Street through the MUP between the Laurier Avenue West/Percy Street and Bronson Avenue/Slater Street intersections.

2.1.5 Area Traffic Management

As described above, several movements are restricted at the Laurier Avenue West/Bronson Avenue intersection, including:

- No right turn on red for eastbound and westbound movements
- Westbound through movement prohibited (with the exception of bicycles)

West of Bronson Avenue, Laurier Avenue West is located in a 30km/h posted speed limit area.

Currently, there are no other existing Area Traffic Management (ATM) measures within the study area.

2.1.6 Transit

The closest OC Transpo bus stops in the vicinity of the subject site are described in **Table 1** and all bus stops within the vicinity of the study area are shown in **Figure 4**. A summary of various routes which serve the study area is included in **Table 2**. Detailed route information is included in **Appendix C**.

Table 1: OC Transpo Stops

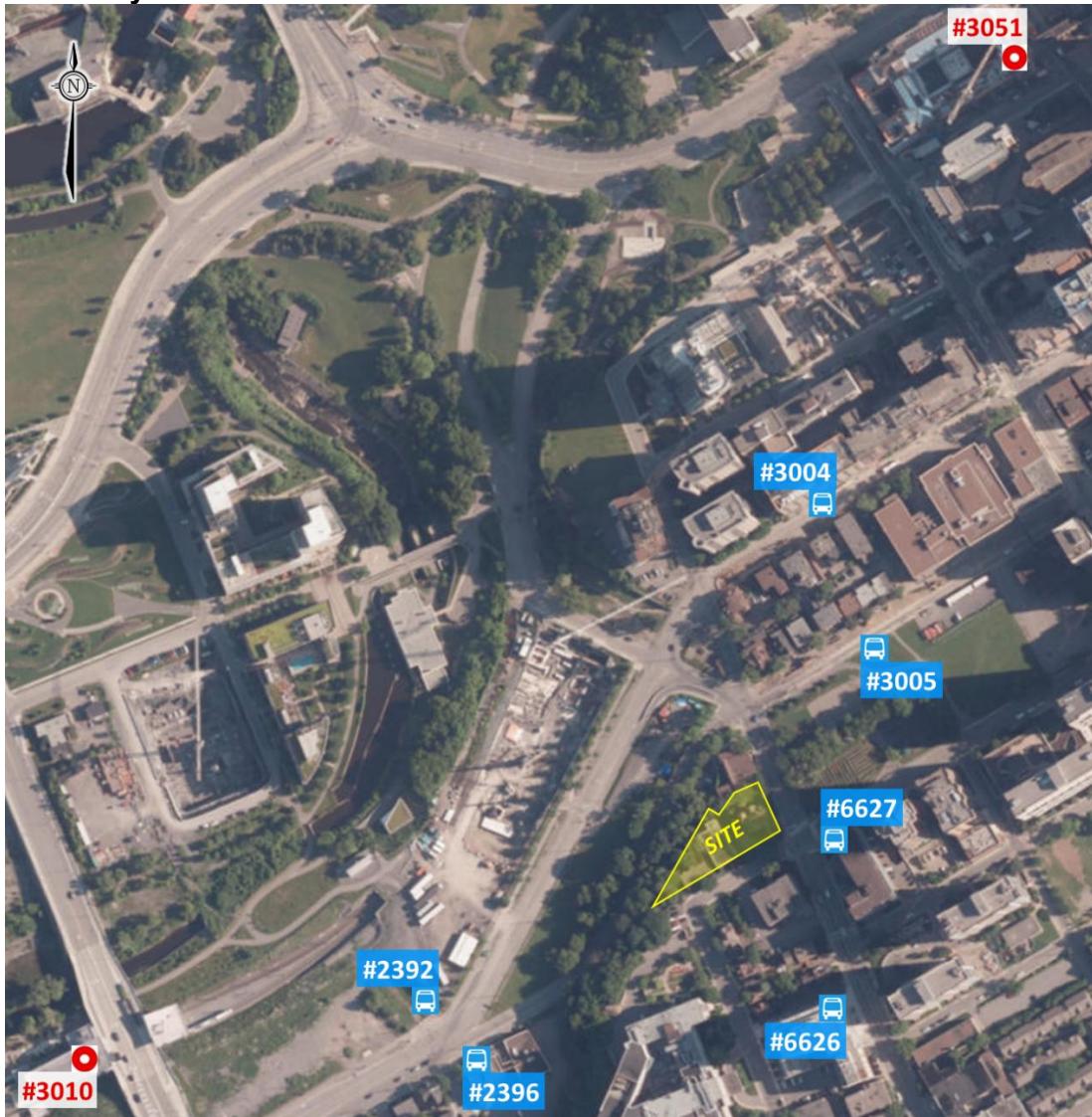
OC Transpo Bus Stop	Location	Route(s) Serviced
#6626	West side of Bronson Avenue, south of Laurier Avenue West	10
#6627	East side of Bronson Avenue, south of Laurier Avenue West	10
#3005	South side of Slater Street, between Bronson Avenue and Bay Street	10, 16, 57, 61, 75
#3004	North side of Albert Street, between Bronson Avenue and Bay Street	10, 16, 57, 61, 75
#2392	North side of Albert Street, east of Empress Avenue North	16, 57, 61, 75
#2396	South side of Albert Street, west of Empress Avenue North	16, 57, 61, 75
Lyon Station: #3051	Lyon Street at Queen Street	Line 1 (LRT) Buses: 10, 15, 16, 57, 61, 75
Pimisi Station: #3010	Booth Street, north of Albert Street	Line 1 (LRT) Buses: 61, 63, 66, 75, 85

Table 2: OC Transpo Route Information

Route	From ↔ To	Frequency
1	Tunney's Pasture ↔ Blair	5-minute headways, 7-days per week
10	Lyon ↔ Hurdman	15-minute headways, all-day service, 7-days per week
15	Blair ↔ Chapel Hill	15-minute headways, peak periods only, Monday to Friday
16	Main ↔ Tunney's Pasture Westboro	30-minute headways, all-day service, 7-days per week

Route	From ↔ To	Frequency
57	Bayshore Crystal Bay ↔ Tunney's Pasture	30-minute headways, limited night service, 7-days per week
61	Terry Fox/Stittsville ↔ Tunney's Pasture/Gatineau	30-minute headways, limited night service, 7-days per week
63	Briarbrook via Innovation ↔ Tunney's Pasture via Briarbrook & Gatineau	30-minute headways, all-day service, 7-days per week
66	Kanata-Solandt ↔ Gatineau	30-minute headways, peak periods only, Monday to Friday
75	Cambrian/Barrhaven Centre ↔ Tunney's Pasture/Gatineau	30-minute headways, limited night service, 7-days per week
85	Gatineau ↔ Bayshore	15-minute headways, all-day service, 7-days per week

Figure 4: Study Area Transit Network



In addition to the previously listed OC Transpo transit stations and routes, the following STO routes are served by the Lyon Station: Route 20, 23, 25, 26, 27, 29, 30, 32, 34, 36, 37, 38, 40, 41, 45, 47, 48, 55, 59, 67, 85, 87, 93, 95, 371, and 400.

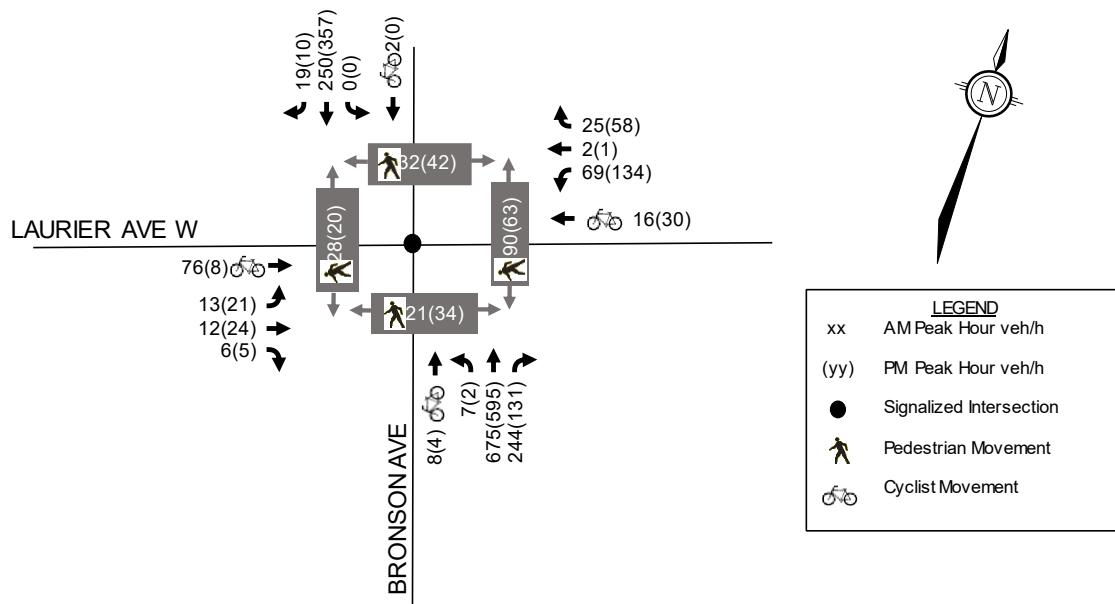
Within the study area the following routes will experience modifications due to the City's planned New Ways to Bus plan:

- Route 10: Will be extended to run between Hurdman Station and Main Street (Saint Paul University). Will replace Route 16 service from Lyon Station east to Main Street.
- Route 15: Will be shortened to run between Parliament and Blair stations. Service to/from Gatineau will be removed and replaced by new Routes 8 and 13.
- Route 16: Will be removed and replaced by:
 - Route 10 between Lyon Station and Main St. / St. Paul's University
 - Route 12 between Lyon and Tunney's Pasture stations
 - Route 81 between Tunney's Pasture and Westboro stations
- Route 61: Service to/from Gatineau will be removed and replaced by new Route 13.
- Route 63: Service to/from Gatineau will be removed and replaced by Route 13. Will be changed to run on Klondike Road between Halton Terrace and Marconi Avenue, and on Halton Terrace between Klondike Road and March Road. Service along Shirley's Brook Drive, Helmsdale Drive, and Morgan's Grant Way will be replaced by changed Route 110.
- Route 66: Will be changed to run between Tunney's Pasture and Innovation stations. Service to/from Gatineau will be removed and replaced by new Route 13. Service on Leggett Drive and Solandt Road will be removed.
- Route 75: Service to/from Gatineau will be removed and replaced by new Route 13. Will be extended south of Kilbirnie Drive on River Mist Road, Cappamore Drive, and Greenbank Road.
- Route 85: Will be changed to run between Bayshore and Lees stations. Service along Preston Street, Albert Street, Booth Street, to Gatineau will be removed and replaced by new Route 8. Will run on Carling Avenue, Bronson Avenue/Booth Street, Catherine Street/Chamberlain Avenue/Isabella Street, Hawthorne Avenue, and Lees Avenue, replacing current Route 55.

2.1.7 Existing Traffic Volumes

Weekday traffic counts were obtained from the City of Ottawa at the Bronson Avenue/Laurier Avenue West intersection to determine the existing pedestrian, cyclist and vehicular traffic volumes. The traffic count was completed on August 29, 2017 (Tuesday). As the City of Ottawa does not have a more recent traffic count at this intersection and since this TIA will be limited in scope, City staff have confirmed that a new traffic count will not be required.

Existing traffic volumes within the study area are shown in **Figure 5**. Traffic count data is included in **Appendix D**.

Figure 5: Existing Traffic Volumes

As described in Section 2.1.5, there are turn movement restrictions at the Laurier Avenue West/Bronson Avenue intersection. A total of 31 vehicles performed the prohibited westbound through manoeuvre while 4 vehicles performed the prohibited southbound left turn manoeuvre over the course of the 8-hour traffic count.

2.1.8 Collision Records

Historical collision data from the last five years was obtained from the City's Public Works and Service Department for the study area. Copies of the collision summary report are included in **Appendix E**.

The collision data has been evaluated to determine if there are any identifiable collision patterns. **Table 3** summarizes the number of collisions from January 1, 2017 to December 31, 2021.

Table 3: Reported Collisions

Intersection	Impact Types					Total Number of Collisions
	Angle	Sideswipe	Rear End	Turning Movement	SMV/Other	
Bronson Ave/Laurier Ave West	5	-	-	1	1	7
Bronson Ave between Laurier Ave & Gloucester St	-	-	-	-	3	3
Bronson Ave between Slater St & Laurier Ave	-	2	-	-	-	2
Laurier Ave between Bronson Ave & Percy St	-	1	-	1	3	5

As there are no locations with six or more collisions of any one type, there are no identifiable collision patterns within the study area.

Bronson Avenue/Laurier Avenue West

A total of seven collisions were reported at this intersection over the last five years, of which there were five angle collisions, one turning movement collision, and one single motor vehicle collision. Three of the collisions involved an injury and none involved a fatality. One of the collisions involved a cyclist and one involved a pedestrian.

Of the seven collisions at this location, one of them occurred during rain conditions, one of them occurred during snow conditions, and one of them occurred during freezing rain conditions, for all other collisions weather was not a factor. Additionally, of the seven collisions, three of them occurred during daylight hours. Six of the seven collisions at this intersection involved northbound vehicles.

Of the five angle collisions three involved northbound and eastbound vehicles and two involved northbound and westbound vehicles.

Calculations of the intersection collision rate per Million Entering Vehicles (MEV) for all collision types across the five-year study period showed an intersection collision rate of 0.29/MEV. Based on this analysis, Bronson Avenue/Laurier Avenue West does not experience an abnormally high rate of collisions.

Within the study area the collision that involved a pedestrian was located at the Bronson Avenue/Laurier Avenue intersection and involved a southbound vehicle during freezing rain and dark lighting conditions. The collisions that involved cyclists were located at the Bronson Avenue/Laurier Avenue intersection and on Laurier Avenue between Bronson Avenue and Percy Street. The Bronson Avenue/Laurier Avenue intersection collision involved a northbound right turning vehicle and the Laurier Avenue collision involved a westbound left turning vehicle.

Based on the most recent data available at the time of the collision data request, no collisions were observed on Laurier Avenue West within the subject sites' frontage.

2.2 Planned Conditions

2.2.1 Planned Transportation Projects

The City of Ottawa's Transportation Master Plan (TMP) identifies Bronson Avenue as a Transit Priority Corridor with isolated measures in the 2031 Rapid Transit and Transit Priority (RTTP) Network. The TMP's 2031 Affordable Network includes transit signal priority along Bronson Avenue between the Southeast Transitway and Carling Avenue. The 2031 Network Concept also includes transit signal priority and queue jump lanes between Carling Avenue and the Confederation Line, however this is currently unaffordable.

The City of Ottawa Albert Street/Queen Street/Slater Street from Empress Avenue to Bay Street and Bronson Avenue from Queen Street to Laurier Avenue Reconstruction Project is ongoing. This project is currently under construction and scheduled to be completed in 2024. The draft design for this project is included in **Appendix F**.

The City of Ottawa is also planning the reconstruction of Albert Street and Slater Street between Bay Street and Elgin Street. This project will repurpose the existing bus lanes to provide improved pedestrian and cycling facilities along the corridor. The design is ongoing with anticipated

completion of construction in 2027. Preliminary Design plans for the Albert and Slater Street Improvement Project are attached in **Appendix G**.

A new traffic signal is planned at the Laurier Avenue/Percy Street intersection. The signal will provide a protected pedestrian and cyclist crossing of Laurier Avenue for improved connectivity to/from the existing multi-use pathway between Laurier Avenue and Slater Street. Geometric features will include protected corners at the south side of the intersection; a separation of the multi-use pathway into dedicated pedestrian and cycling facilities approaching the intersection, including separate space for southbound cyclists traveling through and turning left; and a bidirectional crossride and crosswalk crossing Laurier Avenue. Construction is planned for completion in 2025.

The Escarpment District Community Design Plan identified a pedestrian and cyclist 'Escarpment Linkage' between the Laurier Avenue / Cambridge Street North transition and Slater Street. There are no plans in place to implement this link. It is anticipated that public lands will be used for this link.

2.2.2 Other Area Developments

In proximity of the proposed redevelopment, there are multiple other developments that have recently been completed, are under construction, approved, or are in the approval process. Developments significant enough to require a transportation study and distribute new trips through the study area of this TIA are summarized as follows.

343 Gloucester Street

A 21-storey residential apartment building containing 116 units and 12 underground parking spaces are proposed at 343 Gloucester Street. A TIA was prepared by Parsons, dated July 2019 in support of this development. Based on the TIA, this development is anticipated to generate approximately 12 vehicle trips during the morning and afternoon peak hours and is anticipated to have a negligible impact on the area roadways.

555 Albert Street

A TIA was prepared by WSP in July 2022 in support of the proposed joint Ottawa Public Library and Library and Archives Canada development. This development is currently under construction. The TIA estimated that the development would generate approximately 135 and 1,835 person trips during the AM and PM peak hours, respectively.

LeBreton Flats

A TIA was prepared by Morrison Hershfield in May 2023 in support of an Official Plan Amendment application for the LeBreton Flats lands. The LeBreton Flats lands include an area of roughly 29 hectares generally bound by Booth Street, Wellington Street, and Wellington Street/Kichi Zibī Mikan. The National Capital Commission's (NCC) application proposes to amend the Official Plan to remove the Preston Street Extension in favour of an active-modes bridge. The TIA studied a worst case scenario that assumed the highest possible density of the site and estimated that the development could generate up to 4,810 and 8,112 person trips during the AM and PM peak hours, respectively. The TIA report aims to provide the necessary analysis to support the proposed Official Plan Amendment. It is worth noting that the 665 Albert Street parcel is currently under construction, the trip generation of the 665 Albert Street parcel was included in the 2023 TIA. Additional TIA's will be prepared for each future development phase within the LeBreton Flats Lands once more details are known.

336 Queen Street

A revised TIA was prepared by Novatech in May 2019 in support of a site plan application in support of a residential development with ground floor commercial. The development was anticipated to be completed in 2023. The TIA estimated that the development would generate approximately 40 and 70 person trips during the AM and PM peak hours, respectively.

400 Albert Street

A TIA was prepared by Parsons in July 2021 in support of a site plan application for a mixed-use development including residential towers, supermarket, shopping centre, and hotel. The development is expected to be built out in phases with the first phase being completed in 2026 with full buildout in 2028. At full buildout, the TIA estimated that the development would generate approximately 754 and 990 person trips during the AM and PM peak hours, respectively.

412 Sparks Street

A TIA was prepared by Parsons in March 2019 in support of a site plan application in support of a retirement residence. The development was anticipated to be built out in 2023. This development is currently under construction. The TIA estimated that the development would generate approximately 39 and 49 person trips during the AM and PM peak hours, respectively.

301 Lett Street

A TIA was prepared by Novatech in September 2021 in support of a site plan application in support of a retirement residence. The development was anticipated to be completed in 2023 and is currently under construction. The TIA estimated that the development would generate approximately 86 and 105 person trips during the AM and PM peak hours, respectively.

Relevant excerpts from the study area background reports have been included in **Appendix H**.

2.3 Study Area and Time Periods

The study area for this report includes the boundary roadways Bronson Avenue and Laurier Avenue, as well as the following intersection:

- Bronson Avenue/Laurier Avenue West

The selected time periods for the analysis are the weekday AM and PM peak hours, as they represent the 'worst case' combination of site generated traffic and adjacent street traffic. This TIA will consider the buildout year 2026 and five-year horizon 2031.

2.4 Access Design

The site proposes one combined access for passenger vehicles entering the underground parking garage and truck access for an MSU truck to reverse into a loading area to assist residents with moving in/out. The proposed vehicle access to the subject site has been evaluated based on the relevant requirements of the City's *Private Approach By-Law* (PABL), *Zoning By-law* (ZBL) and the *Transportation Association of Canada (TAC) Geometric Design Guidelines for Canadian Roads*.

Section 25(a) of the PABL identifies that a property with 46-150m of frontage may have a maximum of two two-way private approaches. This requirement is met, as the subject site has

approximately 75m of frontage to Laurier Avenue and is proposing one two-way accesses to Laurier Avenue.

Section 25(c) of the PABL identifies a maximum width requirement of 9.0m for any two-way private approach, as measured at the street line. Section 107 (1)(a) identifies a minimum width of 6m for a double traffic lane that leads to a parking lot and Section 107 (1)(aa) of the ZBL identifies that the maximum permitted width is 6.7m for a double traffic lane that leads to more than 20 parking spaces. The proposed access is roughly 11.6m wide at the edge of property. The portion of the access serving the parking ramp is roughly 6.5m wide. This is assumed to be acceptable and relief of the PABL and ZBL is sought as the additional width is required to serve the move in/out area which will be infrequently used. The access width will be confirmed at Site Plan.

Section 25(m) of the PABL identifies a minimum distance requirement of 18m for a private approach and the nearest intersecting street line. As the proposed loading access is roughly 17.5m from the Bronson Avenue intersecting street line, the access is slightly short of the requirement. The underground parking ramp is approximately 22m from the Bronson Avenue street line, meeting the PABL requirement. The exact location of the proposed access will be confirmed at Site Plan.

Section 25(s) of the PABL identifies a requirement for a grade of 2-6% in the direction of the roadway within the right-of-way. As a grading plan is not available for the ZBL submission, grading will be confirmed at the time of the Site Plan application.

Section 25(u) of the PABL identifies a maximum driveway grade of 2% for a distance of 9m within the property, for driveways serving more than 50 parking spaces. As a grading plan is not available for the ZBL submission, grading will be confirmed at the time of the Site Plan.

Intersection sight distance (ISD) and stopping sight distance (SSD) at the proposed accesses have been determined using the *TAC Geometric Design Guidelines for Canadian Roads*. The ISD and SSD requirements for the Laurier Avenue West access are based on a design speed of 30km/h for vehicles approaching from the west and a design speed of 40km/h for vehicles approaching from the east. The design speed of 40km/h for westbound vehicles is based on the posted speed of 30km/h in proximity of the subject site. The design of 30km/h for eastbound vehicles is due to the 90-degree bend where Laurier Avenue meets Cambridge Street limiting the speed of vehicles exiting the turn and travelling eastbound towards the proposed access. The required ISD and SSD for the site accesses is as follows:

• ISD for Left Turn from Minor Road (30km/h design speed)	65 metres
• ISD for Right Turn from Minor Road (40km/h design speed)	75 metres
• SSD for Eastbound Vehicles (30km/h design speed)	35 metres
• SSD for Westbound Vehicles (40km/h design speed)	50 metres

The development has roughly 50m of clear sightlines from the access to oncoming traffic emerging from the 90-degree bend, this would not meet the ISD guideline of 65m but would meet the SSD requirement of 35m. The development has roughly 30m of space between the proposed access and the Bronson Avenue/Laurie Avenue intersection with clear sightlines through the intersection meeting the sightline requirements for westbound vehicles.

Given the low traffic volumes on Laurier Avenue and the low projected traffic volumes exiting the site access, potential conflicts between vehicles exiting the proposed development and vehicle

traveling on Laurier Avenue are anticipated to be infrequent. Drivers along Laurier Avenue will have adequate distance to slow or stop, in the event that a driver exiting the proposed development chooses an inadequate gap in traffic. It is noteworthy that the proposed access is located in roughly the same location as the previously approved site plan.

The TAC Geometric Design Guide for Canadian Roads does not identify minimum clear throat lengths based on a local road classification.

The TAC Geometric Design Guide for Canadian Roads identifies a minimum corner clearance distance of 15m for an access downstream of a signal on an undivided local road. As the access is roughly 20m away this requirement is met.

2.5 Development-Generated Travel Demand

2.5.1 Trip Generation

The proposed redevelopment includes a 28-storey tower plus additional 6-storey podium in addition to the existing residential building at 593 Laurier Avenue West. The proposed redevelopment will maintain the six dwelling units in the existing building and provide 326 units in the new addition.

Proposed Residential Development

Trips generated by the proposed residential development have been estimated using the 2020 *TRANS Trip Generation Manual*. The proposed redevelopment is located within the Ottawa Inner Area along the border with the Ottawa Centre District. As the subject site is also located within 600m of the Lyon Street and Pimisi LRT Stations, the site is also located within a Transit-Oriented Development (TOD) Zone. In TOD Zones, the transit share is assumed to increase significantly compared to the TRANS O-D district.

A comparison of the assumed modal shares for a TOD zone and the modal shares for both the Ottawa Inner Area and Ottawa Centre District is presented in **Table 4**. The modal shares for the TRANS districts are based on all observed trips from/within the district during the AM peak and to/within the district during the PM peak.

Table 4: Modal Share by District/Zone

Travel Mode	TOD Zone	Ottawa Inner Area	Ottawa Centre
Auto Driver	15%	25%	20%
Auto Passenger	5%	10%	5%
Transit	65%	25%	25%
Cycling	5%	5%	0%
Walking	10%	35%	50%

Given the proximity to multiple LRT stations and the amount of resident parking spaces provided (62 spaces) for the amount of dwelling units (327 units) the TOD Zone modal shares were used but modified to reflect a higher walking modal share and lower transit modal share associated with the Ottawa Inner Area and Ottawa Centre.

The trip generation rates for the development are taken from Table 3 and correspond to Multi-Unit (High-Rise) residential. The directional split between inbound and outbound trips are based

on the splits presented in Table 9 of the report. The estimated trip generation are summarized in **Table 5** and a breakdown of the trips by mode is shown in **Table 6**.

Table 5: Residential Person Trip Generation

Land Use	Trip Rate	Units/GFA	AM Peak (ppp) ⁽¹⁾			PM Peak (ppp) ⁽¹⁾		
			IN	OUT	TOT	IN	OUT	TOT
Multi-Unit (High Rise)	AM: 0.80 PM: 0.90	327	81	181	262	171	123	294

1. ppp: person trips per period

Table 6: Residential Peak Period Person Trips by Mode

Travel Mode	Mode Share	AM Peak (ppp) ⁽¹⁾			PM Peak (ppp) ⁽¹⁾		
		IN	OUT	TOT	IN	OUT	TOT
TOTAL		81	181	262	171	123	294
Auto Driver	15%	13	26	39	26	18	44
Auto Passenger	5%	4	9	13	9	6	15
Transit	35%	28	64	92	60	43	103
Cyclist	5%	4	9	13	9	6	15
Pedestrian	40%	32	73	105	68	50	118

1. ppp: person trips per period

Table 4 of the *2020 TRANS Trip Generation Manual* includes adjustment factors to convert the estimated number of trips generated for each mode from peak period to peak hour. A breakdown of the peak hour trips by mode is shown in **Table 7**.

Table 7: Residential Peak Hour Person Trips by Mode

Travel Mode	Adjustment Factor		AM Peak (pph) ⁽¹⁾			PM Peak (pph) ⁽¹⁾		
	AM	PM	IN	OUT	TOT	IN	OUT	TOT
TOTAL			45	99	144	82	59	141
Auto Driver	0.48	0.44	6	13	19	11	8	19
Auto Passenger	0.48	0.44	2	4	6	4	2	6
Transit	0.55	0.47	16	34	50	28	20	48
Cyclist	0.58	0.48	2	6	8	4	3	7
Pedestrian	0.58	0.52	19	42	61	35	26	61

1. pph: person trips per hour

From the previous tables, the proposed redevelopment is estimated to generate 144 person trips (including 19 vehicle trips) during the AM peak hour, and 141 person trips (including 19 vehicle trips) during the PM peak hour.

2.5.2 Trip Distribution and Assignment

As the proposed redevelopment is projected to generate 19 vehicle trips during the peak hours, and no intersection analysis is required per Section 2.6, the site-generated volumes have not been distributed to the study area intersections. All peak hour vehicle trips would be assigned to the underground parking garage access to Laurier Avenue West.

2.6 Exemptions Review

This module reviews possible exemptions from the final TIA, as outlined in the TIA Guidelines. The applicable exemptions for this site are shown in **Table 8**.

Table 8: TIA Exemptions

Module	Element	Exemption Criteria	Status
4.1 Development Design	4.1.2 Circulation and Access	<ul style="list-style-type: none"> Required for site plan control and zoning by-law amendment applications 	Not Exempt
	4.1.3 New Street Networks	<ul style="list-style-type: none"> Required for draft plan of subdivision applications 	Exempt
4.2 Parking	<i>All elements</i>	<ul style="list-style-type: none"> Required for site plan control and zoning by-law amendment applications 	Not Exempt
4.6 Neighbourhood Traffic Calming	<i>All elements</i>	<ul style="list-style-type: none"> If all of the following criteria are met: <ol style="list-style-type: none"> Access is provided to a collector or local roadway Application is for zoning by-law amendment or draft plan of subdivision Proposed development generated more than 75 vehicle trips Site trip infiltration is expected, and site-generated traffic will increase peak hour volumes by 50% or more along the route between the site and an arterial roadway The subject street segment is adjacent to two or more of the following significant sensitive land uses: <ul style="list-style-type: none"> ○ School (within 250m walking distance) ○ Park ○ Retirement/older adult facility ○ Licensed child care centre ○ Community centre ○ 50+% of adjacent properties along the route(s) are occupied by residential lands and at least ten dwellings are occupied 	Exempt
4.7 Transit	4.7.1 Transit Route Capacity	<ul style="list-style-type: none"> Required when proposed development generates more than 75 transit trips 	Exempt
	4.7.2 Transit Priority Requirements	<ul style="list-style-type: none"> Required when proposed development generated more than 75 vehicle trips 	Exempt
4.8 Network Concept	<i>All elements</i>	<ul style="list-style-type: none"> Required when proposed development generates more than 200 person trips during the peak hour in excess of the equivalent volume permitted by the established zoning 	Exempt
4.9 Intersection Design	<i>All elements</i>	<ul style="list-style-type: none"> Required when proposed development generated more than 75 vehicle trips 	Exempt

Based on the foregoing, the following modules will be included in the TIA report:

- Module 4.1: Development Design
- Module 4.2: Parking
- Module 4.3: Boundary Streets
- Module 4.5: Transportation Demand Management

3.0 FORECASTING

3.1 Trip Distribution

As the vehicle trip generation trigger is not met, trip distribution assumptions have not been included.

3.2 Background Traffic

Based on the 2023 TIA Guidelines, background traffic estimates are not required when all network impact modules are exempt. Therefore background traffic estimates have been omitted from this report.

4.0 ANALYSIS

4.1 Development Design

4.1.1 Design for Sustainable Modes

Pedestrian walkways will be provided between the proposed building entrances and the sidewalk along Laurier Avenue West. Further details will be provided as part of the Site Plan application.

OC Transpo's service design guideline for peak period service is to provide service within a five minute (400m) walk of the home, school and work location of 95% of urban residents. The actual walking distance from the main building entrance to the nearest bus stops was measured. Stop #6626 is a 75m walk, stop #6627 is a 60m walk, stop #3004 is a 360m walk, and stop #3005 is a 240m walk from the proposed redevelopment.

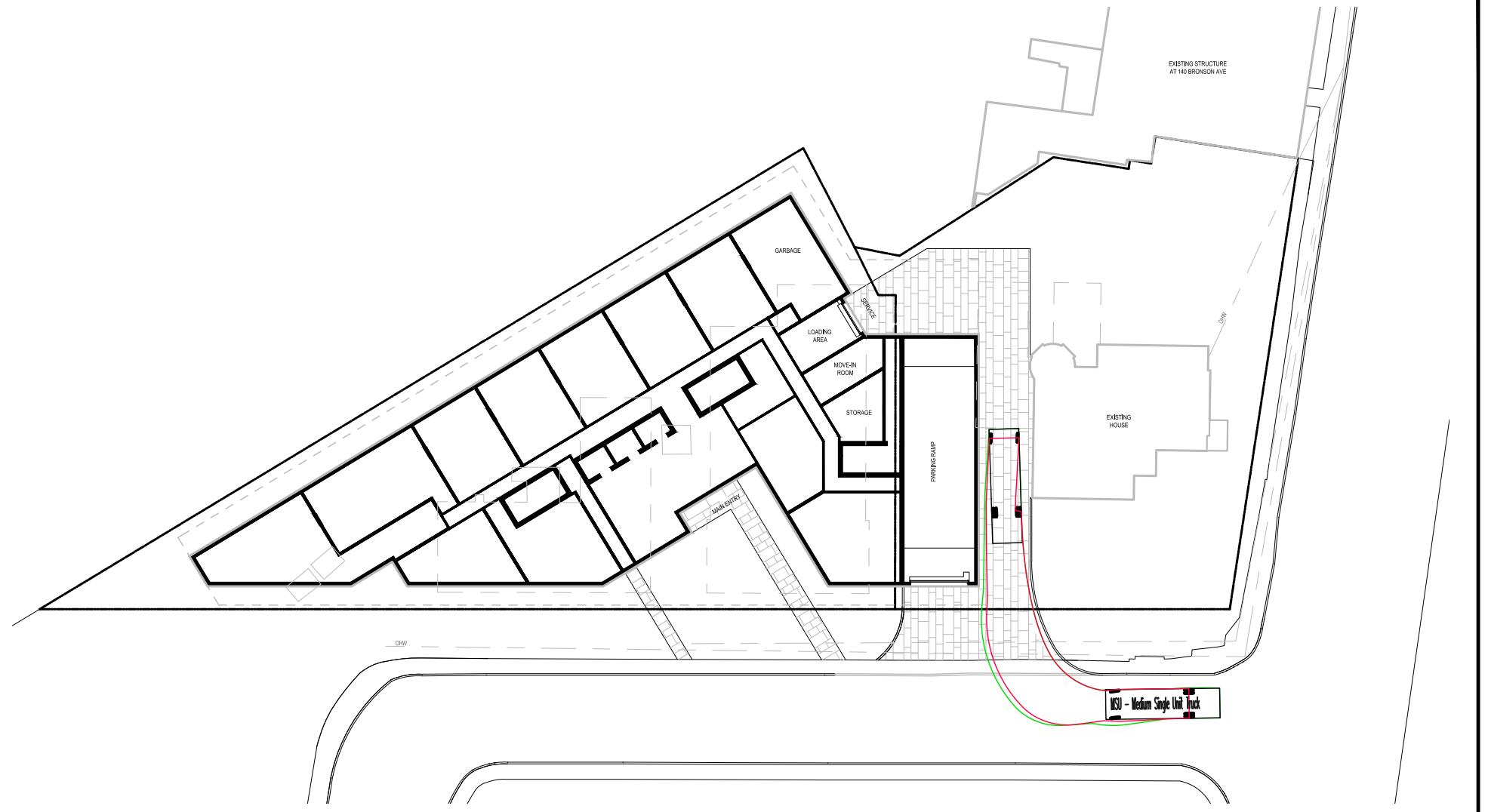
Bicycle parking for the proposed redevelopment will be in accordance with the City of Ottawa's Zoning By-Law (ZBL). Bicycle parking will be provided in a storage room on the second parking level.

A review of the Transportation Demand Management (TDM) – Supportive Development Design and Infrastructure Checklist will be completed as part of the future Site Plan Application.

4.1.2 Circulation and Access

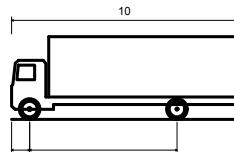
Garbage collection and loading will occur in the alleyway between the parking ramp and the existing house on the corner of Bronson Avenue and Laurier Avenue. Garbage bins being wheeled out to meet the garbage trucks within the alleyway. The on-site loading area is consistent with Policy 4.6.5.3 of the City's Official Plan, which identifies that loading should be internalized if possible.

MSU sized trucks will be able to back into the move in/out area provided on the east side of the development. Turning movements of the MSU truck driving in/reversing out, and reversing in/driving out are provided in **Figures 8-11**.



Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com



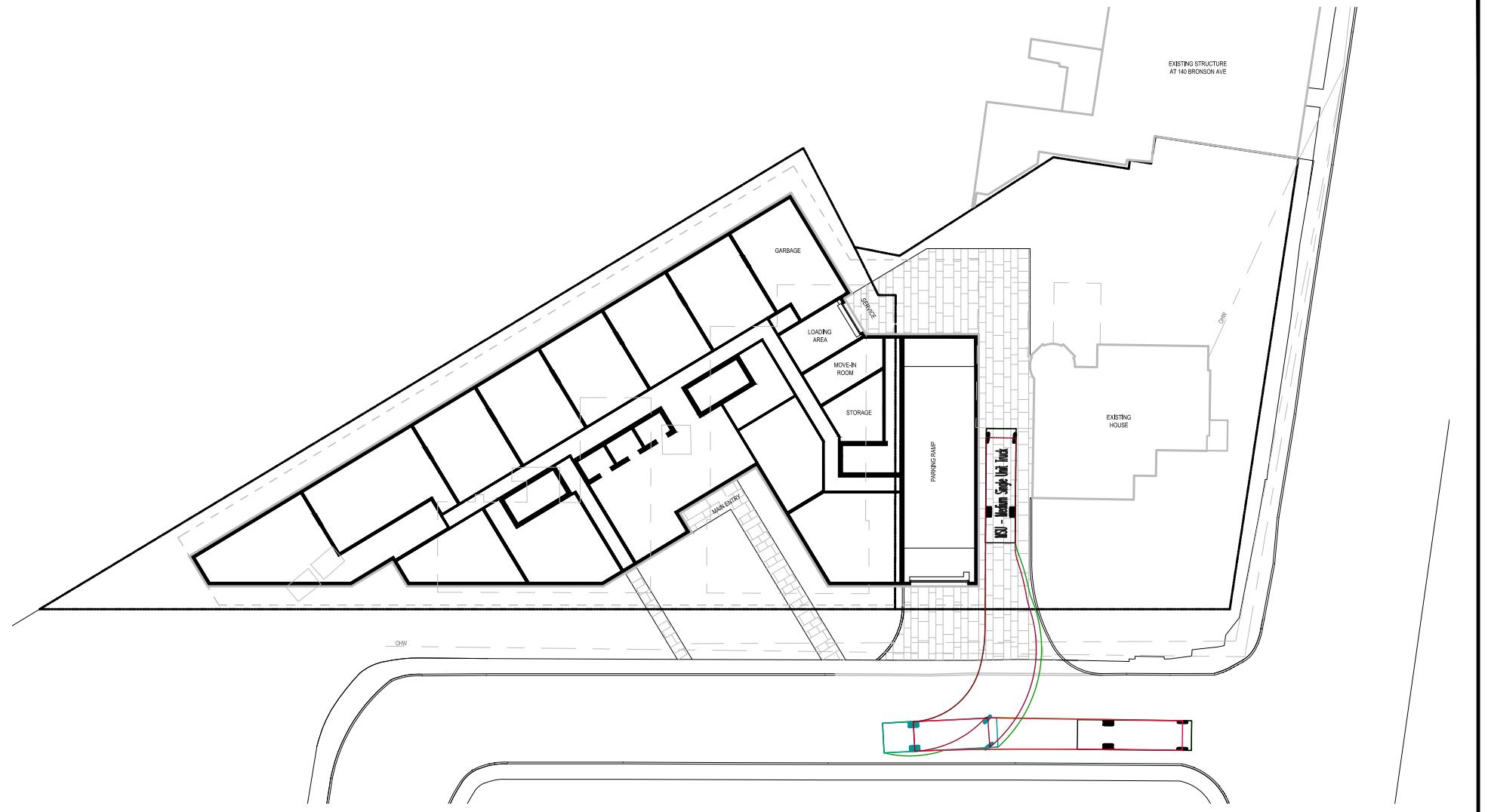
MSU - Medium Single Unit Truck

Overall Length 10.000m
Overall Width 2.600m
Overall Body Height 3.650m
Min Body Ground Clearance 0.445m
Track Width 2.600m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 11.100m

593 LAURIER

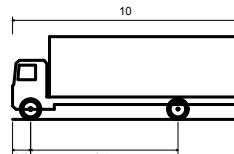
TURNING MOVEMENT
(MSU/GARBAGE TRUCK)

SCALE 1 : 500 0 5m 10m 20m
DATE OCT 2024 JOB 124024 FIGURE FIGURE 8



Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com



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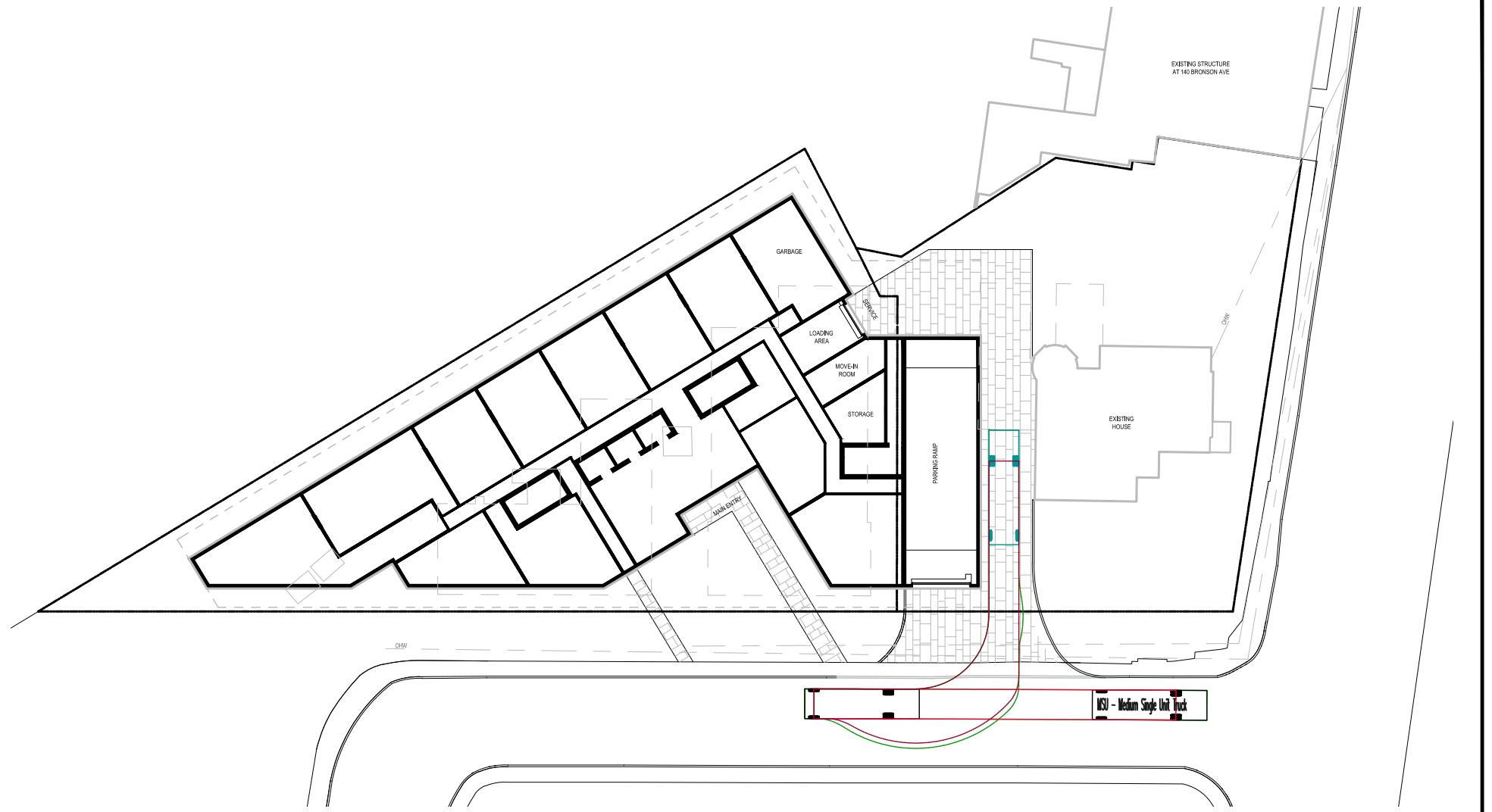
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593 LAURIER

TURNING MOVEMENT
(MSU/GARBAGE TRUCK)

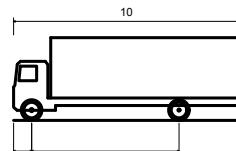
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DATE OCT 2024 JOB 124024 FIGURE FIGURE 9



Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com



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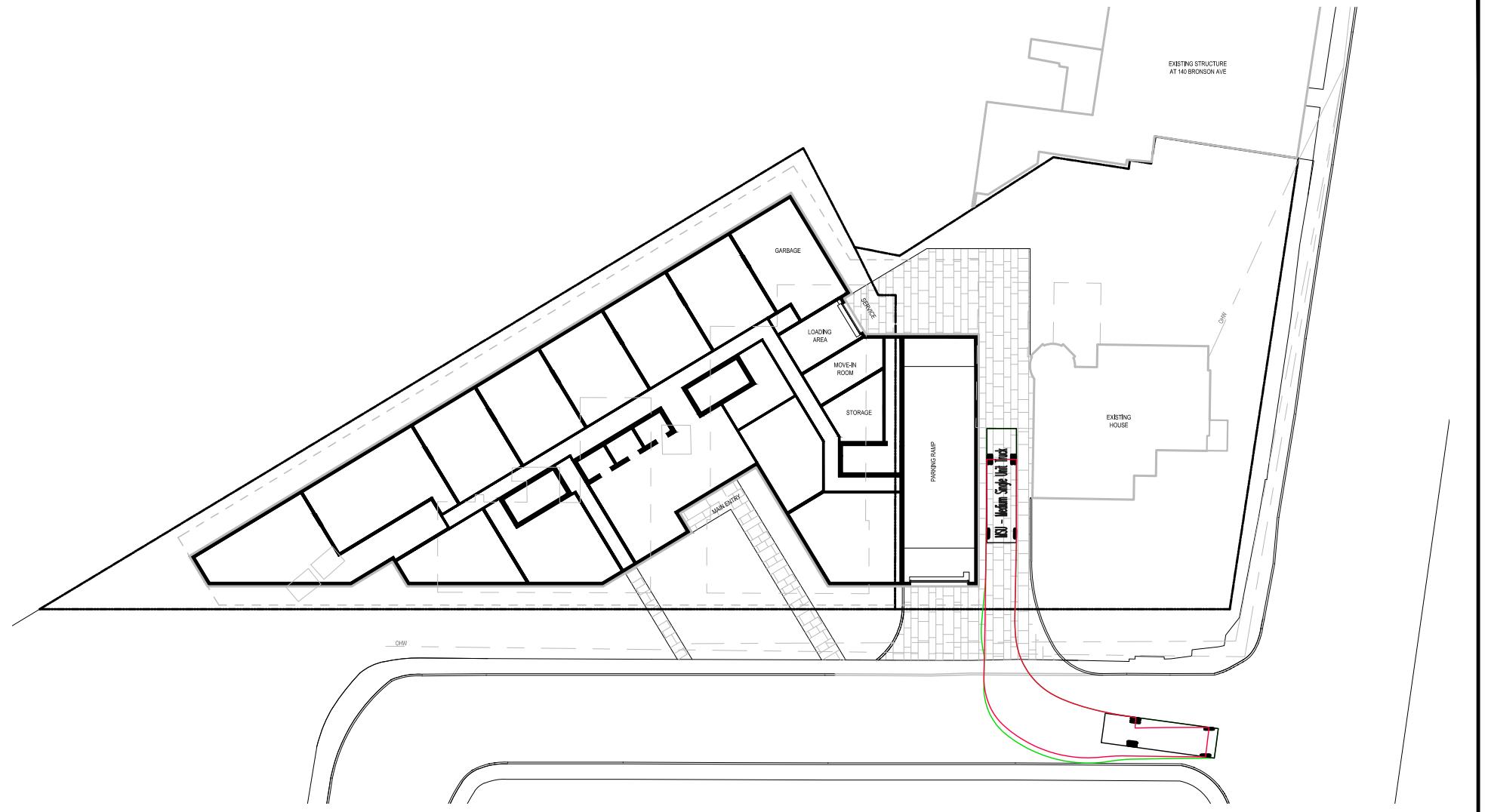
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593 LAURIER

TURNING MOVEMENT
(MSU/GARBAGE TRUCK)

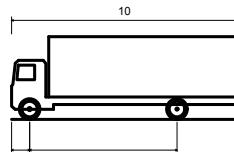
SCALE 1 : 500 0 5m 10m 20m

DATE OCT 2024 JOB 124024 FIGURE FIGURE 10



Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
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593 LAURIER

TURNING MOVEMENT
(MSU/GARBAGE TRUCK)

SCALE 1 : 500 0 5m 10m 20m

DATE OCT 2024 JOB 124024 FIGURE FIGURE 11

4.2 Parking

The subject site is located in Area B on Schedule 1 and Area X on Schedule 1A of the City of Ottawa's ZBL.

Per Section 101(6)(c) of the ZBL, where all parking is provided below grade in the same building the required resident parking may be reduced by the lesser of 10% of the required spaces or 20 parking spaces.

The proposed parking in the table below represents the on-site parking supply. As described in Section 2.1.3, the parking lot at 18 Cambridge Street North that is associated with the existing Dalhousie Co-op at the subject site will not be carried forward as part of this development.

Table 9: Parking Requirements per Zoning By-Law

Land Use	Rate	Units	Required	Proposed
<i>Vehicle Parking</i>				
Apartment	0.5 per unit in excess of 12 (Resident)	327	142 ¹	71
	0.1 per unit in excess of 12 (Visitor)		30 ²	31
<i>Bicycle Parking</i>				
Apartment	0.5 per unit	327	164	302

1: Reduced by 10% per Section 101(6)(c) of ZBL

2: Reduced to a maximum of 30 per Section 102(3) of ZBL

The proposed 302 bicycle parking spaces will exceed the minimum requirement of 164 bicycle parking spaces per the ZBL. However, relief from the minimum vehicle parking provisions is required for the resident parking as 142 parking spaces is required, and 71 resident parking spaces are provided. The requirement of 30 visitor parking spaces as specified in the ZBL is met.

The expectation is that residents will choose walking, cycling and using transit for their daily commutes. The subject site is located in close proximity to local transit along Bronson Avenue and Slater Street/Albert Street, the Lyon Street and Pimisi Transit Stations, and numerous carshare services.

The parking lot at 18 Cambridge Street North that is associated with the existing Dalhousie Co-op at 601 Laurier will not be carried forward as part of this development.

4.3 Boundary Street Design

This section provides a review of the boundary streets (Laurier Avenue West and Bronson Avenue) using complete streets principles. The Multi-Modal Level of Service (MMLOS) guidelines produced by IBI Group in 2015 were used to evaluate the LOS of the boundary roadways for each mode of transportation. Schedule 'B' of the City of Ottawa's Official Plan indicates both boundary roadways are in the 'General Urban Area'. Both boundary streets are also located within 600m of a rapid transit station (Lyon and Pimisi Stations).

Targets for the Pedestrian Level of Service (PLOS), Bicycle Level of Service (BLOS), Transit Level of Service (TLOS), and Truck Level of Service (TkLOS) for the study area roadways are based on the targets for General Urban Area and targets within 600m of a rapid transit station, as identified in Exhibit 22 of the MMLOS guidelines.

The following summarizes the findings of the MMLOS segment analysis.

4.3.1 Pedestrian Level of Service (PLOS)

Exhibit 4 of the MMLOS guidelines has been used to evaluate the segment PLOS of the boundary roadways. Exhibit 22 of the MMLOS guidelines suggest a target PLOS A for all road classes within 600m of a rapid transit station. The results of the segment PLOS analysis are summarized in the following table.

Table 10: PLOS Segment Analysis

Sidewalk Width	Boulevard Width	Avg. Daily Curb Lane Traffic Volume	Presence of On-Street Parking	Operating Speed	Segment PLOS
Laurier Avenue West (North Side)					
1.5m	0 m	< 3,000 vpd	No	40 km/h	E
Laurier Avenue West (South Side)					
1.5m	0 m	< 3,000 vpd	No	40 km/h	E
Bronson Avenue (East Side)					
1.8m	0m	> 3,000 vpd	No	60 km/h	F
Bronson Avenue (West Side)					
2.0m	0 m	> 3,000 vpd	No	60 km/h	E

4.3.2 Bicycle Level of Service (BLOS)

Exhibit 11 of the MMLOS guidelines has been used to evaluate the segment BLOS of the boundary roadways. Exhibit 22 of the MMLOS guidelines suggest a target BLOS B for Local Routes on local roads (Laurier Avenue West) and a target BLOS D for arterial roads without cycling classification (Bronson Avenue) within 600m of a rapid transit station. The results of the segment BLOS analysis are in the following table.

Table 11: BLOS Segment Analysis

Road Class	Bike Route	Type of Bikeway	Travel Lanes	Operating Speed	Segment BLOS
Laurier Avenue West					
Local	Local	Mixed Traffic	One in each direction	40 km/h	B
Bronson Avenue					
Arterial	None	Mixed Traffic	Two in each Direction	60 km/h	F

4.3.3 Transit Level of Service (TLOS)

Exhibit 15 of the MMLOS guidelines has been used to evaluate the TLOS of the boundary roadways. Exhibit 22 of the MMLOS guidelines suggest a target TLOS D for arterial roadways along transit priority corridors with isolated measures. As transit service is not provided along Laurier Avenue West adjacent to the site, the TLOS has not been analyzed along this roadway. The results of the TLOS analysis are summarized in the following table

Table 12: TLOS Segment Analysis

Facility Type	Level/Exposure to Congestion Delay, Friction and Incidents			Segment TLOS
	Congestion	Friction	Incident Potential	
Bronson Avenue				
Mixed Traffic	Yes	Low	Medium	D

4.3.4 Truck Level of Service (TkLOS)

Exhibit 20 of the MMLOS guidelines has been used to evaluate the segment TkLOS of the boundary roadways. Exhibit 22 of the MMLOS guidelines suggests a target TkLOS D for truck routes on arterial roadways within 600m of a rapid transit station (Bronson Avenue). As Laurier Avenue West adjacent to the site is not designated as a truck route, the TkLOS has not been analyzed along this roadway. The results of the segment TkLOS analysis are summarized in the following table.

Table 13: TkLOS Segment Analysis

Curb Lane Width	Number of Travel Lanes per Direction	Segment TkLOS
Bronson Avenue (Northbound)		
3.5m	2	A
Bronson Avenue (Southbound)		
3.5m	2	A

4.3.5 Segment MMLOS Summary

A summary of the results of the segment MMLOS analysis for the boundary roadways is provided in the following table.

Table 14: Segment MMLOS Summary

Segment	PLOS	BLOS	TLOS	TkLOS
Laurier Avenue West	E	B	-	-
Target	A	B	-	-
Bronson Avenue	F	F	D	A
Target	A	D	D	D

The results of the segment MMLOS analysis can be summarized as follows:

- Neither boundary street meets the target PLOS; and
- Bronson Avenue does not meet the target BLOS.

Laurier Avenue West

Laurier Avenue West meets the target BLOS but does not meet the target PLOS. Opportunities to widen the sidewalk and improve the PLOS along the site frontage will be investigated as part of the Site Plan application.

Bronson Avenue

Bronson Avenue meets the target TLOS and TkLOS but does not meet the target PLOS and BLOS.

The east side of Bronson Avenue is currently operating with a PLOS F and the west side of Bronson Avenue is currently operating with a PLOS E. The target PLOS A is unachievable due to the operating speed of 60km/hr and the average daily curb traffic in excess of 3,000 vehicles on both sides of the road.

Mixed use traffic lanes are currently provided along Bronson Avenue adjacent to the subject site, achieving a BLOS F. To achieve the target BLOS D, bike lanes are required along Bronson Avenue.

The above modifications to improve the PLOS and BLOS along Bronson Avenue have been identified for the City's consideration as funding becomes available.

4.4 Transportation Demand Management

4.4.1 Context for TDM

The proposed redevelopment will include 326 dwellings. The dwellings can be broken down by number of bedrooms as follows:

- 26 studio units;
- 213 one-bedroom units; and
- 87 two-bedroom units.

4.4.2 Need and Opportunity

Based on the trip generation presented in Section 2.5.1, the assumed auto modal share is anticipated to be consistent with the City's targets in a TOD Zone. Due to the proposed reduction in parking and proximity to LRT, the TOD modal shares are anticipated to be met.

Should the development exceed the TOD modal shares and be in line with the Ottawa inner area auto modal share of 25%, the development is anticipated to generate an additional 13-14 vehicles during peak hours. The additional traffic is considered marginal and not anticipated to impact intersection operations in the area.

4.4.3 TDM Program

A review of the TDM – Measures Checklist has been conducted, and is included in **Appendix I**.

The following measures will be implemented upon opening of the proposed redevelopment:

- Display local area maps with walking/cycling access routes and key destinations;
- Display relevant transit schedules and route maps;
- Provide a multimodal travel option information package to new residents; and
- Unbundle parking cost from monthly rent.

The aforementioned TDM initiatives will help promote non-auto modes of transportation to residents and reduce the parking demand by the proposed redevelopment.

In addition to the TDM measures identified above, the proposed redevelopment will provide a reduced number of vehicle parking spaces and an increased number of bicycle parking spaces.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing, the conclusions and recommendations of this TIA can be summarized as follows:

Access Design

- The site proposes one combined access for passenger vehicles entering the underground parking garage and truck access for an MSU truck to reverse into a loading area to assist residents with moving in/out.
- Sight lines looking east from the access meet the SSD and ISD requirements. Sight lines looking west meet the SSD requirements but do not meet ISD requirements. As the SSD requirements are met, drivers along Laurier Avenue will have adequate distance to slow or stop, in the event that a driver exiting the proposed development chooses an inadequate gap in traffic.
- The TAC Geometric Design Guide for Canadian Roads identifies a minimum corner clearance distance of 15m for an access downstream of a signal on an undivided local road. As the access is roughly 20m away this requirement is met.

Trip Generation

- The proposed redevelopment is estimated to generate 144 person trips (including 19 vehicle trips) during the AM peak hour, and 141 person trips (including 19 vehicle trips) during the PM peak hour.

Development Design

- Pedestrian walkways will be provided between the proposed building entrances and the sidewalk along Laurier Avenue West.
- OC Transpo's service design guideline for peak period service is to provide service within a five minute (400m) walk of the home, school and work location of 95% of urban residents. The actual walking distance from the main building entrance to the nearest bus stops was measured. Stop #6626 is a 75m walk, stop #6627 is a 60m walk, stop #3004 is a 360m walk, and stop #3005 is a 240m walk from the proposed redevelopment.
- Bicycle parking for the proposed redevelopment will be in accordance with the City of Ottawa's Zoning By-Law (ZBL). Bicycle parking will be provided in a storage room on the second parking level.
- Garbage collection and loading will occur in the alleyway between the parking ramp and the existing house on the corner of Bronson Avenue and Laurier Avenue. Garbage bins will be wheeled out to meet the garbage trucks within the alleyway.

Parking

- The proposed 302 bicycle parking spaces will exceed the minimum requirement of 164 bicycle parking spaces per the ZBL. However, relief from the minimum vehicle parking provisions is required for the resident parking as 142 parking spaces is required, and 71 resident parking spaces are provided. The requirement of 30 visitor parking spaces as specified in the ZBL is met.

Boundary Streets

- Laurier Avenue West meets the target BLOS but does not meet the target PLOS. Opportunities to widen the sidewalk and improve the PLOS along the site frontage will be investigated as part of the Site Plan application.
- The east side of Bronson Avenue is currently operating with a PLOS F and the west side of Bronson Avenue is currently operating with a PLOS E. The target PLOS A is unachievable due to the operating speed of 60km/hr and the average daily curb traffic in excess of 3,000 vehicles on both sides of the road.
- Mixed use traffic lanes are currently provided along Bronson Avenue adjacent to the subject site, achieving a BLOS F. To achieve the target BLOS D, bike lanes are required along Bronson Avenue.

Transportation Demand Management

- The following measures will be implemented upon opening of the proposed redevelopment:
 - Display local area maps with walking/cycling access routes and key destinations;
 - Display relevant transit schedules and route maps;
 - Provide a multimodal travel option information package to new residents; and
 - Unbundle parking cost from monthly rent.
- In addition to the TDM measures identified above, the proposed redevelopment will provide a reduced number of vehicle parking spaces and an increased number of bicycle parking spaces.

NOVATECH

Prepared by:



Trevor Van Wiechen, P.Eng.
Project Engineer | Transportation

Reviewed by:



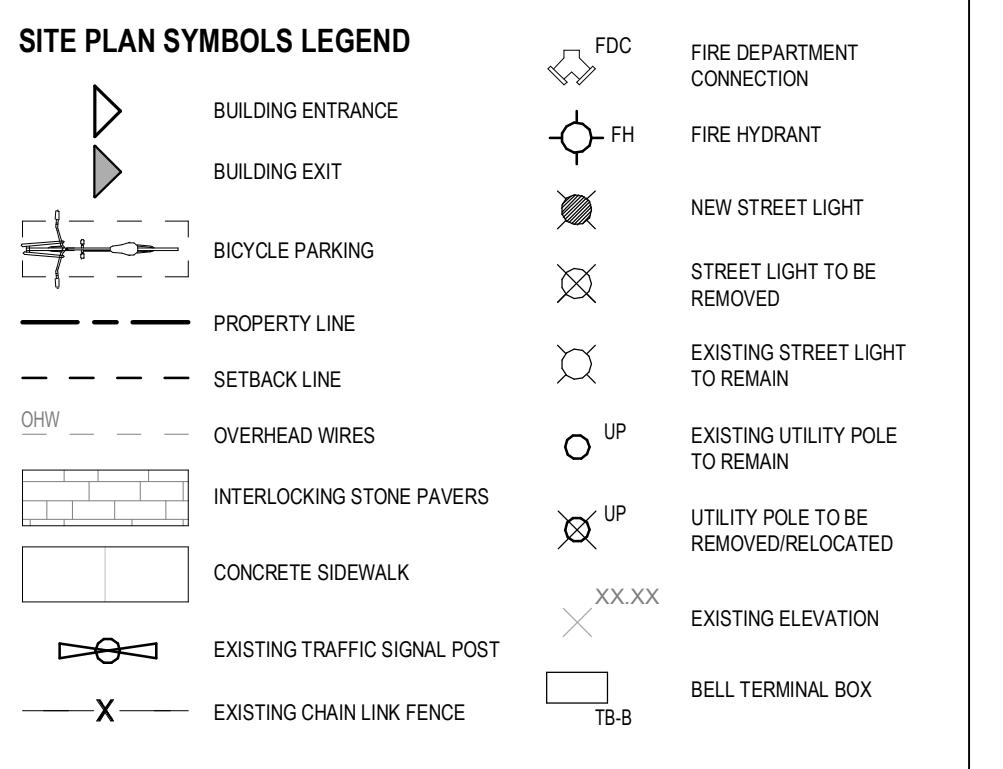
Brad Byvelds, P.Eng.
Senior Project Manager | Transportation

APPENDIX A

Site Plan

Site Statistics		
Current Zoning Designation:		
Total Lot Area:	2,843.2m ²	R4UD & RSQ (263) S429 - Residential Fifth Density Zone
Average Existing Grade:	78.600	
Gross Floor Area:	29,859.5m ²	
Proposed Development - 28 Storey High-Rise Apartment Building		
No. of units: 326 Units		
Zoning Mechanism	Required	Provided
Minimum Lot Width	18m	40m
Table 1644		
Minimum Lot Area	450m ²	2,843.2m ²
Table 1644		
Min. Front Yard Setback	3m (Bronson Avenue)	4.075m
Table 1644		
Min. Corner Side Yard Setback	3m (Laurier Avenue)	2m
Table 1644		
Min. Interior Side Yard Setback	If located within 2m of the front lot line: 1.5m If located further than 2m from the front lot line: 6m	2.3m from level 1 up to level 7
Table 1644		
Min. Rear Yard Setback	25% of the lot depth but need not exceed 7.5 metres	0.8m below Level 1 2.8m above Level 1
Table 1644		
Maximum Building Height	9 storeys (23m)	28 storeys (87.7m)
S. Schedule 429		
Minimum Landscaped Area	853.0m ²	970.3m ² (34%)
S. 163 (9)		Min. 30% of Lot Area
Permitted Projections into Required Yards	Maximum Size and Extent of Projection: 2 metres, but no closer than 1 metre from any lot line.	Max 2m, minimum 1m from lot line
Table 65 (6)(c)		
Parking Space Rates	141 Spaces 0 spaces for the first 12 units - Section 101(3) 0.5 spaces/unit for 314 units - Table 101(R12)(II) 10% Section 101(6)	71 Spaces
101 (Sch. 1A - Area X)		
Minimum Visitor Parking Rates	31 Spaces 0 spaces for first 12 units - Section 102(2) 0.1 spaces/unit for 314 units - Table 102	31 Spaces
102 (Sch. 1A - Area X)		
Bicycle Parking Rates	163 Spaces 0.5 spaces/unit for 326 units (111A(6)(j))	326 Spaces
Table 111A (Sch. 1 - Area B)		
Bicycle Parking Access	Minimum Aisle Width: 1.5m	1.5m
S. 111 (6)		
Bicycle Parking Space Dimensions	Length: 1.8m Width (Stacked): 0.37m (S. 111 B8)	Length: 1.8m Width: 0.37m
Table 111B & 111(B8)		
Total Amenity Area	1,956m ²	2,014m ²
Table 1374(II)		6m ² / unit for 326 units
Communal Amenity Area	978m ²	992m ²
Table 1374(II)		Min. 50% of Total Amenity Area

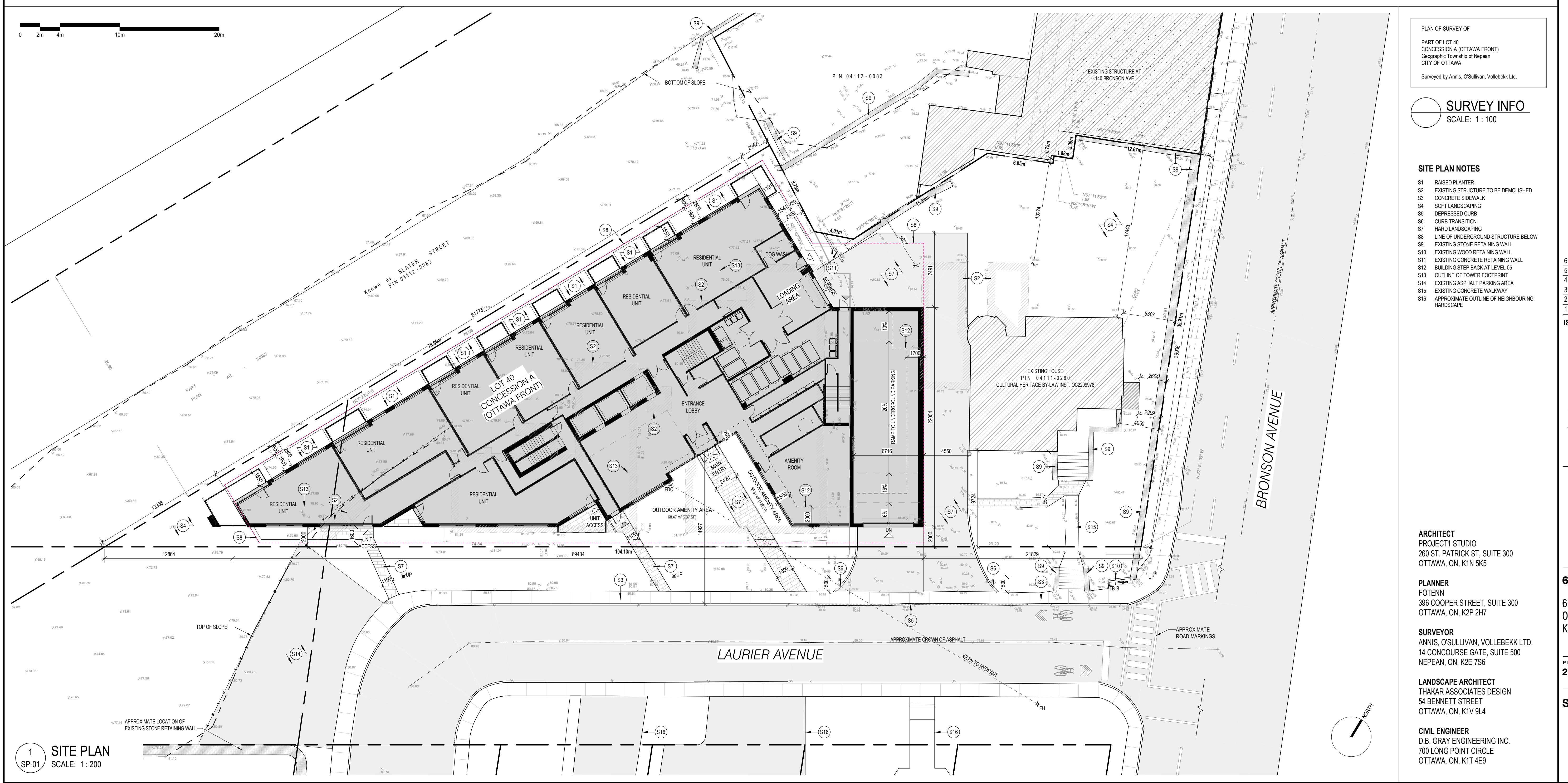
UNIT COUNT		
NAME	TOTAL COUNT	PERCENTAGE
1-BED	173	53%
1-BED + DEN	40	12%
2-BED	80	25%
2-BED + DEN	7	2%
STUDIO	26	8%
TOTAL	326	100%



2
SP-01
LOCATION PLAN
SCALE: NTS

GENERAL ARCHITECTURAL NOTES:

- This drawing is the property of the Architect and may not be reproduced or used without the express consent of the Architect.
- Drawings are not to scale. The Contractor is responsible for checking and verifying the dimensions and locations of all proposed items and discrepancies to the Architect and obtain clarification prior to commencing work.
- Upon notice in writing the Architect will provide written/graphic clarification or supplementary information regarding the intent of Contract Documents.
- The Architect's drawings are to be read in conjunction with all other Contract Documents including the Building, Mechanical and Structural, Mechanical and Electrical Drawings.
- Positions of proposed or installed Mechanical or Electrical equipment, piping and fixtures are to be shown on the Architectural Drawings. Locations shown on the Architectural Drawings shall govern over Mechanical and Electrical Drawings.
- Positions of proposed or installed Mechanical or Electrical equipment, piping and fixtures are to be shown on the Architectural Drawings. Locations shown on the Architectural Drawings shall govern over Mechanical and Electrical Drawings.
- These documents are not to be used for construction unless specifically noted for such purpose.



GENERAL ARCHITECTURAL NOTES:

- This drawing is the property of the Architect and may not be reproduced or used without the expressed consent of the Architect.
- Drawings are not to be scaled. The Contractor is responsible for checking and verifying the dimensions and locations of all items and all discrepancies to the Architect and obtain clarification prior to commencing work.
- Upon notice in writing the Architect will provide written/graphic clarification or supplementary information regarding the intent of Contract Documents.
- No part of these drawings shall be used in conjunction with all other Contract Documents including, but not limited to, Mechanical and Structural, Mechanical Electrical Drawings, or related Mechanical or Electrical drawings. Items and locations shown on the Architectural Drawings shall govern over Mechanical and Electrical Drawings. Mechanical and Electrical items not clearly located will be located as directed by the Architect.
- These documents are not to be used for construction unless specifically noted for such purpose.

		UNIT COUNT																											
1-BED	173	53%	4	8	8	8	8	8	3	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	1
1-BED + DEN	40	12%	1	4	4	4	3	3	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2-BED	80	25%	1	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2-BED + DEN	7	2%	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STUDIO	26	8%	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL	326	100%	8	17	17	17	16	16	5	10	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11

PARKING SCH. (VEHICLE)	
TYPE	COUNT
LEVEL P1	6
RESIDENT	6
VISITOR	28
LEVEL P2	31
RESIDENT	31
VISITOR	3
LEVEL P3	34
RESIDENT	34
TOTAL	102

PARKING SCH. (BICYCLE)	
TYPE	COUNT
LEVEL P3	326
STACKED HORIZONTAL (370 x 1800mm)	326
TOTAL	326

GROSS FLOOR AREA		RENTABLE AREA (RESIDENTIAL)		AMENITY SCH. (PRIVATE)		AMENITY SCH. (COMMUNAL)			
LEVEL	AREA	AREA (SF)	LEVEL	AREA	AREA (SF)	LEVEL	NAME	AREA	AREA (SF)
LEVEL P3	1,695.65 m ²	18,292 SF	LEVEL 1	560.14 m ²	6,029 SF	LEVEL 1	75.34 m ²	811 SF	
LEVEL P2	1,695.65 m ²	18,292 SF	LEVEL 2	1,072.22 m ²	11,541 SF	LEVEL 2	84.35 m ²	908 SF	
LEVEL P1	1,695.65 m ²	18,292 SF	LEVEL 3	1,072.22 m ²	11,541 SF	LEVEL 3	84.35 m ²	908 SF	
LEVEL 1	1,274.52 m ²	13,719 SF	LEVEL 4	1,072.22 m ²	11,541 SF	LEVEL 4	84.35 m ²	908 SF	
LEVEL 2	1,242.57 m ²	13,375 SF	LEVEL 5	1,006.87 m ²	10,838 SF	LEVEL 5	136.58 m ²	1,470 SF	
LEVEL 3	1,242.57 m ²	13,375 SF	LEVEL 6	1,006.87 m ²	10,838 SF	LEVEL 6	80.70 m ²	869 SF	
LEVEL 4	1,242.57 m ²	13,375 SF	LEVEL 7	944.00 m ²	10,240 SF	LEVEL 7	101.00 m ²	1,085 SF	
LEVEL 5	1,174.81 m ²	12,646 SF	LEVEL 8	593.44 m ²	6,426 SF	LEVEL 8	134.11 m ²	144 SF	
LEVEL 6	1,174.81 m ²	12,646 SF	LEVEL 9	675.18 m ²	7,268 SF	LEVEL 9	22.75 m ²	245 SF	
LEVEL 7	784.96 m ²	8,449 SF	LEVEL 10	675.18 m ²	7,268 SF	LEVEL 10	21.78 m ²	234 SF	
LEVEL 8	778.84 m ²	8,383 SF	LEVEL 11	675.18 m ²	7,268 SF	LEVEL 11	22.75 m ²	245 SF	
LEVEL 9	777.64 m ²	8,370 SF	LEVEL 12	675.18 m ²	7,268 SF	LEVEL 12	21.78 m ²	234 SF	
LEVEL 10	777.64 m ²	8,370 SF	LEVEL 13	675.18 m ²	7,268 SF	LEVEL 13	22.75 m ²	245 SF	
LEVEL 11	777.64 m ²	8,370 SF	LEVEL 14	675.18 m ²	7,268 SF	LEVEL 14	21.78 m ²	234 SF	
LEVEL 12	777.64 m ²	8,370 SF	LEVEL 15	675.18 m ²	7,268 SF	LEVEL 15	22.75 m ²	245 SF	
LEVEL 13	777.64 m ²	8,370 SF	LEVEL 16	675.18 m ²	7,268 SF	LEVEL 16	21.78 m ²	234 SF	
LEVEL 14	777.64 m ²	8,370 SF	LEVEL 17	675.18 m ²	7,268 SF	LEVEL 17	22.75 m ²	245 SF	
LEVEL 15	777.64 m ²	8,370 SF	LEVEL 18	675.18 m ²	7,268 SF	LEVEL 18	21.78 m ²	234 SF	
LEVEL 16	777.64 m ²	8,370 SF	LEVEL 19	675.18 m ²	7,268 SF	LEVEL 19	22.75 m ²	245 SF	
LEVEL 17	777.64 m ²	8,370 SF	LEVEL 20	675.18 m ²	7,268 SF	LEVEL 20	21.78 m ²	234 SF	
LEVEL 18	777.64 m ²	8,370 SF	LEVEL 21	675.18 m ²	7,268 SF	LEVEL 21	22.75 m ²	245 SF	
LEVEL 19	777.64 m ²	8,370 SF	LEVEL 22	675.18 m ²	7,268 SF	LEVEL 22	21.78 m ²	234 SF	
LEVEL 20	777.64 m ²	8,370 SF	LEVEL 23	675.18 m ²	7,268 SF	LEVEL 23	22.75 m ²	245 SF	
LEVEL 21	777.64 m ²	8,370 SF	LEVEL 24	675.18 m ²	7,268 SF	LEVEL 24	21.78 m ²	234 SF	
LEVEL 22	777.64 m ²	8,370 SF	LEVEL 25	675.18 m ²	7,268 SF	LEVEL 25	22.75 m ²	245 SF	
LEVEL 23	777.64 m ²	8,370 SF	LEVEL 26	675.18 m ²	7,268 SF	LEVEL 26	21.78 m ²	234 SF	
LEVEL 24	777.64 m ²	8,370 SF	LEVEL 27	675.18 m ²	7,268 SF	LEVEL 27	22.75 m ²	245 SF	
LEVEL 25	777.64 m ²	8,370 SF	LEVEL 28	675.18 m ²	7,268 SF	LEVEL 28	21.78 m ²	234 SF	
LEVEL 26	777.64 m ²	8,370 SF	TOTAL	20,237.56 m ²	217,835 SF	TOTAL	1,022.03 m ²	11,001 SF	
LEVEL 27	777.64 m ²	8,370 SF							
LEVEL 28	777.64 m ²	8,370 SF							
PENTHOUSE	304.14 m ²	3,274 SF							
TOTAL	29,859.47 m ²	32,140 SF							

PARKING SCH. (VEHICLE)

TYPE COUNT

LEVEL P1 6

RESIDENT 6

VISITOR 28

LEVEL P2 31

RESIDENT 31

VISITOR 3

LEVEL P3 34

RESIDENT 34

APPENDIX B

TIA Screening Form

City of Ottawa 2017 TIA Guidelines TIA Screening

1. Description of Proposed Development

Municipal Address	593-601 Laurier Avenue West
Description of Location	Northwest corner of Laurier Ave/Bronson Ave
Land Use Classification	Residential
Development Size (units)	331
Development Size square metre (m ²)	
Number of Accesses and Locations	One to Laurier Avenue West
Phase of Development	
Buildout Year	2025

If available, please attach a sketch of the development or site plan to this form.

2. Trip Generation Trigger

Considering the Development's Land Use type and Size (as filled out in the previous section), please refer to the Trip Generation Trigger checks below.

Table notes:

1. Table 2, Table 3 & Table 4 TRANS Trip Generation Manual
2. Institute of Transportation Engineers (ITE) Trip Generation Manual 11.1 Ed.

Land Use Type	Minimum Development Size
Single-family homes	60 units
Multi-Use Family (Low-Rise) ¹	90 units
Multi-Use Family (High-Rise) ¹	150 units
Office ²	1,400 m ²
Industrial ²	7,000 m ²
Fast-food restaurant or coffee shop ²	110 m ²
Destination retail ²	1,800 m ²
Gas station or convenience market ²	90 m ²

If the proposed development size is equal to or greater than the sizes identified above, the Trip Generation Trigger is satisfied.

3. Location Triggers

	Yes	No
Does the development propose a new driveway to a boundary street that is designated as part of the Transit Priority Network, Rapid Transit network or Cross-Town Bikeways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the development in a Hub, a Protected Major Transit Station Area (PMTSA), or a Design Priority Area (DPA)? ²	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If any of the above questions were answered with 'Yes,' the Location Trigger is satisfied.

4. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 kilometers per hour (km/h) or greater?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 metre [m] of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the proposed driveway within auxiliary lanes of an intersection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the proposed driveway make use of an existing median break that serves an existing site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

² Hubs are identified in Schedules B1 to B8 of the City of Ottawa Official Plan. PMTSAs are identified in Schedule C1 of the Official Plan. DPAs are identified in Schedule C7A and C7B of the Official. See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA.

Transportation Impact Assessment Guidelines

	Yes	No
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the development include a drive-thru facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If any of the above questions were answered with 'Yes,' the Safety Trigger is satisfied.

5. Summary

Results of Screening	Yes	No
Does the development satisfy the Trip Generation Trigger?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the development satisfy the Location Trigger?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the development satisfy the Safety Trigger?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If none of the triggers are satisfied, the TIA Study is complete. If one or more of the triggers is satisfied, the TIA Study must continue into the next stage (Screening and Scoping).

APPENDIX C

OC Transpo System Information



Blair



Cyrville

St-Laurent

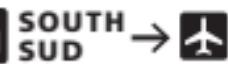
Tremblay

VIA

Hurdman



→



Lees

24 min. uOttawa

Rideau

Parliament
Parlement

Lyon

Pimisi

Bayview

2

Tunney's Pasture



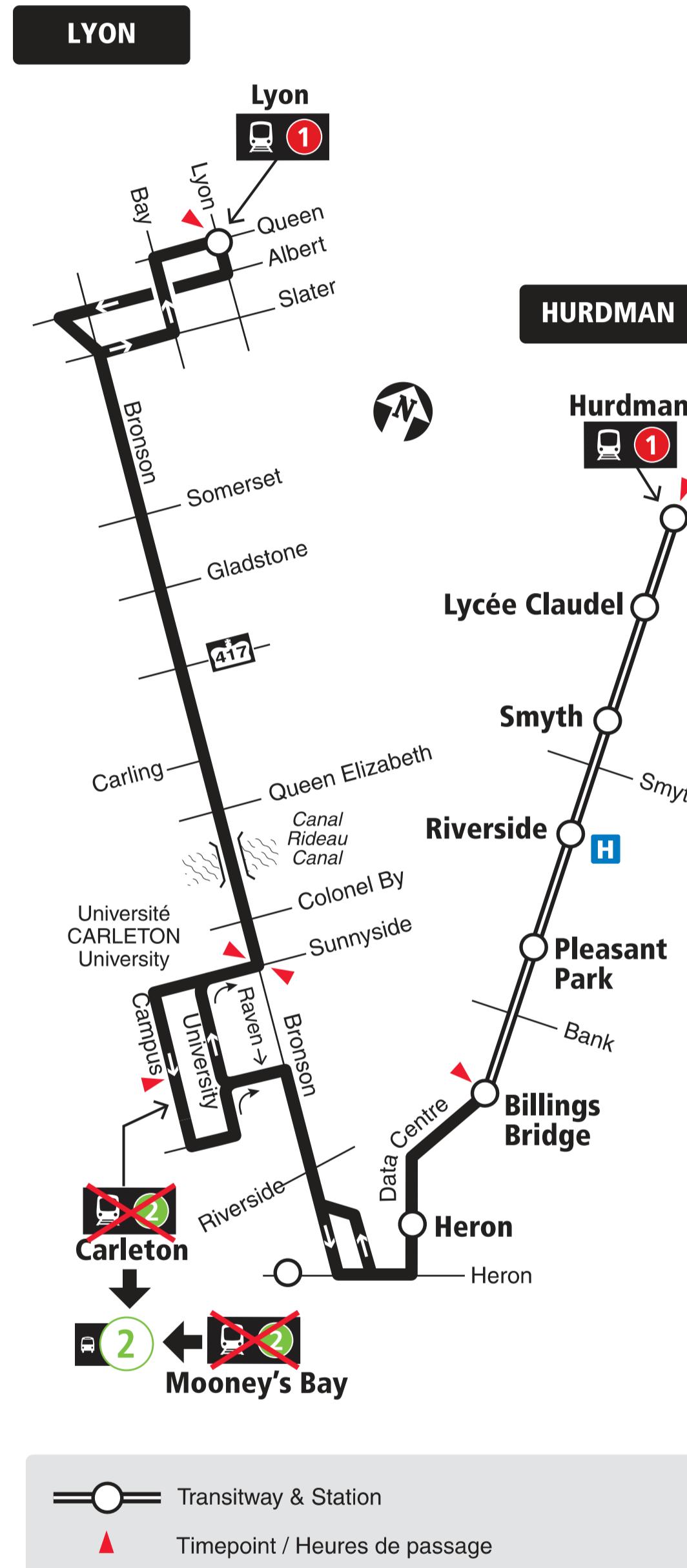
10

LYON
HURDMAN

Fréquent

7 days a week / 7 jours par semaine

All day service
Service toute la journée



2020.09



Schedule / Horaire..... 613-560-1000
Text / Texto 560560

plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres

Customer Service
Service à la clientèle **613-741-4390**
Lost and Found / Objets perdus **613-563-4011**
Security / Sécurité **613-741-2478**

Effective August 30, 2020
En vigueur 30 août 2020

15

GATINEAU BLAIR

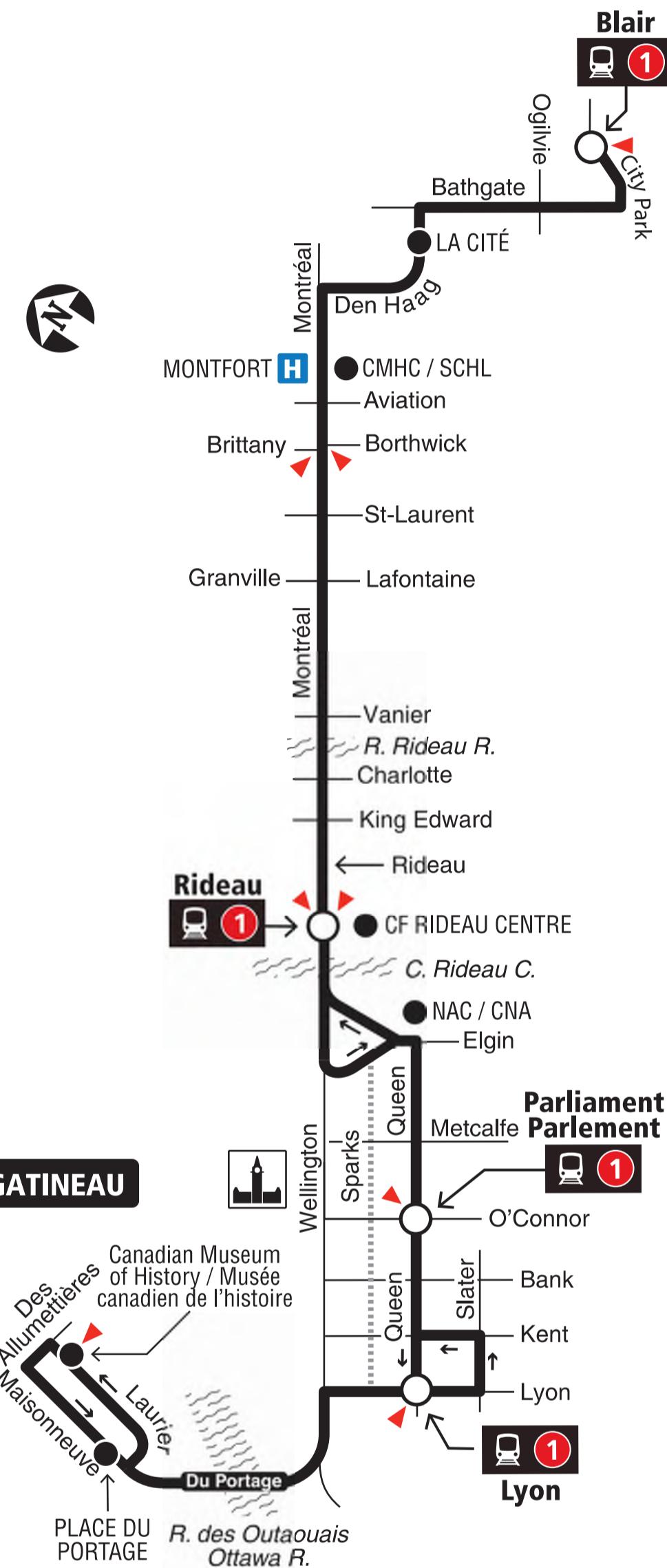
Local

Monday to Friday / Lundi au vendredi

Peak Periods

Périodes de pointe

BLAIR



○ Station

▲ Timepoint / Heures de passage

04.2023

04.2023



Schedule / Horaire 613-560-1000

Text / Texto* 560560

plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres

*Standard message rates may apply / Les tarifs réguliers de messagerie texte peuvent s'appliquer

**Customer Service
Service à la clientèle 613-560-5000**

Lost and Found / Objets perdus 613-563-4011

Security / Sécurité 613-741-2478

Effective April 23, 2023

En vigueur 23 avril 2023

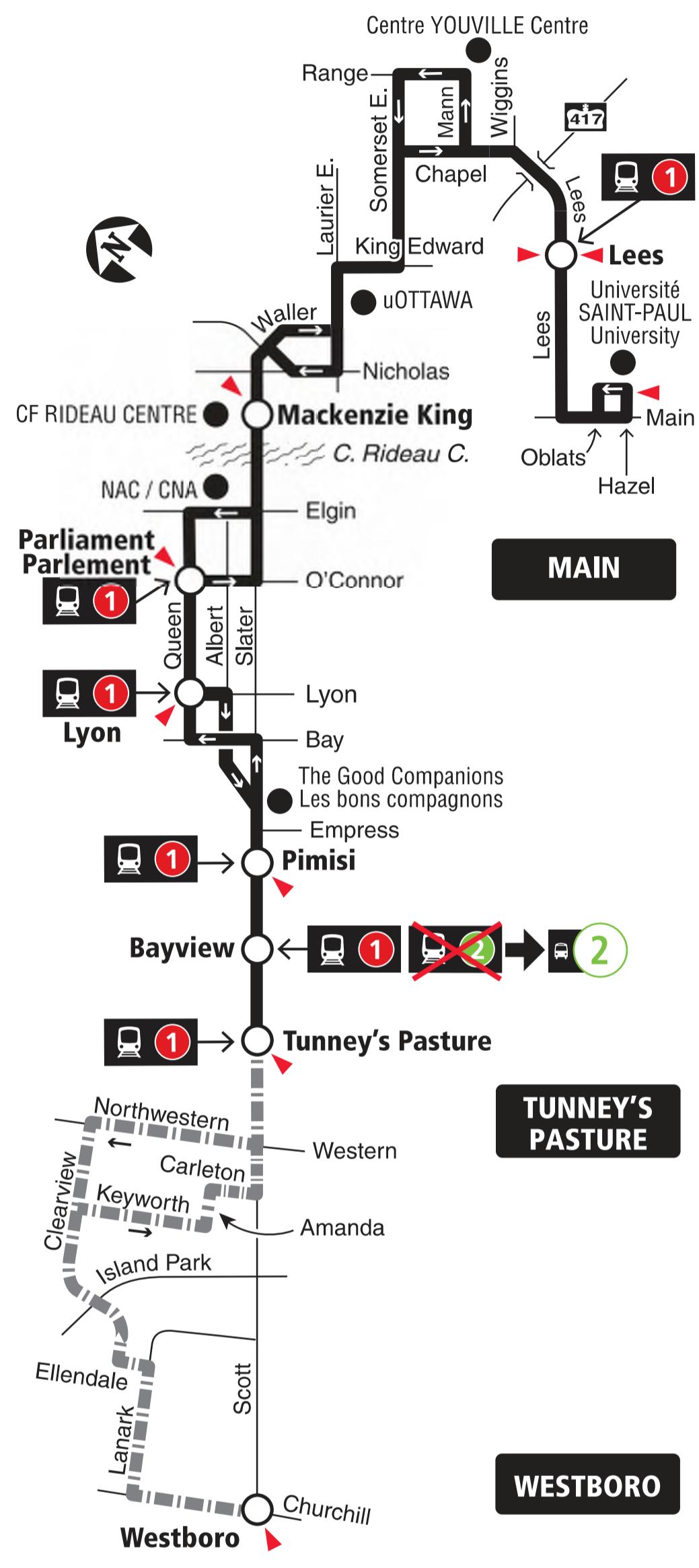
OC Transpo

**INFO 613-560-5000
octranspo.com**

16

MAIN
TUNNEY'S PASTURE
WESTBORO

7 days a week / 7 jours par semaine
All day service
Service toute la journée



○ Station
— No Sunday service / Aucun service le dimanche
▲ Timepoint / Heures de passage

2020.04

Schedule / Horaire 613-560-1000
Text / Texto 560560
plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres

Customer Service
Service à la clientèle 613-741-4390
Lost and Found / Objets perdus 613-563-4011
Security / Sécurité 613-741-2478

Effective May 3, 2020
En vigueur 3 mai 2020



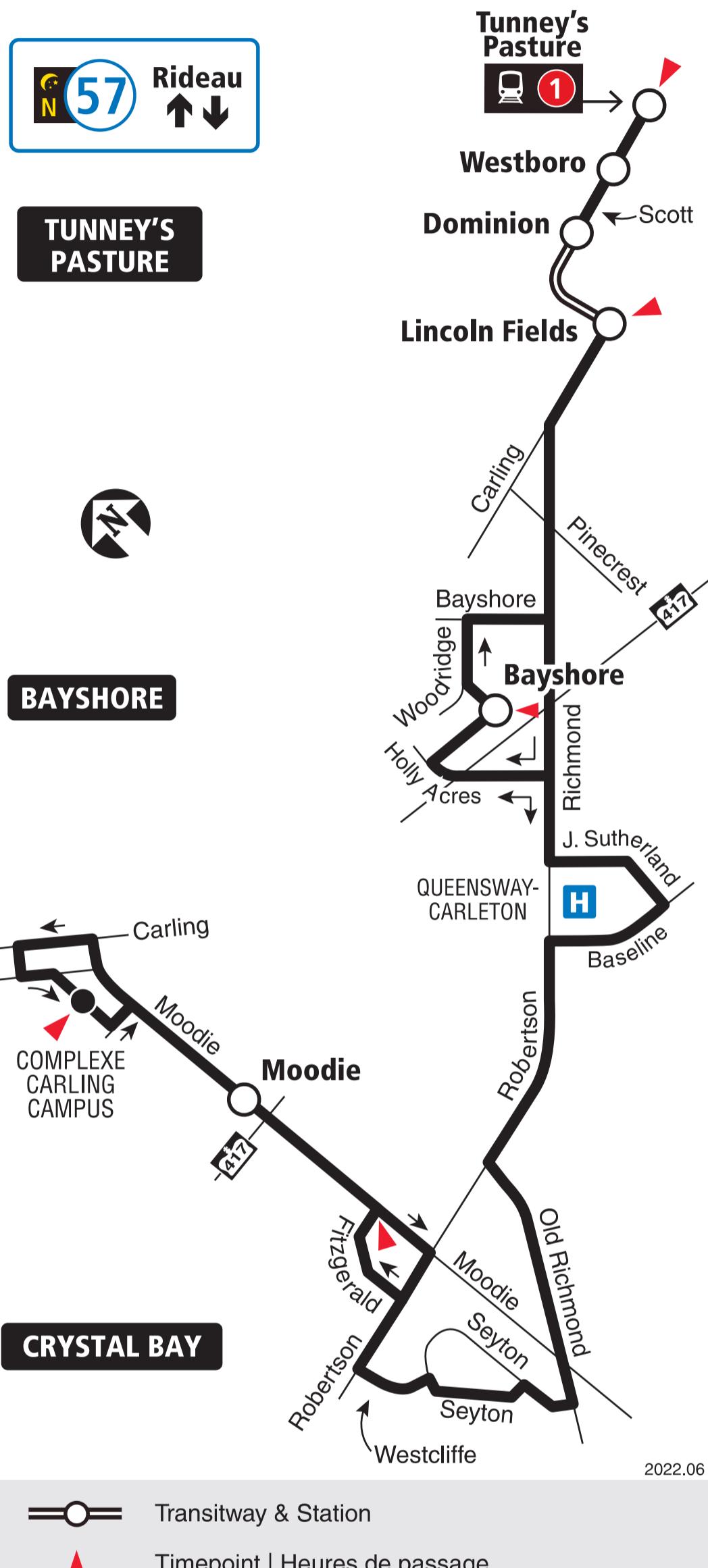
**BAYSHORE
CRYSTAL BAY
TUNNEY'S PASTURE**

Rapide

7 days a week / 7 jours par semaine

All day and limited overnight service

Service toute la journée et limité la nuit



When O-Train Line 1 is not running overnight,
Route 57 will be extended downtown to Rideau
Station. / Lorsque la Ligne 1 de l'O-Train ne
circule pas la nuit, le circuit 57 sera prolongé
au centre-ville jusqu'à la station Rideau.

2022.06

Schedule / Horaire 613-560-1000
Text / Texto* 560560
 plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres
*Standard message rates may apply / Les tarifs réguliers de messagerie texte peuvent s'appliquer

Customer Service
 Service à la clientèle **613-560-5000**
 Lost and Found / Objets perdus **613-563-4011**
 Security / Sécurité **613-741-2478**

Effective June 26, 2022

En vigueur 26 juin 2022

OC Transpo

**INFO 613-560-5000
 octranspo.com**



61

Rapid e

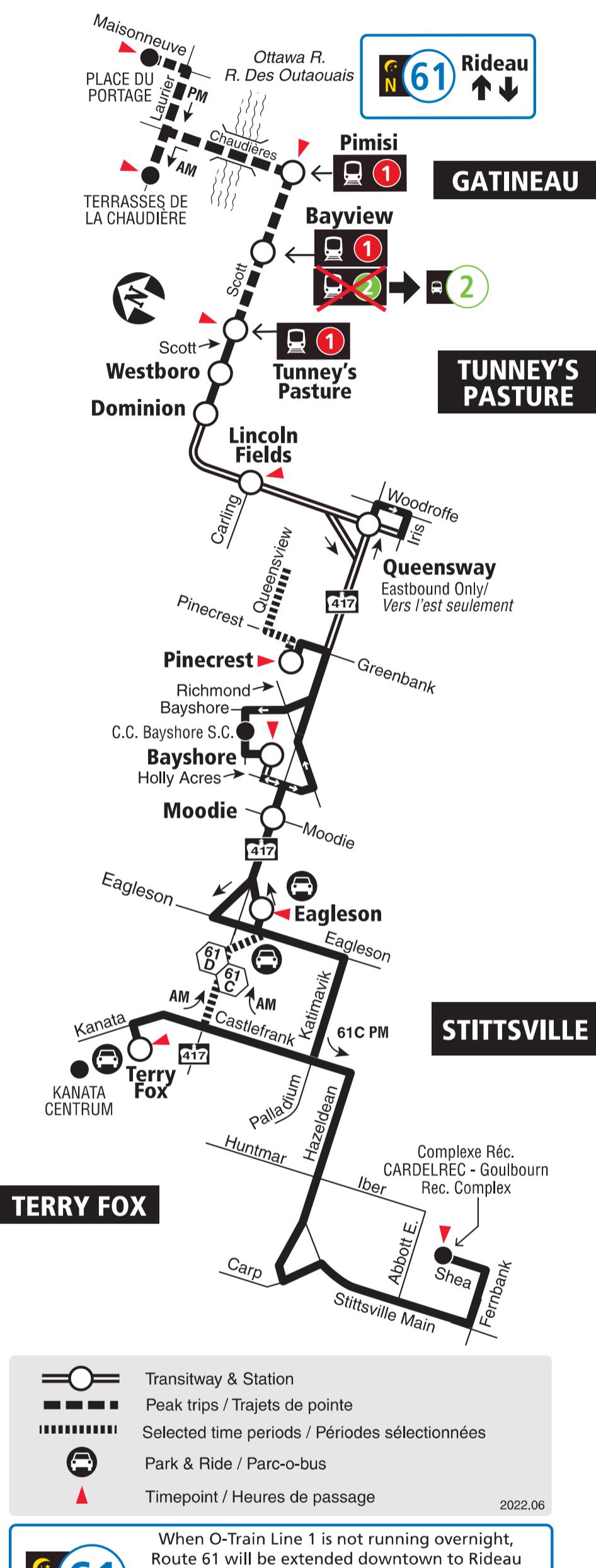
TERRY FOX STITTSVILLE

TUNNEY'S PASTURE GATINEAU

7 days a week / 7 jours par semaine

All day service and limited overnight

Service toute la journée et limité la nuit



2022-23



Schedule / Horaire 613-560-1000

Schedule / Horaire : 613-360-1000
Tout / Toute : EC6E6C

Text / Texto* 560

plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres

Customer Service
Service à la clientèle **613-560-5000**

Service à la clientèle 613-360-3000

Lost and Found / Objets perdus..... 613-563

Security / Sécurité **613-741-2478**

Effective June 26, 2022



INFO 613-560-5000
ectranspo.com

63

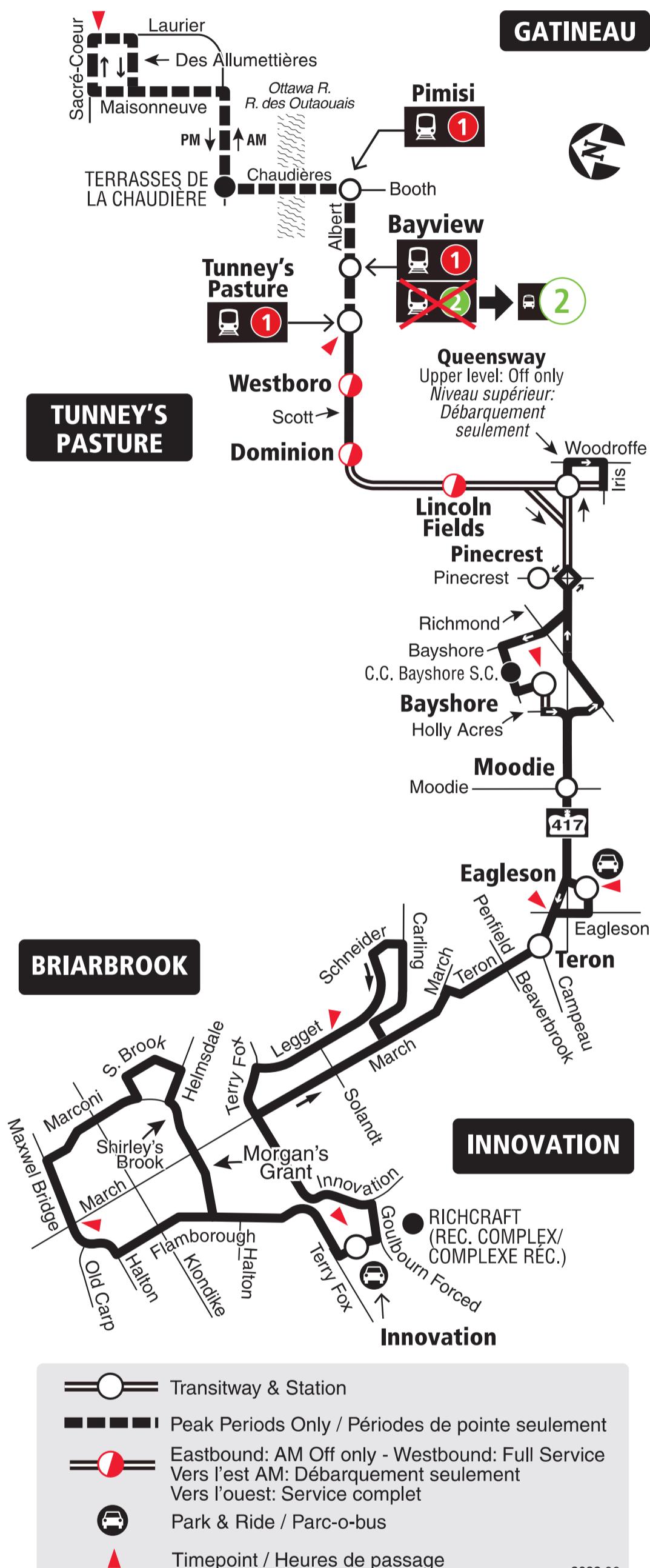
Rapide

INNOVATION
BRIARBROOK
TUNNEY'S PASTURE
GATINEAU



7 days a week / 7 jours par semaine

All day service
Service toute la journée



Schedule / Horaire 613-560-1000

Text / Texto* 560560

plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres

*Standard message rates may apply / Les tarifs réguliers de messagerie texte peuvent s'appliquer

Customer Service
Service à la clientèle 613-560-5000

Lost and Found / Objets perdus 613-563-4011

Security / Sécurité 613-741-2478

Effective June 26, 2022

En vigueur 26 juin 2022

OC Transpo

INFO 613-560-5000
octranspo.com



66

KANATA

TUNNEY'S PASTURE

GATINEAU

Local

Monday to Friday / Lundi au vendredi

Peak periods only Périodes de pointe seulement

PM ↑ GATINEAU

PM **TUNNEY'S PASTURE**

1 **Pimisi**

1 **2** **Bayview**

2 **Queensway (PM)**

417

417

AM **KANATA**

North

-  Transitway & Station
- Some trips / Quelques trajets
-  Timepoint / Heures de passage

2022.06

2022.06



Schedule / Horaire 613-560-1000

Text / Texto* 560560

plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres

*Standard message rates may apply / Les tarifs réguliers de messagerie texte peuvent s'appliquer

Customer Service

Service à la clientèle **613-560-5000**

Customer Service
Service à la clientèle **613-560-5000**

Lost and Found / Objets perdus **613-563-4011**

Security / Sécurité **613-741-2478**

Effective June 26, 2022

En vigueur 26 juin 2022



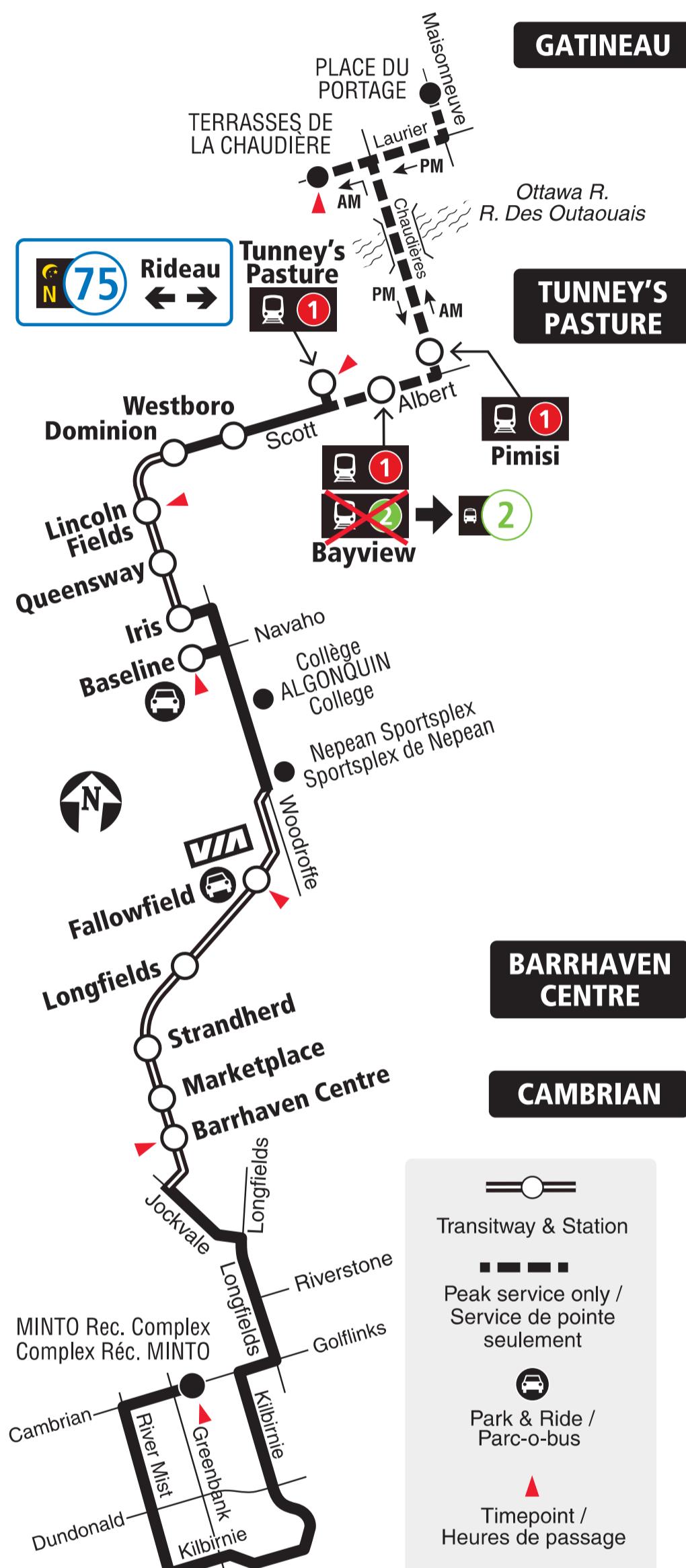
INFO 613-560-5000
octranspo.com



**CAMBRIAN
BARRHAVEN C.
TUNNEY'S PASTURE
GATINEAU**

7 days a week / 7 jours par semaine

All day service and limited overnight
Service toute la journée et limité la nuit



2022.06



When O-Train Line 1 is not running overnight,
Route 75 will be extended downtown to Rideau
Station. / Lorsque la Ligne 1 de l'O-Train ne
circule pas la nuit, le circuit 75 sera prolongée
au centre-ville jusqu'à la station Rideau.

2022.06

Schedule / Horaire 613-560-1000
Text / Texto* 560560
plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres

*Standard message rates may apply / Les tarifs réguliers de messagerie texte peuvent s'appliquer

**Customer Service
Service à la clientèle 613-560-5000**
Lost and Found / Objets perdus 613-563-4011
Security / Sécurité 613-741-2478

Effective June 26, 2022

En vigueur 26 juin 2022



**INFO 613-560-5000
octranspo.com**



85

GATINEAU

BAYSHORE

Fréquent

7 days a week / 7 jours par semaine

All day service
Service toute la journée

GATINEAU



BAYSHORE

○ Station

▲ Timepoint / Heures de passage

12.2022

12.2022



Schedule / Horaire 613-560-1000

Text / Texto* 560560

plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres

*Standard message rates may apply / Les tarifs réguliers de messagerie texte peuvent s'appliquer

Customer Service

Service à la clientèle **613-560-5000**

Lost and Found / Objets perdus **613-563-4011**

Security / Sécurité **613-741-2478**

Effective December 18, 2022

En vigueur 18 décembre 2022

OC Transpo

**INFO 613-560-5000
octranspo.com**

APPENDIX D

Traffic Count Data

Turning Movement Count - Peak Hour Diagram

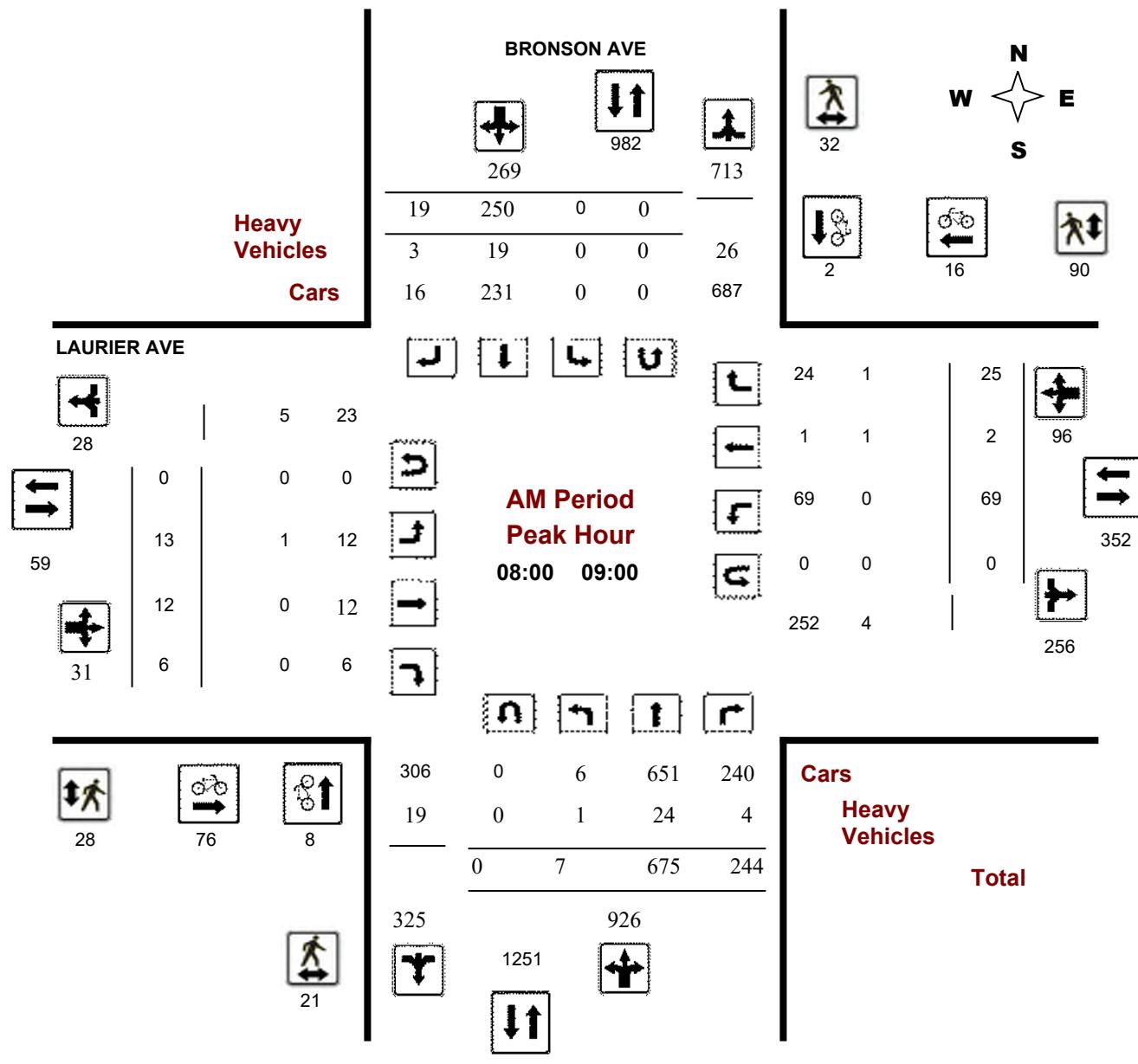
BRONSON AVE @ LAURIER AVE

Survey Date: Tuesday, August 29, 2017

Start Time: 07:00

WO No: 37217

Device: Miovision



Turning Movement Count - Peak Hour Diagram

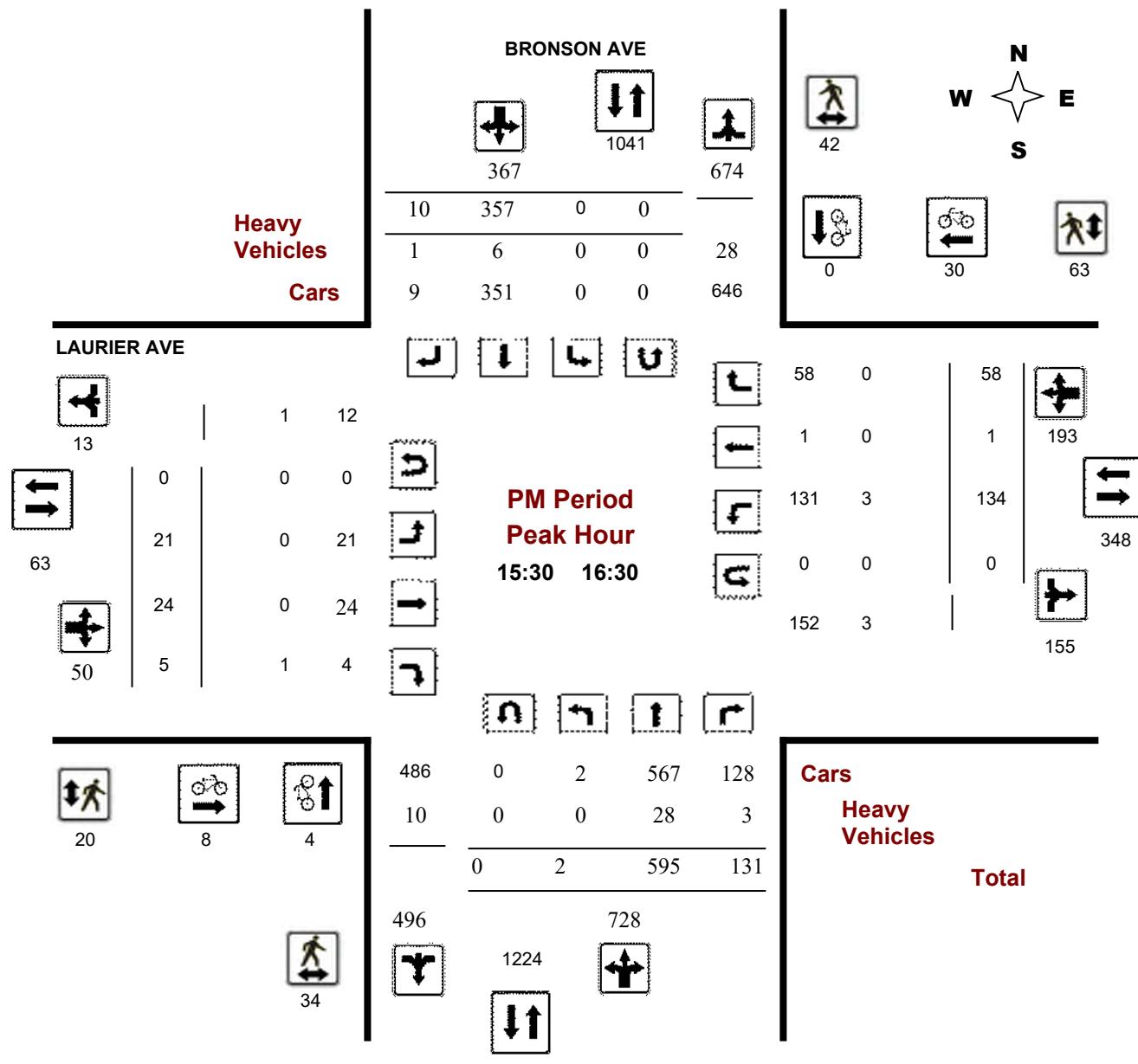
BRONSON AVE @ LAURIER AVE

Survey Date: Tuesday, August 29, 2017

Start Time: 07:00

WO No: 37217

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Study Results

BRONSON AVE @ LAURIER AVE

Survey Date: Tuesday, August 29, 2017

WO No:

37217

Start Time: 07:00

Device:

Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, August 29, 2017

Total Observed U-Turns

AADT Factor

Northbound:	3	Southbound:	0	1.25
Eastbound:	0	Westbound:	0	

BRONSON AVE

LAURIER AVE

Period	Northbound				Southbound				Eastbound				Westbound				WB TOT	STR TOT	Grand Total
	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT			
07:00 08:00	6	522	196	724	0	258	17	275	999	9	9	5	23	50	2	15	67	90	1089
08:00 09:00	7	675	244	926	0	250	19	269	1195	13	12	6	31	69	2	25	96	127	1322
09:00 10:00	4	466	142	612	0	205	9	214	826	9	13	9	31	67	15	19	101	132	958
11:30 12:30	6	311	141	458	1	206	9	216	674	4	13	9	26	82	5	25	112	138	812
12:30 13:30	4	336	130	470	1	181	16	198	668	11	11	15	37	81	2	19	102	139	807
15:00 16:00	6	606	116	728	0	332	8	340	1068	30	19	6	55	134	2	56	192	247	1315
16:00 17:00	6	551	145	702	2	314	8	324	1026	17	18	11	46	159	1	60	220	266	1292
17:00 18:00	5	484	121	610	0	282	11	293	903	10	10	14	34	111	2	48	161	195	1098
Sub Total	44	3951	1235	5230	4	2028	97	2129	7359	103	105	75	283	753	31	267	1051	1334	8693
U Turns				3				0	3				0				0	0	3
Total	44	3951	1235	5233	4	2028	97	2129	7362	103	105	75	283	753	31	267	1051	1334	8696

EQ 12Hr 61 5492 1717 7274 6 2819 135 2959 10233 143 146 104 393 1047 43 371 1461 1854 12087

Note: These values are calculated by multiplying the totals by the appropriate expansion factor. **1.39**

AVG 12Hr 55 4943 1545 6546 5 2537 121 2663 9210 129 131 94 354 942 39 334 1315 1669 10878

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. **0.9**

AVG 24Hr 72 6475 2024 8576 7 3324 159 3489 12065 169 172 123 464 1234 51 438 1722 2186 14251

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. **1.31**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

APPENDIX E

Collision Records



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 To: December 31, 2021

Location: BRONSON AVE @ LAURIER AVE

Traffic Control: Traffic signal

Total Collisions: 7

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Mar-06, Mon,18:41	Freezing Rain	SMV other	Non-fatal injury	Slush	South	Going ahead	Automobile, station wagon	Pedestrian	1
2017-Aug-19, Sat,14:11	Clear	Angle	Non-fatal injury	Dry	North	Turning right	Automobile, station wagon	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	
2018-Apr-25, Wed,08:50	Rain	Angle	Non-fatal injury	Wet	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2018-Oct-13, Sat,21:59	Clear	Turning movement	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2020-Nov-22, Sun,18:30	Snow	Angle	P.D. only	Loose snow	North	Turning right	Automobile, station wagon	Skidding/sliding	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2021-Jul-24, Sat,12:04	Clear	Angle	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2021-Nov-01, Mon,03:19	Clear	Angle	P.D. only	Dry	West	Unknown	Unknown	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	

Location: BRONSON AVE btwn LAURIER AVE & GLOUCESTER ST

Traffic Control: No control

Total Collisions: 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Nov-06, Mon,17:12	Clear	SMV other	P.D. only	Dry	South	Unknown	Unknown	Pole (utility, power)	0
2018-Jun-18, Mon,20:31	Clear	SMV unattended vehicle	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Unattended vehicle	0
2020-Nov-02, Mon,21:16	Snow	SMV unattended vehicle	P.D. only	Loose snow	North	Slowing or stopping	Truck and trailer	Unattended vehicle	0

Location: BRONSON AVE btwn SLATER ST & LAURIER AVE

Traffic Control: No control

Total Collisions: 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 To: December 31, 2021

Location: BRONSON AVE btwn SLATER ST & LAURIER AVE

Traffic Control: No control

Total Collisions: 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Apr-11, Tue,07:19	Clear	Sideswipe	P.D. only	Wet	South	Changing lanes	Truck - closed	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2019-Feb-07, Thu,17:04	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Passenger van	Other motor vehicle	0
					South	Going ahead	Truck - closed	Other motor vehicle	

Location: LAURIER AVE btwn BRONSON AVE & PERCY ST

Traffic Control: No control

Total Collisions: 5

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Mar-04, Sat,12:58	Clear	SMV other	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Curb	0
2017-Sep-08, Fri,08:22	Clear	SMV other	P.D. only	Dry	West	Slowing or stopping	Truck and trailer	Tree, shrub, stump	0
2018-Jul-12, Thu,09:00	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	
2019-Sep-07, Sat,11:44	Clear	Sideswipe	P.D. only	Dry	East	Pulling away from shoulder or curb	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-22, Wed,14:53	Clear	SMV unattended vehicle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Unattended vehicle	0

APPENDIX F

Reconstruction of Albert Street, Queen Street, Slater Street and Bronson Street

Reconstruction Of Albert Street, Queen Street, Slater Street And Bronson Avenue

Draft Design, January, 2021

Réfection des rues Albert, Queen, Slater et Bronson

Esquisse de conception, janvier, 2021



APPENDIX G

Albert Street and Slater Street Improvements

STREET IMPROVEMENTS

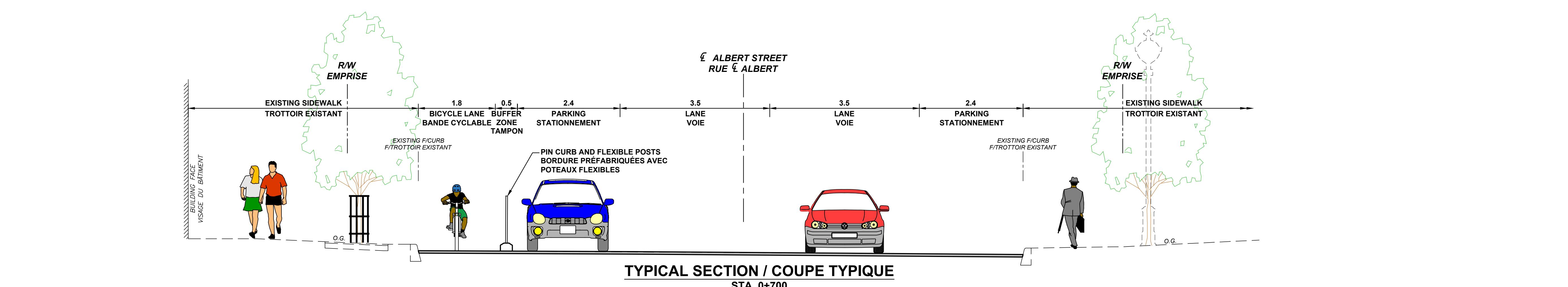
ALBERT AND SLATER

BAY STREET TO ELGIN STREET

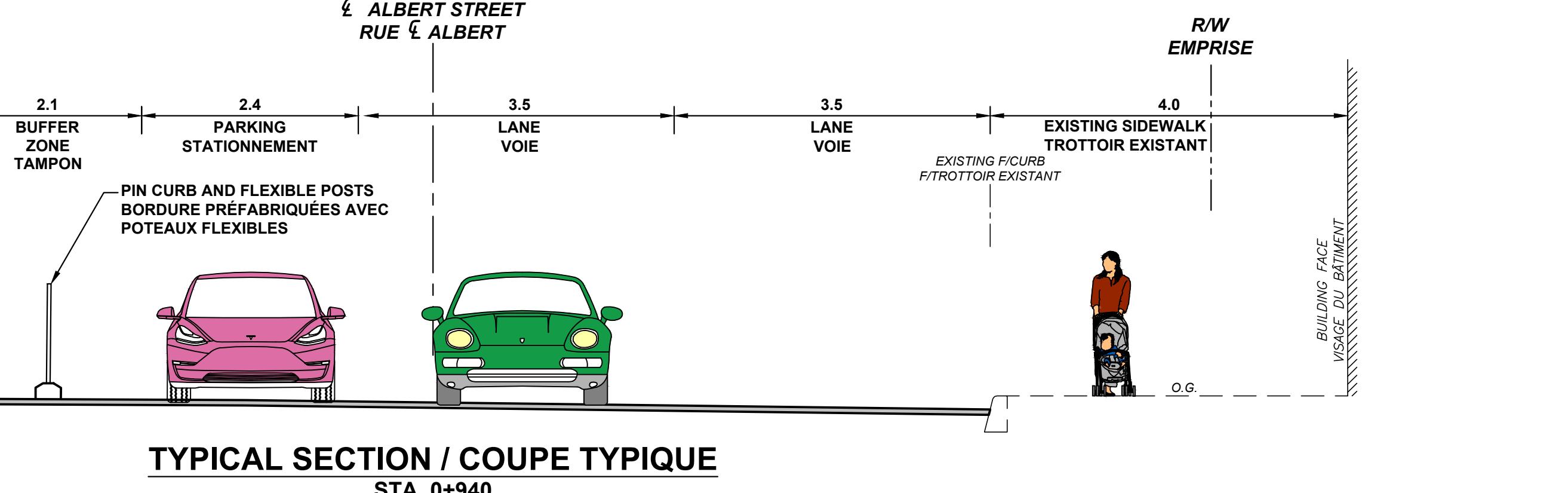
PROPOSED DESIGN

AMÉLIORATIONS DES RUES ALBERT ET SLATER DE LA RUE BAY À LA RUE ELGIN

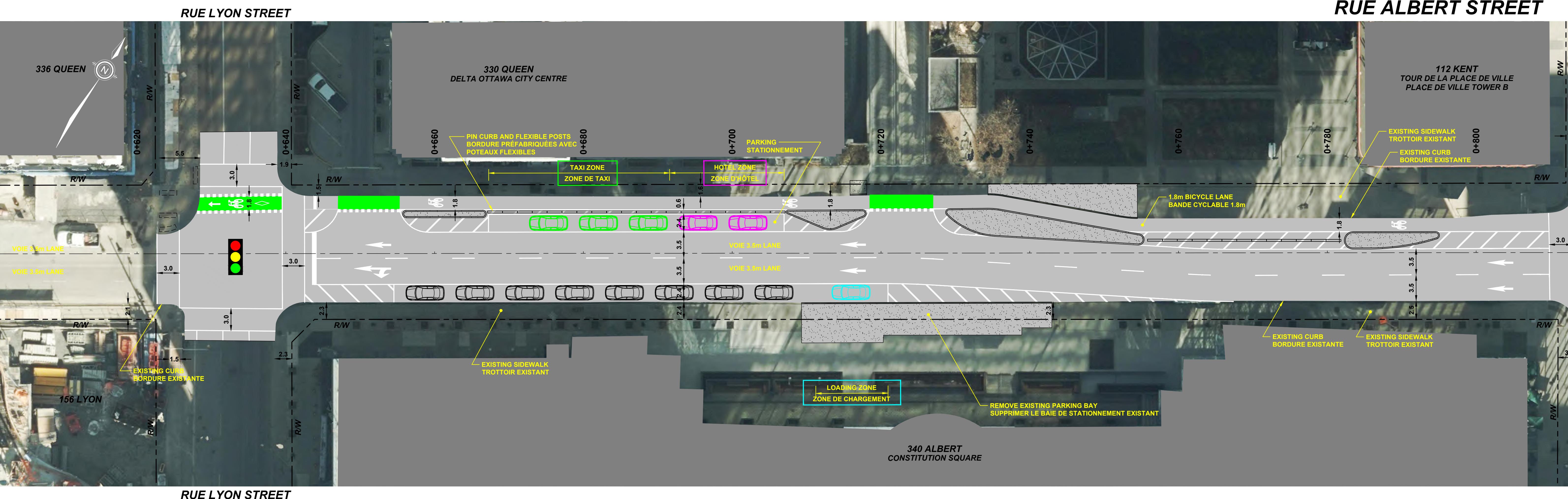
CONCEPTION PROPOSAL



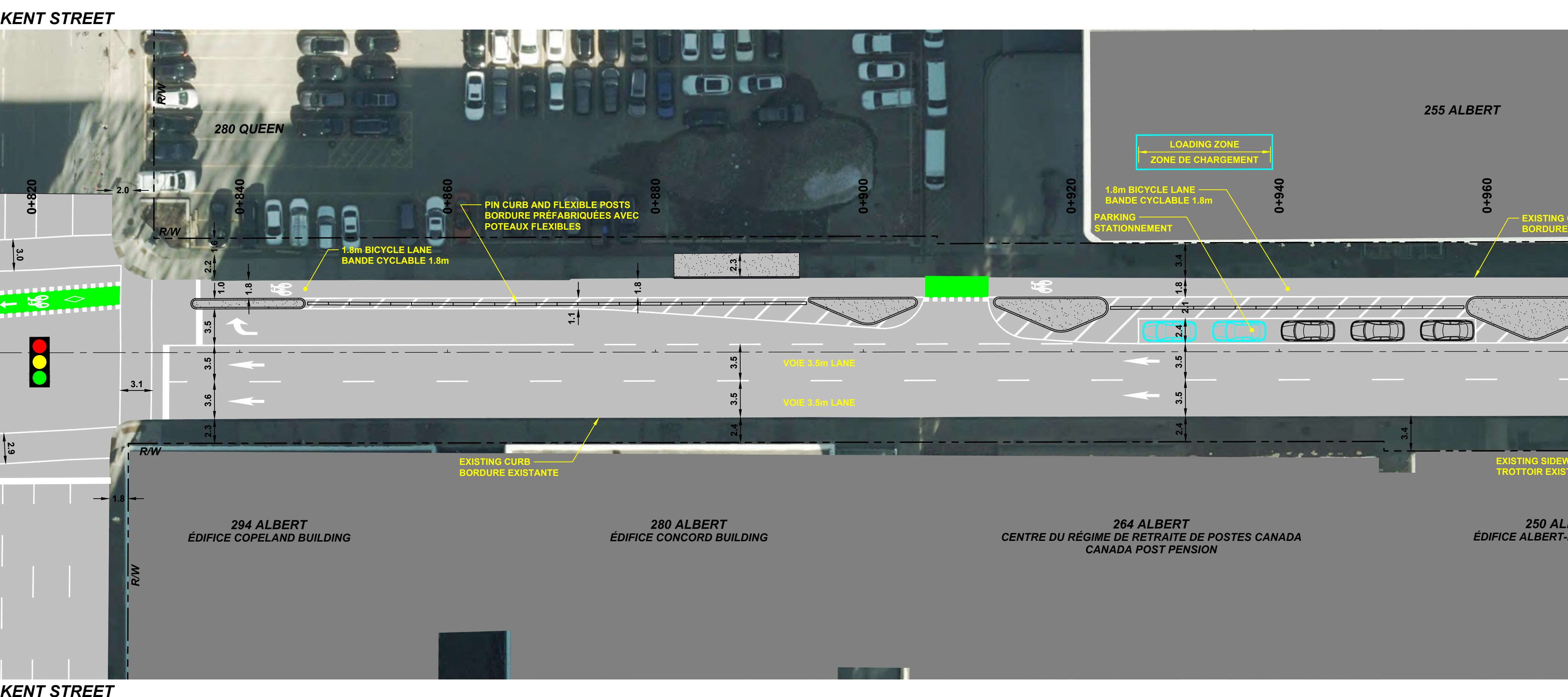
SECTION / COUPE TYPIQUE



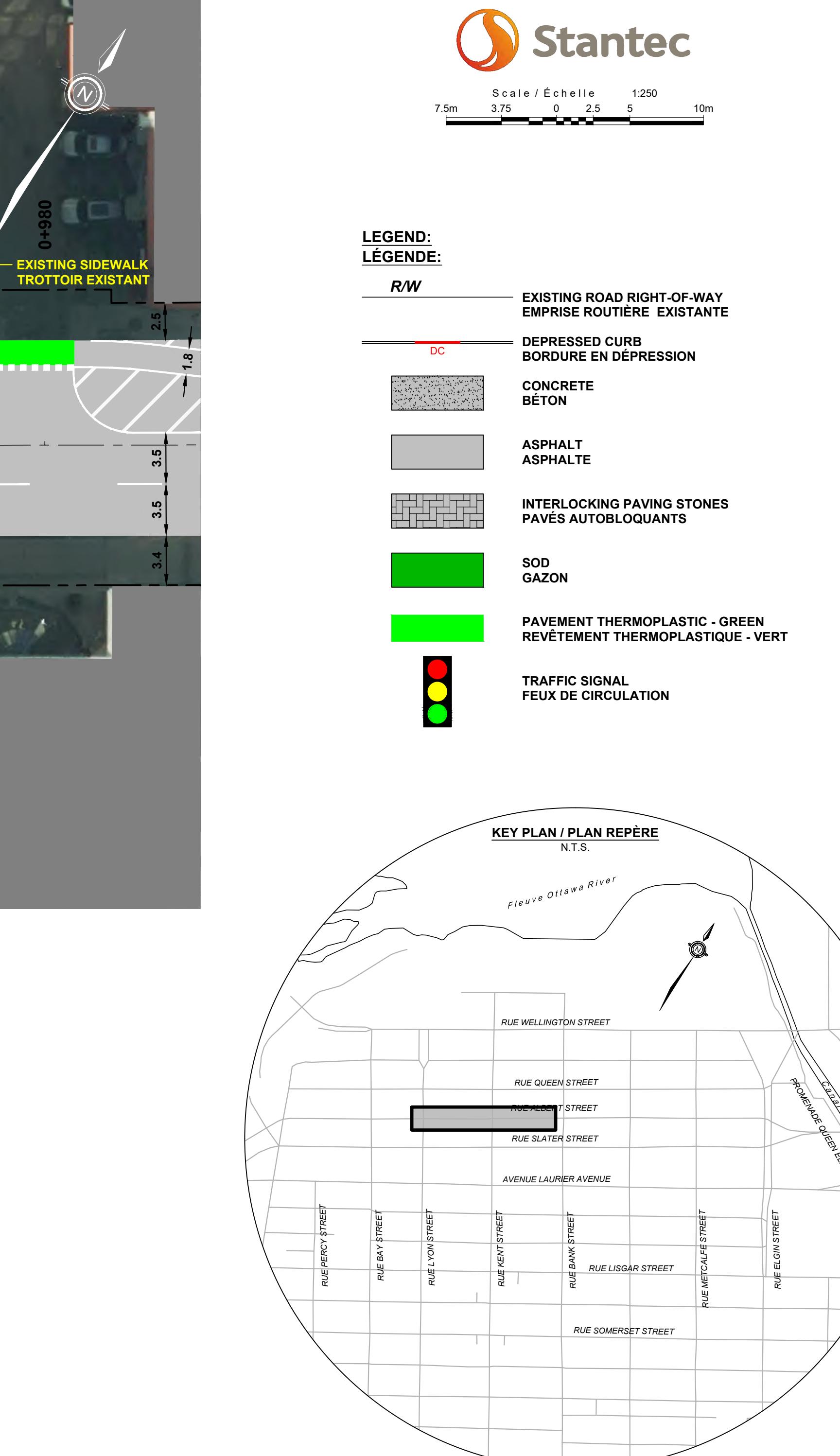
SECTION / COUPE TYPIQUE



QUE LYON STREET



KENT STREET

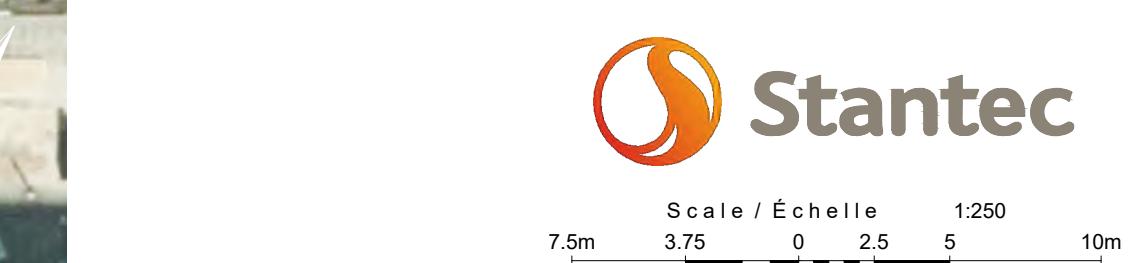


STREET IMPROVEMENTS ALBERT AND SLATER BAY STREET TO ELGIN STREET

PROPOSED DESIGN

AMÉLIORATIONS DES RUES ALBERT ET SLATER DE LA RUE BAY À LA RUE ELGIN

CONCEPTION PROPOSÉE

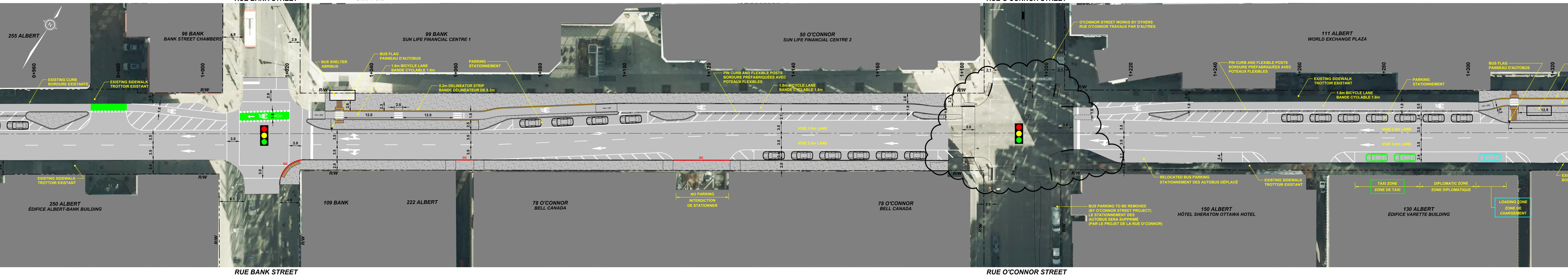


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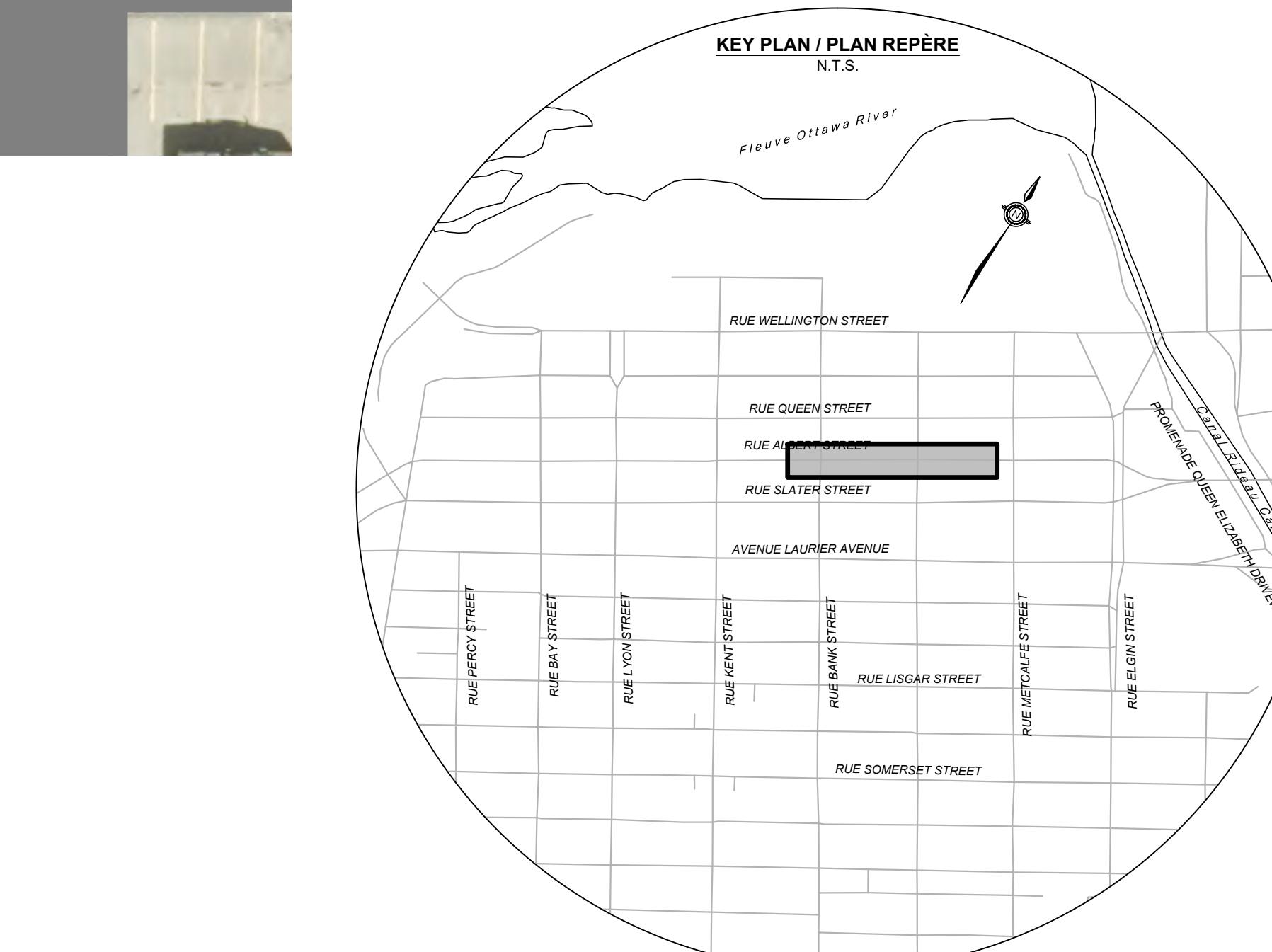
TYPICAL SECTION / COUPE TYPIQUE

STA. 1+330

RUF O'CONNOR STREET



K STREET

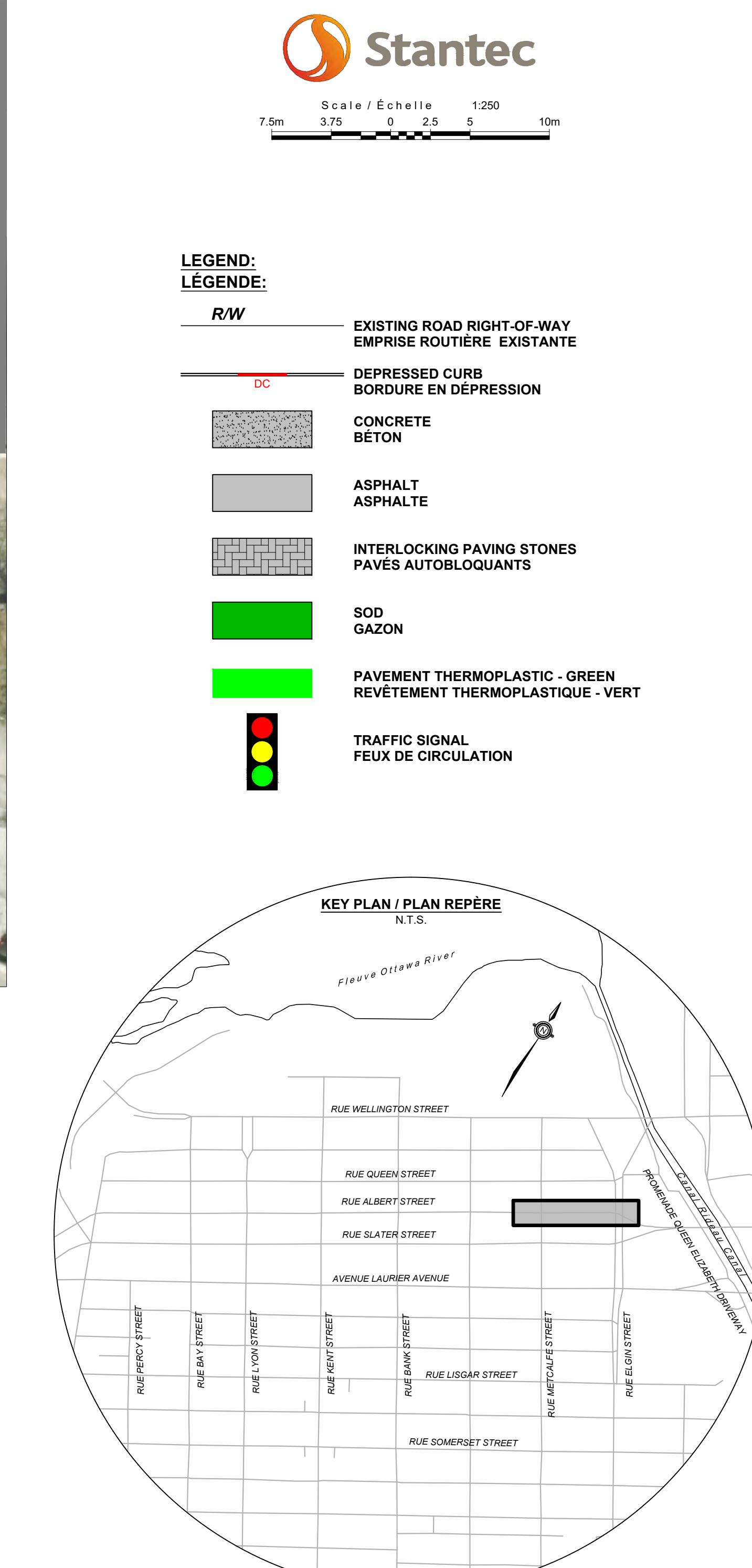
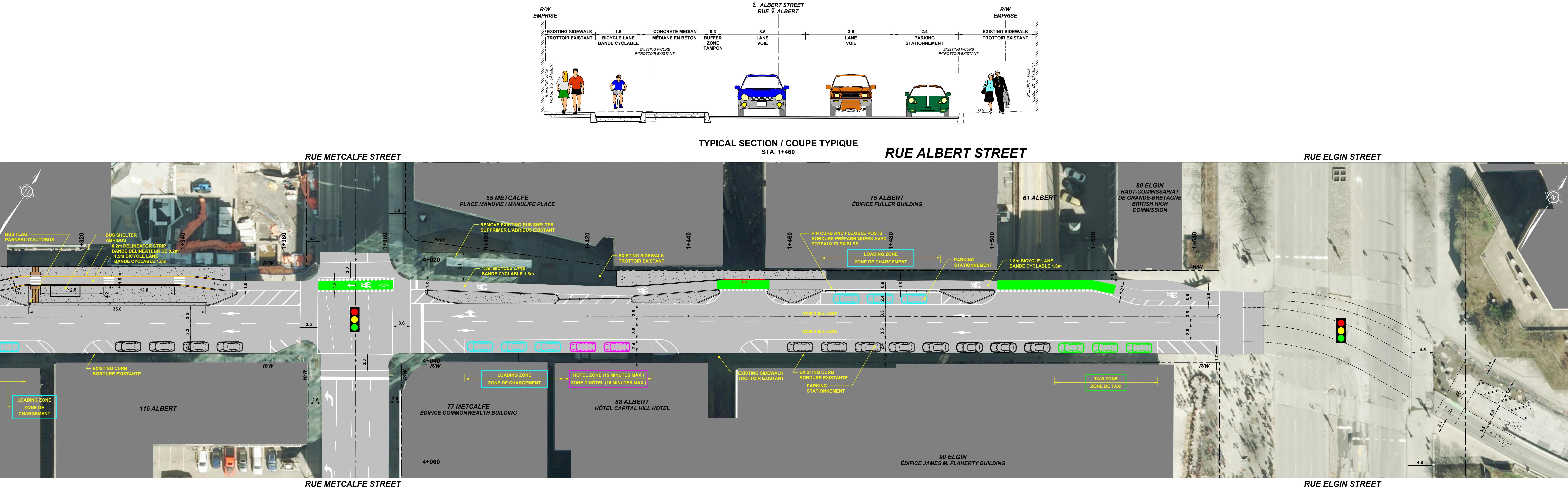


STREET IMPROVEMENTS ALBERT AND SLAGER BAY STREET TO ELGIN STREET

PROPOSED DESIGN

AMÉLIORATIONS DES RUES ALBERT ET SLATER DE LA RUE BAY À LA RUE ELGIN

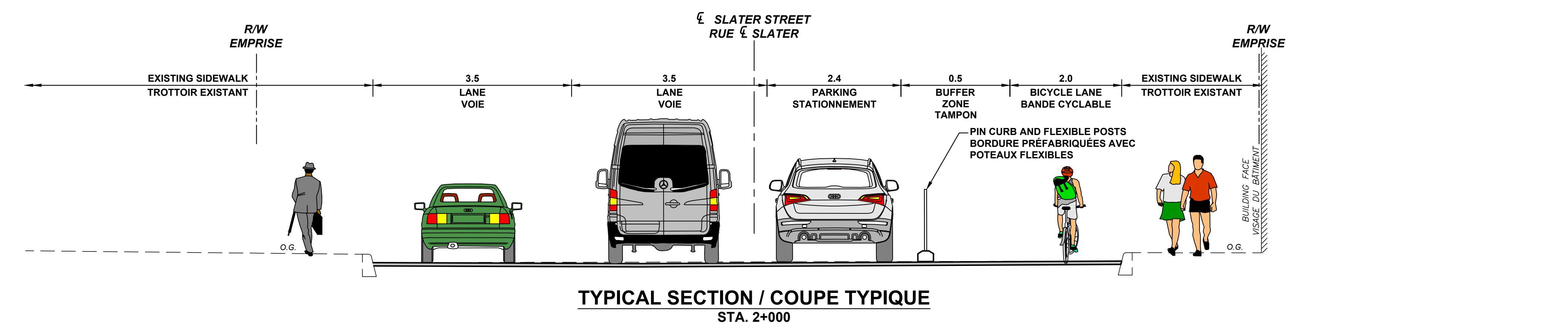
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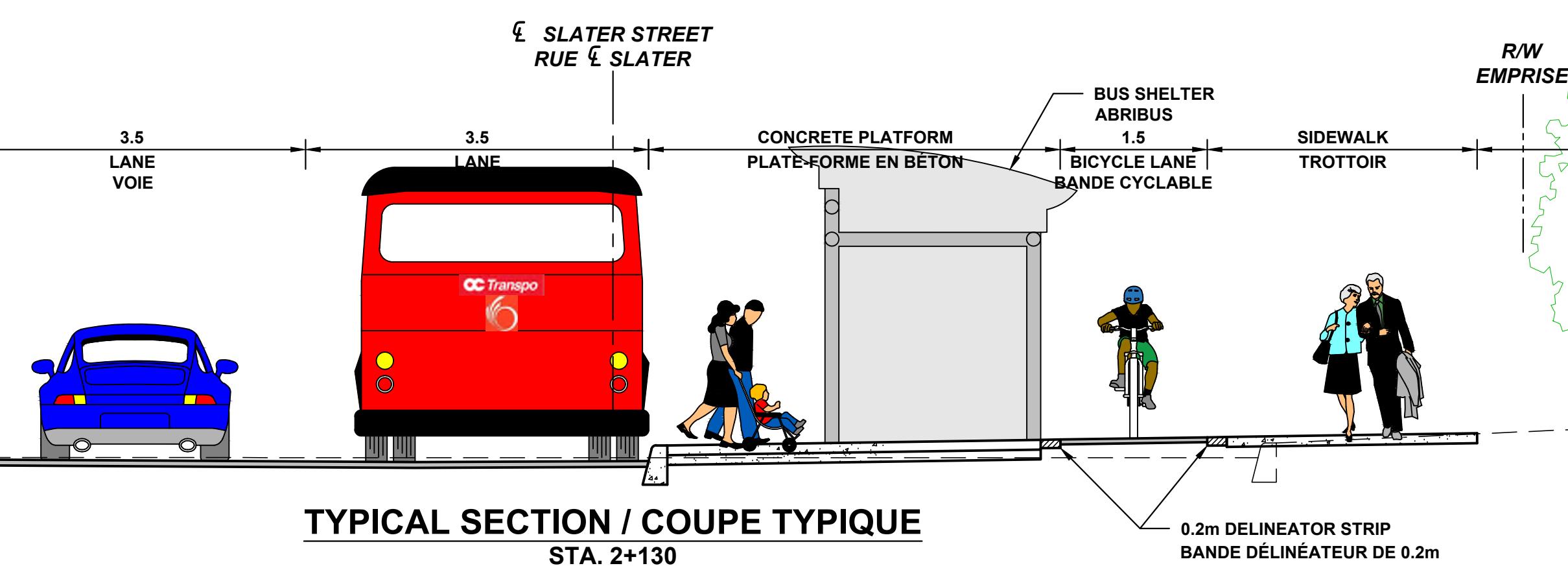
STREET IMPROVEMENTS
ALBERT AND SLATER
BAY STREET TO ELGIN STREET
PROPOSED DESIGN

AMÉLIORATIONS DES RUES
ALBERT ET SLATER
DE LA RUE BAY À LA RUE ELGIN

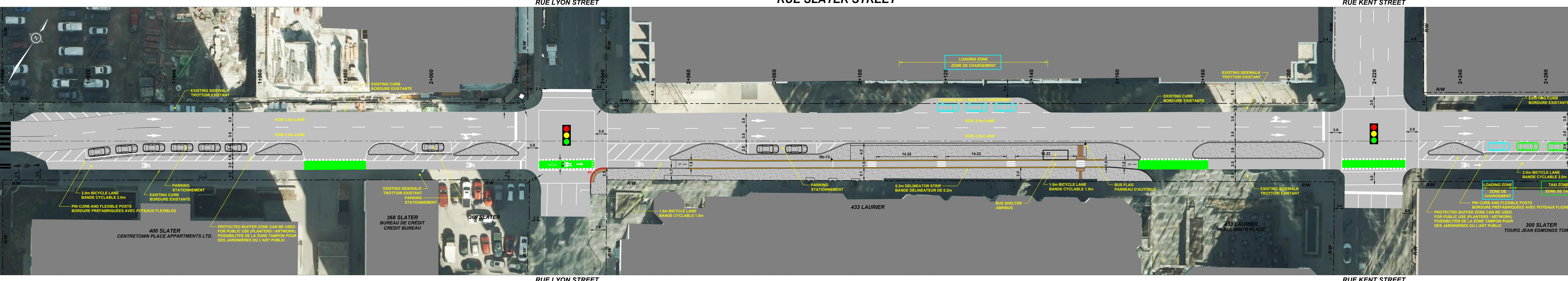
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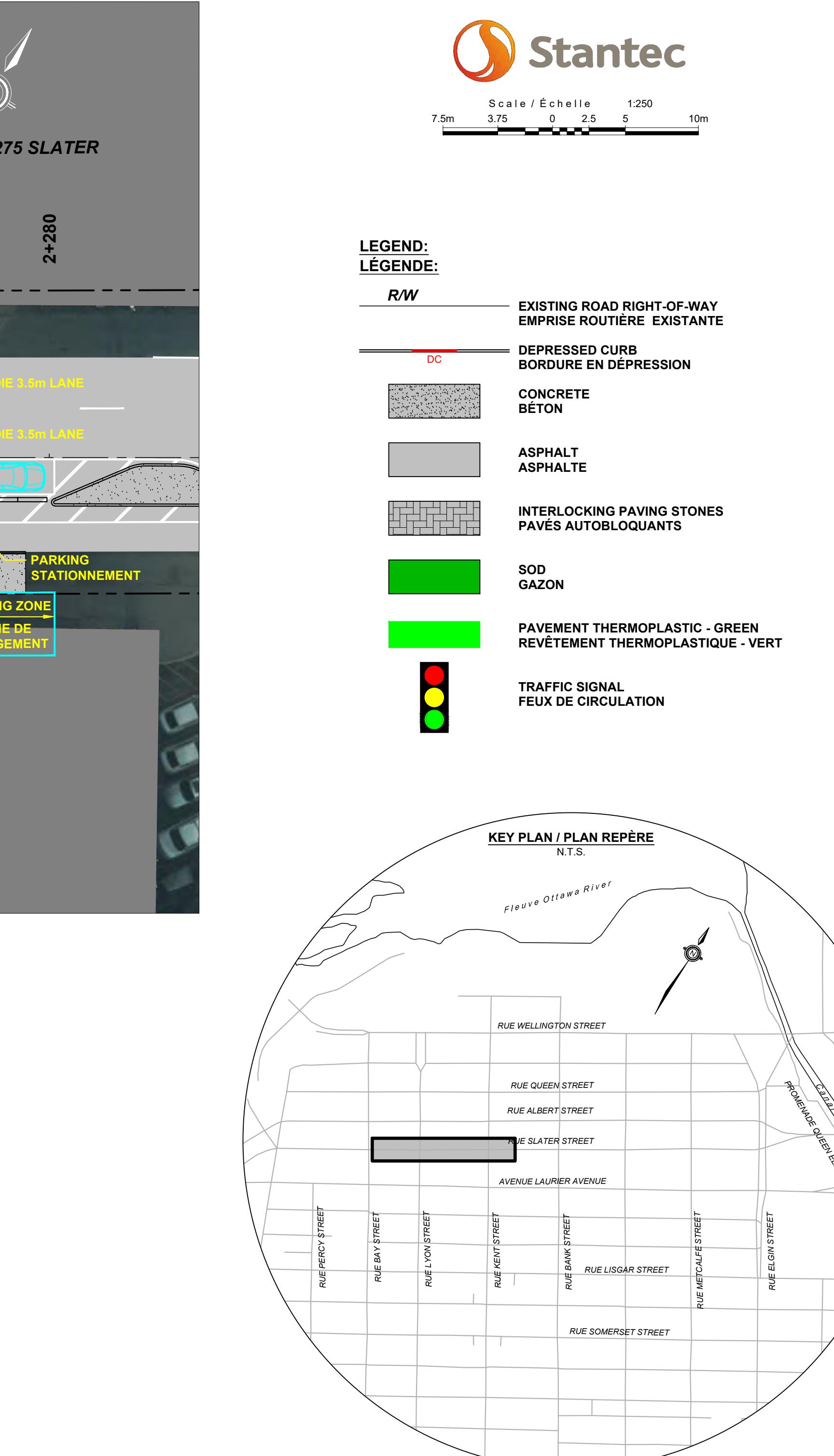
TYPICAL SECTION / COUPE TYPIQUE
STA. 2+000



TYPICAL SECTION / COUPE TYPIQUE
STA. 2+130



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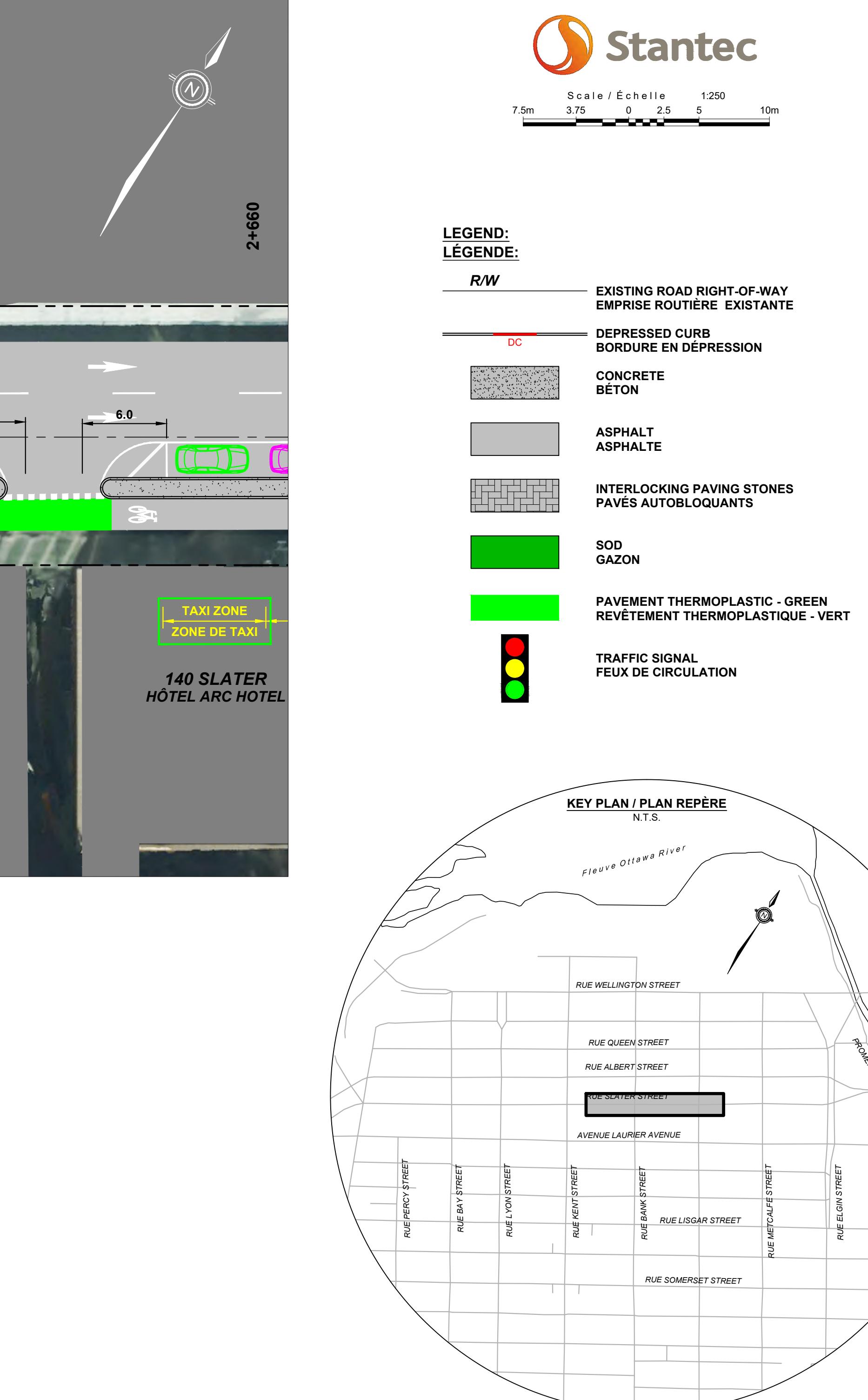
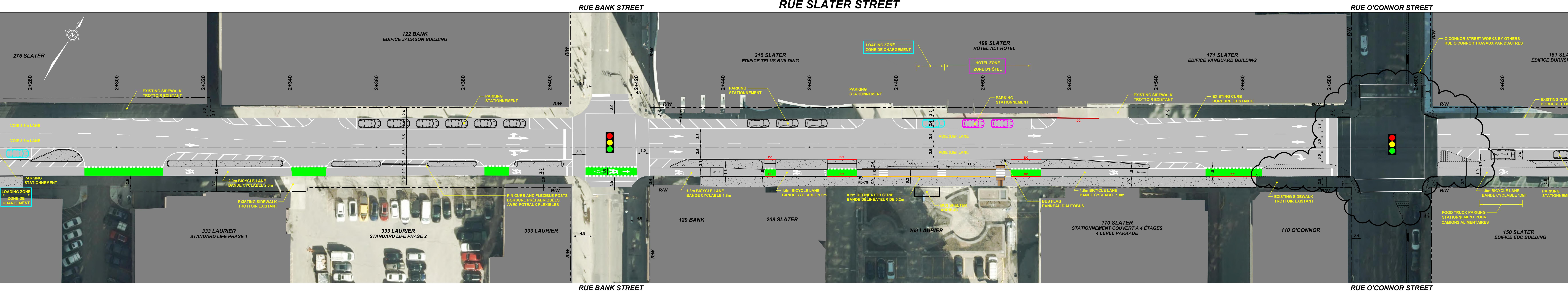
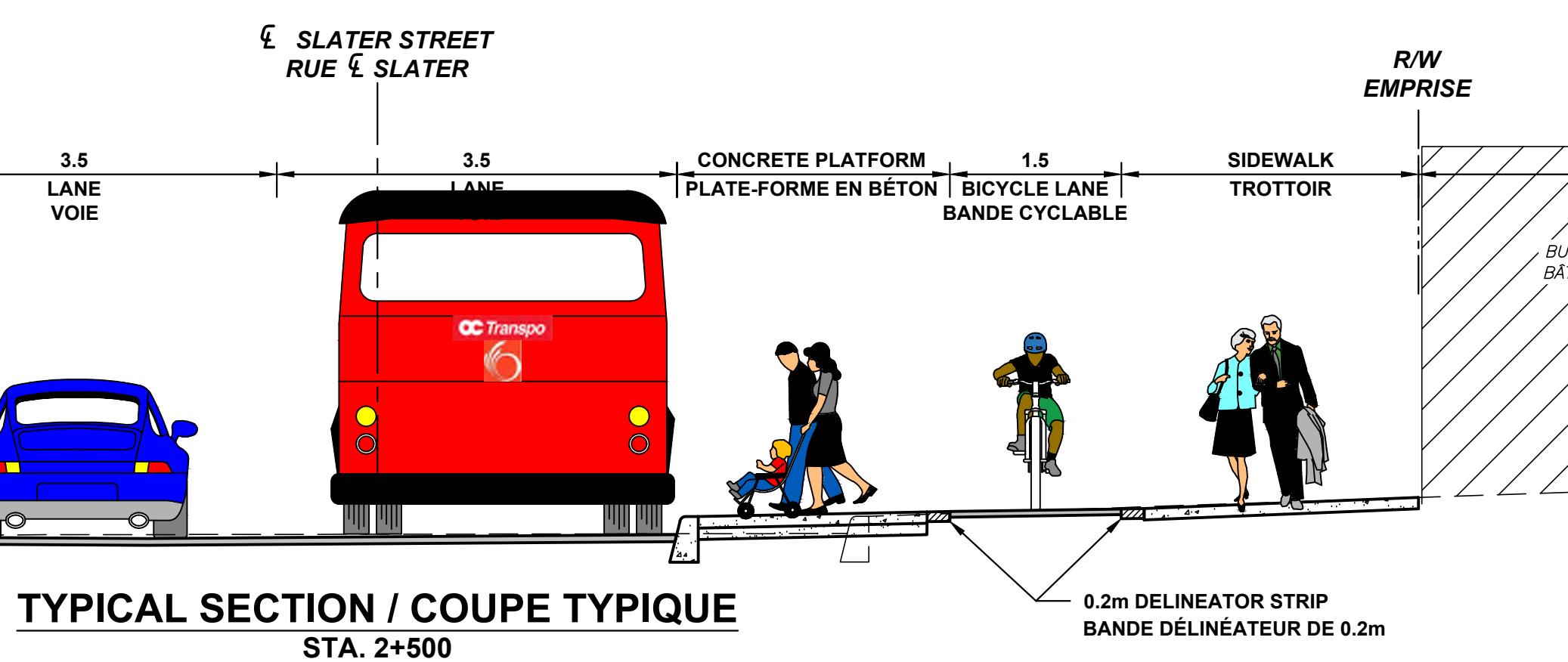
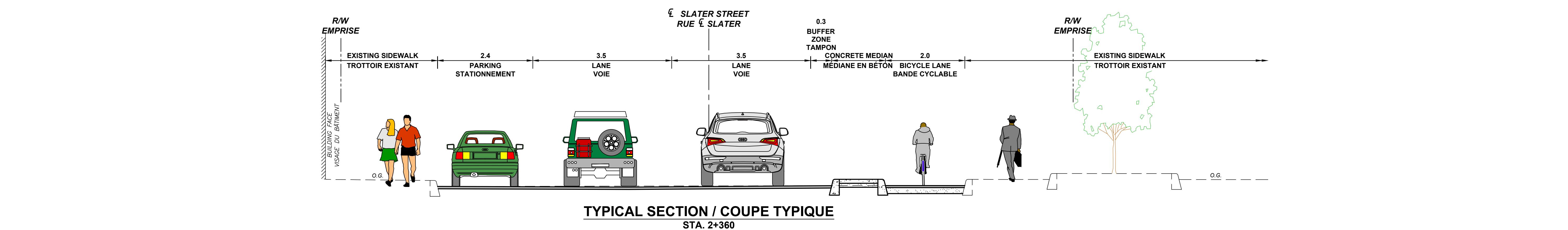


STREET IMPROVEMENTS ALBERT AND SLATER BAY STREET TO EGIN STREET

PROPOSED DE

AMÉLIORATIONS DES RUE ALBERT ET SLATER DE LA RUE BAY À LA RUE ELGIN

CONCEPTION PRO

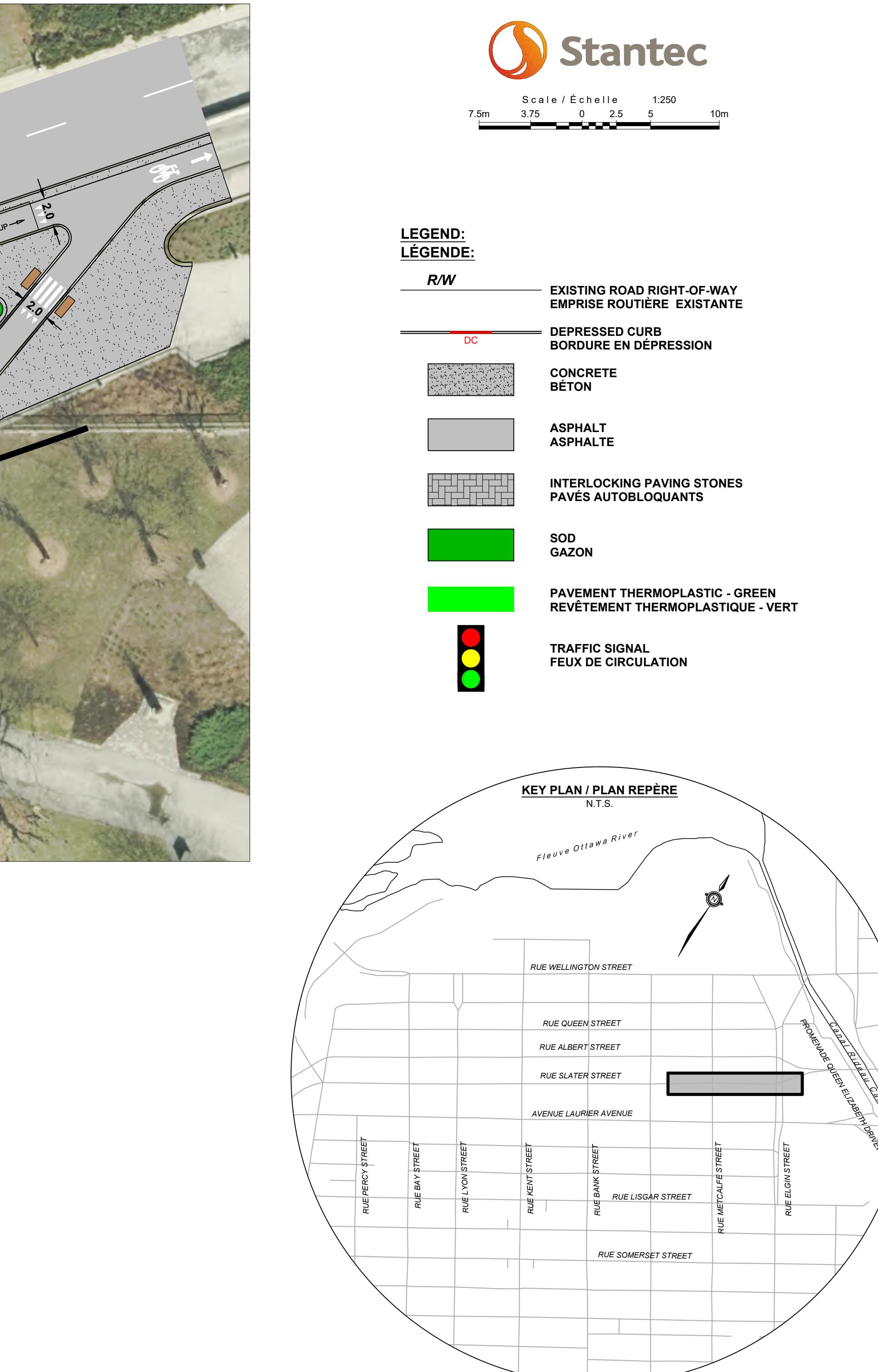
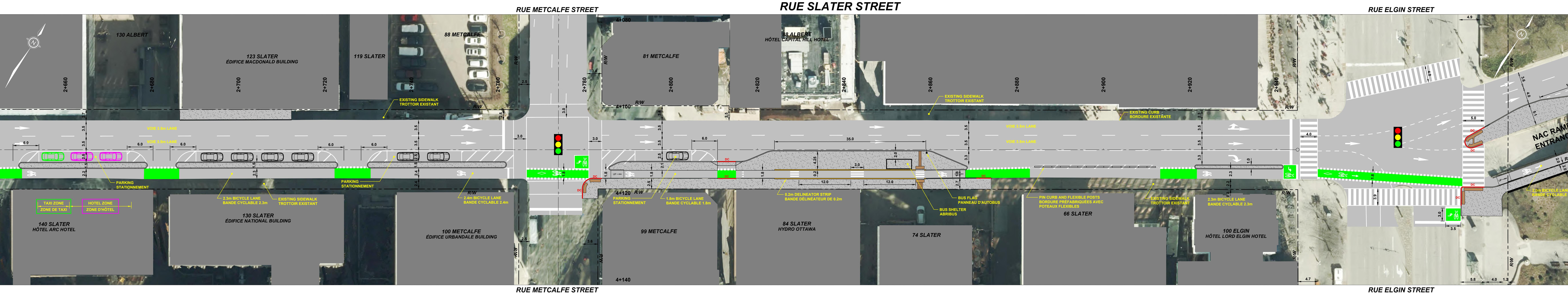
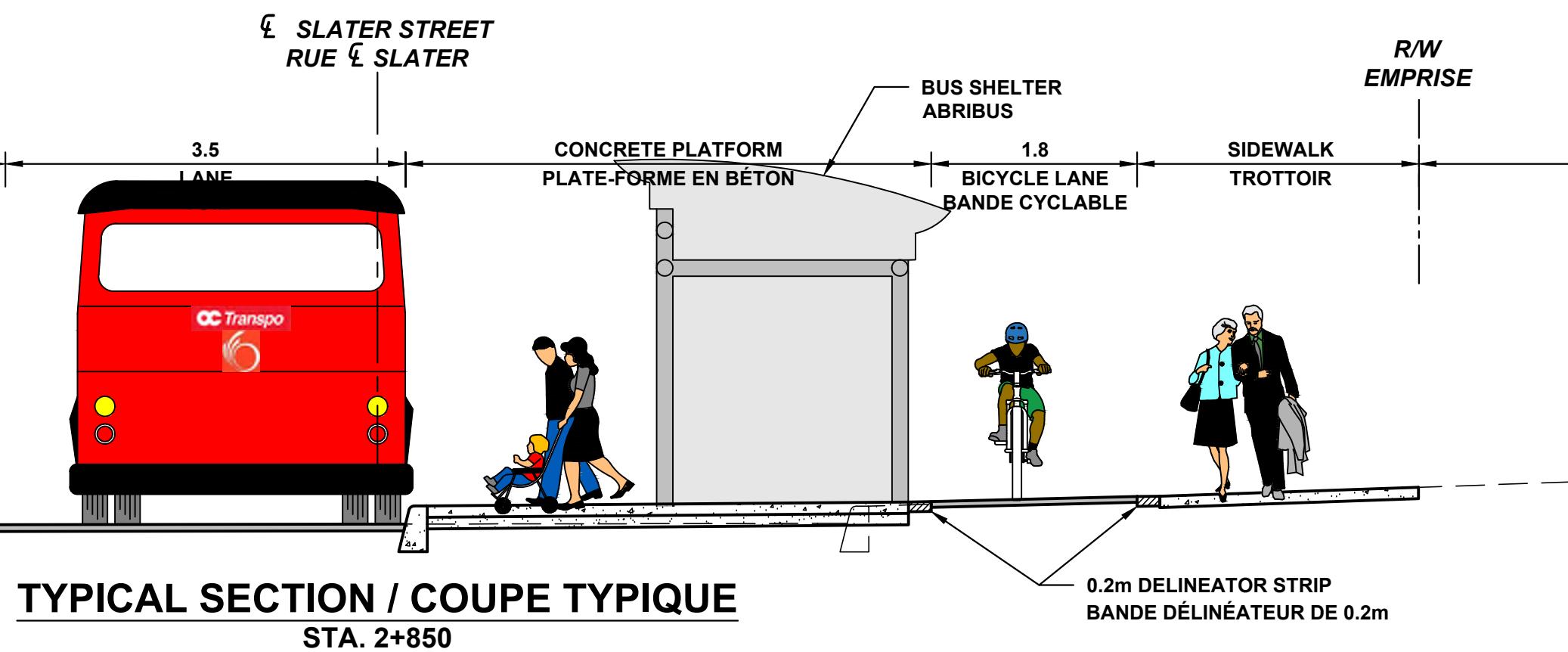
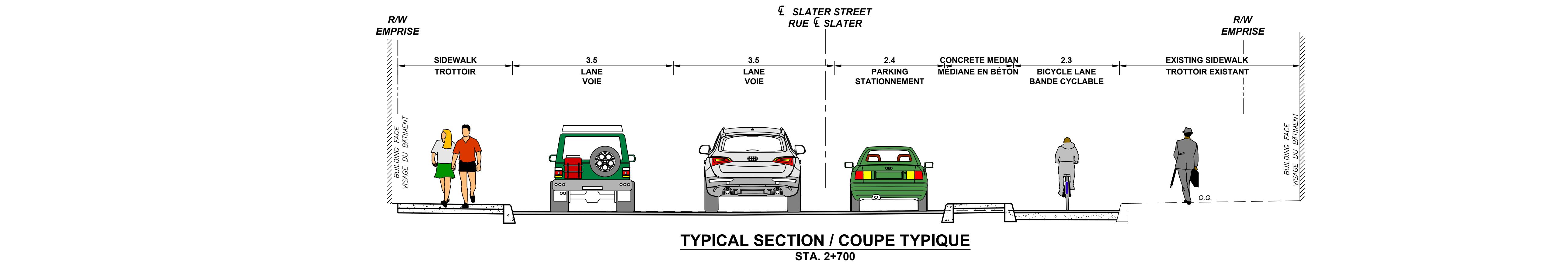


STREET IMPROVEMENTS ALBERT AND SLATER BAY STREET TO ELGIN STREET

PROPOSED DESIGN

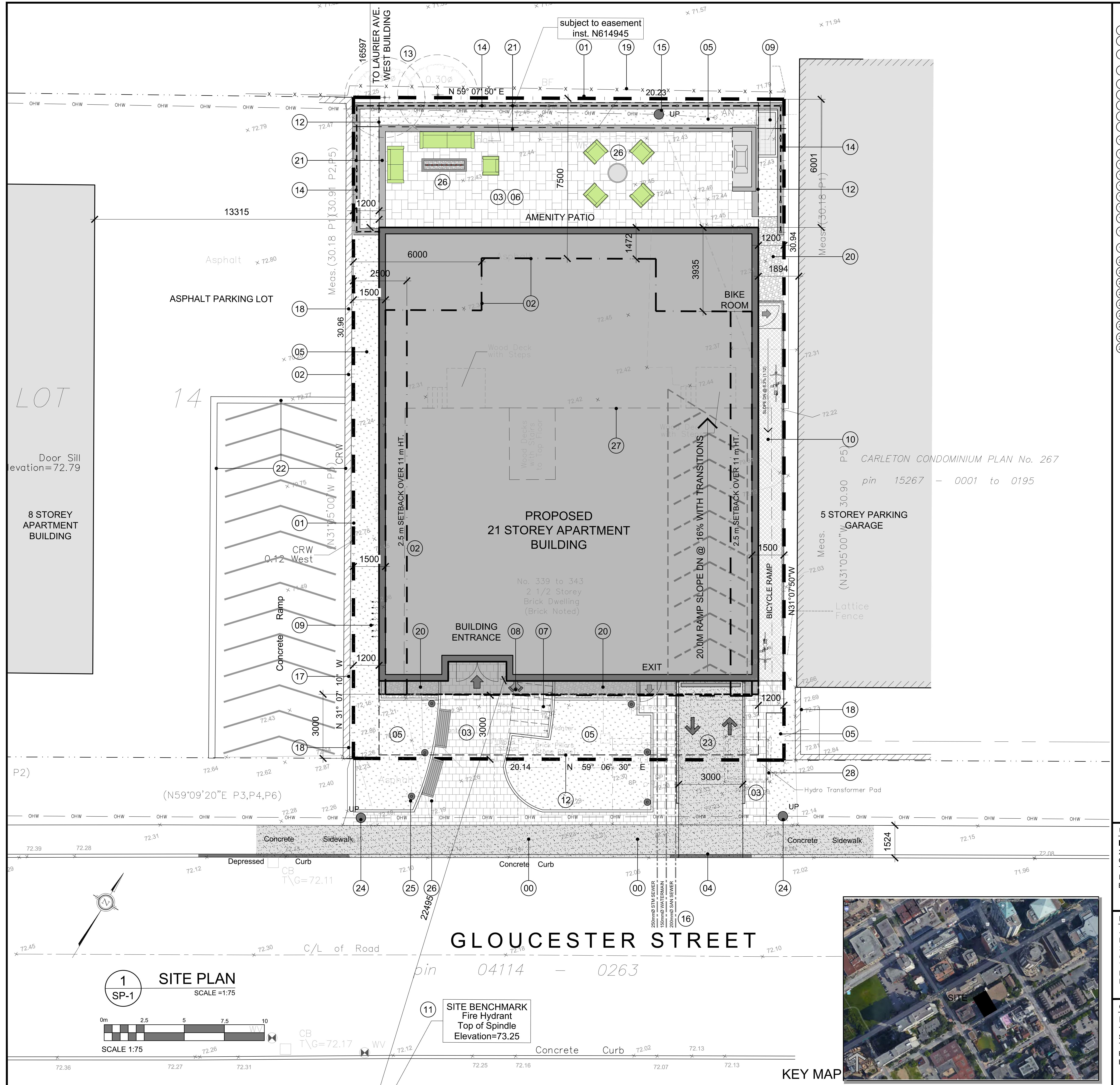
AMÉLIORATIONS DES RUES ALBERT ET SLATER DE LA RUE BAY À LA RUE ELGIN

CONCEPTION PROPOSÉE



APPENDIX H

Relevant Excerpts from Other Transportation Studies



DRAWING NOTES		PROJECT INFORMATION		NOTATION SYMBOLS:	
1	PROPERTY LINE	ZONING BY-LAW 2008-250	R5Q H(64)		IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND TO REPORT ALL ERRORS AND/OR OMISSIONS TO THE ARCHITECT.
2	EXISTING BUILDING SETBACKS	SITE AREA	623.8 sq. m. 6,715 sq. ft.		ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS.
3	HARD SURFACE PAVING, SEE LANDSCAPE PLAN FOR PATTERN AND TYPE	GRADE (GEODEUTIC ELEVATION)	72.40 m.		THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT.
4	DEPRESSED CURB AND SIDEWALK TO CITY OF OTTAWA STANDARD DETAIL	BUILDING HEIGHT	64.0 m.		DO NOT SCALE DRAWINGS.
5	SOFT LANDSCAPING, SEE LANDSCAPE PLAN	AMENITY AREA (6m ²)	696.0 sq. m.		COPYRIGHT RESERVED.
6	PRIVATE PATIOS OVER UNDERGROUND PARKING LEVEL	LANDSCAPE AREA	30%		
7	BICYCLE PARKING SPACES	FRONT YARD SETBACK	3.0 m		
8	SIAMESE CONNECTION	INTERIOR SIDE YARD SETBACK UNDER 11m HT.	1.5 m		
9	AIR INTAKE / EXHAUST GRILL	INTERIOR SIDE YARD SETBACK OVER 11m HT.	2.5 m		
10	1100mm WIDE ACCESS WALK TO BICYCLE ROOM, HANDRAILS AS REQUIRED	INTERIOR SIDE YARD SETBACK OVER 21 m BACK	6.0 m		
11	EXISTING FIRE HYDRANT	REAR YARD SETBACK	7.5 m		
12	OUTLINE OF UNDERGROUND PARKING LEVELS				
13	EXISTING TREE TO BE REMOVED				
14	1800mm HT. PRIVACY SCREEN				
15	RELOCATE EXISTING UTILITY POLE AND GUIDE CABLES				
16	PROPOSED LOCATION OF UNDERGROUND UTILITIES				
17	GAS REGULATOR AND OR METERS				
18	EXISTING PRECAST CONCRETE UNIT WALL ON ADJACENT PROPERTY				
19	EXISTING ±1800mm HT. BOARD FENCE ON ADJACENT PROPERTY				
20	WASHED RIVER STONE SURFACE				
21	LOW LANDSCAPE WALL				
22	EXISTING RAMP AND RETAINING WALL TO U/G PARKING				
23	ENTRY DRIVEWAY TO U/G PARKING GARAGE				
24	EXISTING UTILITY POLE				
25	BOLLARD LIGHTING				
26	SITE / PATIO FURNITURE				
27	EXISTING 2½ STOREY BUILDING TO BE REMOVED				
28	EXISTING HYDRO TRANSFORMER TO BE REMOVED				
SITE PLAN SYMBOLS		PROJECT STATISTICS		NOTATION SYMBOLS:	
	CONCRETE UNIT PAVERS SURFACE	BUILDING HEIGHT	64.0 m.		INDICATES DRAWING NOTES, LISTED ON EACH SHEET.
	PROPOSED CONCRETE SURFACE	FRONT YARD SETBACK	3.0 m		INDICATES ASSEMBLIE TYPE; REFER TO TYPICAL ASSEMBLIES SCHEDUAL.
	EXISTING CONCRETE CITY SIDEWALK	INTERIOR SIDE YARD SETBACK	1.2 m		INDICATES WINDOW TYPE; REFER TO WINDOW ELEVATIONS AND DETAILS ON A900 SERIES.
	SOFT LANDSCAPING	REAR YARD SETBACK	6.0 m		INDICATES DOOR TYPE; REFER TO DOOR SCHEDULE AND DETAILS ON A900 SERIES.
	BIKE RACK	AMENITY SPACE			DETAIL NUMBER
	TWO WAY VEHICLE CIRCULATION	EXTERIOR AT GRADE =	174.3 sq. m.		TITLE
	MAIN ENTRANCE	1st FLOOR COMMUNAL INTERIOR =	80.8 sq. m.		SCALE
	UNIT BALCONY DOOR / FIRE EXIT	6th FLOOR EXTERIOR PATIO =	45.6 sq. m.		DETAIL REFERENCE PAGE
	PROPERTY LINE	6th FLOOR COMMUNAL INTERIOR =	155.2 sq. m.		DETAIL CROSS REFERENCE PAGE
	ZONING SETBACKS	22nd LEVEL EXTERIOR PATIO =	114.2 sq. m.		
		ROOF LEVEL EXTERIOR PATIO =	144.5 sq. m.		
		(ALL COMMUNAL) TOTAL =	714.6 sq. m.		
URBAN PLANNER		GROSS BUILDING FLOOR AREA (OTTAWA ZONING DEFINITION)		NOTATION SYMBOLS:	
FoTenn Consultants Inc. 223 McLeod Street Ottawa, ON Canada, K2P 0Z8 Tel.: (613) 730-5709 Fax: (613) 730-1136 E-Mail: carrara@fotenn.com		BELOW GRADE LEVELS (3)	0.0 sq. m. 0.0 sq. ft.		INDICATES DRAWING NOTES, LISTED ON EACH SHEET.
		GROUND FLOOR	0.0 sq. m. 0.0 sq. ft.		INDICATES ASSEMBLIE TYPE; REFER TO TYPICAL ASSEMBLIES SCHEDUAL.
		2nd TO 5th FLOOR	4 x 291.3 sq. m. 4 x 3,136 sq. ft.		INDICATES WINDOW TYPE; REFER TO WINDOW ELEVATIONS AND DETAILS ON A900 SERIES.
		6th FLOOR	1,165.4 sq. m. 12,544 sq. ft.		INDICATES DOOR TYPE; REFER TO DOOR SCHEDULE AND DETAILS ON A900 SERIES.
		7th TO 21st FLOOR	15 x 291.3 sq. m. 15 x 3,136 sq. ft.		DETAIL NUMBER
		MECHANICAL LEVEL	151.0 sq. m. 1,625 sq. ft.		TITLE
					SCALE
					DETAIL REFERENCE PAGE
					DETAIL CROSS REFERENCE PAGE
LANDSCAPE ARCHITECT		TOTAL AREA ABOVE GRADE	5,686.6 sq. m. 61,210 sq. ft.		
James B. Lennox & Associates Inc. Landscape Architects 3332 Carling Ave. Ottawa, Ontario K2H 5A8 Tel: 613-722-5168 Fax: 1-866-343-3942 Email: JL@jbla.ca		UNIT STATISTICS		NOTATION SYMBOLS:	
		1 BEDROOM UNIT	97		INDICATES DRAWING NOTES, LISTED ON EACH SHEET.
		2 BEDROOM UNIT	19		INDICATES ASSEMBLIE TYPE; REFER TO TYPICAL ASSEMBLIES SCHEDUAL.
		TOTAL	116		INDICATES WINDOW TYPE; REFER TO WINDOW ELEVATIONS AND DETAILS ON A900 SERIES.
CIVIL ENGINEER		CAR PARKING		NOTATION SYMBOLS:	
David Schaeffer Engineering Ltd. 120 Iber Road, Unit 203 Stittsville, ON K2S 1E9 Tel: (613) 836-0856 Fax: (613) 836-7183 Email: rfreel@DSEL.ca		REQUIRED		ISSUED FOR SPC & ZONING AMENDMENT	
		RESIDENCE	- AREA Z - NON REQUIRED	July 16, 19	
		VISITOR	- 0.1 PER UNIT (AFTER 12 UNITS)	ISSUED FOR DESIGN CONCEPT	
		TOTAL	10	Feb.15, 18	
PROPERTY OWNER		PROVIDED		No. DESCRIPTION DATE	
UPSCALE HOMES 324 Donald Street Ottawa, ON K1K 1M5 E-Mail: ISSA@ihamzo.com		RESIDENCE	- 0.017 PER UNIT (116 UNITS)	REVISIONS:	
		VISITOR	- 0.1 PER UNIT (104 UNITS)	ARCHITECT SEAL:	
		TOTAL	12	NORTH ARROW:	
LEGAL DESCRIPTION					
SURVEYOR		SEAL DATE: STAMP DATE			
SURVEYOR'S REAL PROPERTY REPORT PART 1 Plan of LOT 15 (North Gloucester Street) REGISTERED PLAN 2996 CITY OF OTTAWA Surveyed by Annis, O'Sullivan, Vollebekk Ltd.		CLIENT:			
341 GLOUCESTER AVENUE				324 Donald Street, Ottawa, ON, K1K 1M5	
ARCHITECT:		PROJECT TITLE:		ARCHITECT:	
RODERICK LAHEY ARCHITECT INC		341 GLOUCESTER AVENUE		RODERICK LAHEY ARCHITECT INC	
56 Beech Street, Ottawa, Ontario K1S 3J6 t.613.724.9932 f.613.724.1209 www.rodericklahey.ca		SHEET TITLE:		56 Beech Street, Ottawa, Ontario K1S 3J6 t.613.724.9932 f.613.724.1209 www.rodericklahey.ca	
SHEET TITLE:		PROJECT TITLE:		PROJECT TITLE:	
SITE PLAN		341 GLOUCESTER AVENUE		341 GLOUCESTER AVENUE	
DRAWN:		OTAWA		OTAWA	
CHECKED:		ONTARIO		ONTARIO	
RV		SHEET TITLE:		SHEET TITLE:	
SCALE:		341 GLOUCESTER AVENUE		341 GLOUCESTER AVENUE	
1:75		SHEET No.		SHEET No.	
PROJECT No.		SP-1		SP-1	
1735		1735		1735	

The MMLoS analysis for the Lyon/Gloucester signalized study area intersection is summarized in Table 9. The existing detailed MMLoS analysis is provided as Appendix E.

Table 9: MMLoS – Signalized Lyon/Gloucester Intersection, Existing Conditions

Intersection	Level of Service									
	Pedestrian (PLoS)		Bicycle (BLoS)		Transit (TLoS)		Truck (TkLoS)		Vehicle (LoS)	
	PLoS	Target	BLoS	Target	TLoS	Target	TkLoS	Target	LoS	Target
Lyon/Gloucester	C	A	B	C	E	No target	E	No target	A	E

Given the development's location within close proximity to existing and future rapid transit and its location adjacent to a cross-town bikeway, the target levels of service for pedestrians and cyclists are high ('A'). As there is no transit along Lyon Street and Gloucester Street within the study area, there is no transit level of service target. As Gloucester Street and Lyon Street are not part of the truck route there is no truck level of service target. As shown in Table 9, the bicycle and vehicle level of service targets are met.

With regard to pedestrians, the PLoS is not met due to the pedestrian delay on the north and south crosswalks. Should the effective walk time be increased for these crossings, the PLoS will increase to a "B". This could be completed by the City when the signal timing is updated at this location.

4.9.2. TOTAL PROJECTED 2021 CONDITIONS – FULL BUILD-OUT

There are only approximately 12 two-way vehicle trips projected in both peak hours which equates to approximately 1 vehicle every 5 minutes. Given the low projected number of vehicle trips projected to be generated by the proposed development, the future roadway network and intersection impact is considered negligible. As such, no further traffic assessment is included herein.

Multi-Modal Level of Service –Projected Build-Out Conditions

As there are no planned changes to the Lyon/Gladstone intersection, the projected MMLoS is expected to be the same as the existing MMLoS in Section 4.9.1.

4.9.3. TOTAL PROJECTED 2026 CONDITIONS – FULL BUILD-OUT + 5 YEARS

There are only approximately 12 two-way vehicle trips projected in both peak hours which equates to approximately 1 vehicle every 5 minutes. Given the low projected number of vehicle trips projected to be generated by the proposed development, the future roadway network and intersection impact is considered negligible. As such, no further traffic assessment is included herein.

Multi-Modal Level of Service –Projected Build-Out Conditions + 5 Years


As there are no planned changes to the Lyon/Gladstone intersection, the projected MMLoS is expected to be the same as the existing MMLoS in Section 4.9.1.

5. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis herein, the following conclusions are provided:

Proposed Site

- The development will include 116 apartment units with 2 proposed underground residential parking spaces and 10 visitor parking spaces;



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ISSUED		
No.	Date	Description
0	2008-09-29	ISSUED FOR CO 60%
	2008-09-29	ISSUED FOR CO 60%
2	2008-10-06	ISSUED FOR CO 60% (ADDENDUM 1)
3	2008-11-16	RE-ISSUED FOR SITE PLAN CONTROL
4	2008-12-03	ISSUED FOR CO 80%
5	2009-03-26	ISSUED FOR REVISION
6	2009-03-19	ISSUED FOR REVIEW
7	2009-03-23	ISSUED FOR BUILDING PERMIT
8	2009-04-09	ISSUED FOR CONSULTANT COORDINATION
9	2009-04-09	ISSUED FOR CONSTRUCTION
10	2009-05-11	ISSUED FOR BUILDING PERMIT UPDATE
11	2009-06-23	ISSUED FOR ADDENDUM NO. 4
12	2009-06-18	ISSUED FOR ADDENDUM NO. 17
13	2009-07-01	ISSUED FOR CONSTRUCTION
14	2009-12-09	ISSUED FOR S001 RT
15	2009-12-09	ISSUED FOR CONSTRUCTION UPDATE

Diamond Schmitt Architects
KWC Architects Inc.
Architects, Engineers, PLPAC Joint Facility
384 Adelaide Street West, Suite 100, Toronto, Canada M5V1R7
Tel: 416 862 8800 Fax: 416 862 5508 info@dsai.ca www.dsai.ca

**OTTAWA PUBLIC LIBRARY -
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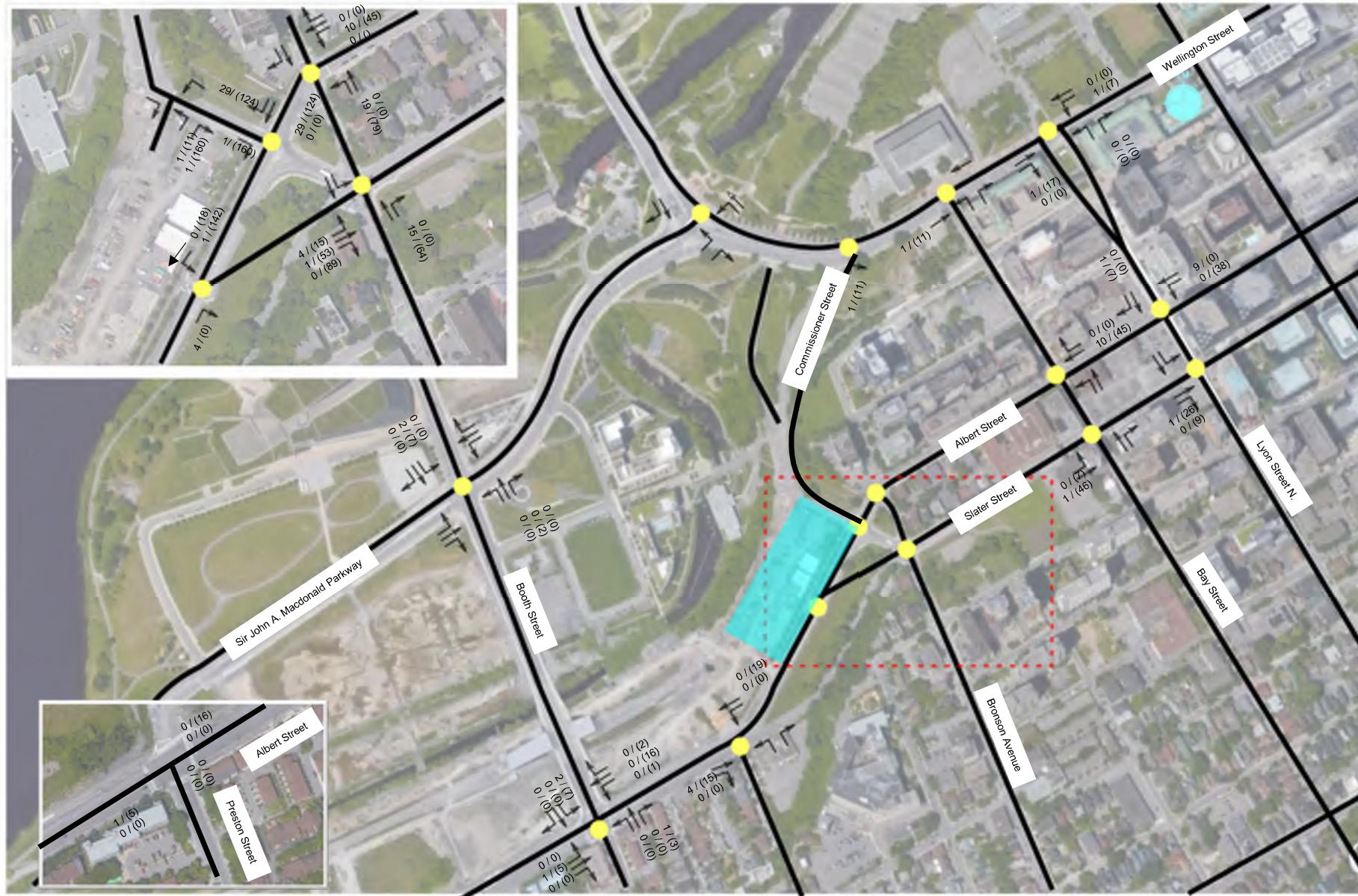
SITE PLAN

Scale:
Project No: 1855
Date:

1:200

07-12-20-077

A010 DWG # 18176



Ottawa Public
Library – Library
Archives Canada
Joint Facility

Transportation Impact Assessment

Figure 3.1

Site Generated Vehicle Trips

WSP Canada Group Ltd.
Suite 300
2611 Queensview Drive
Ottawa, ON
K2B 8K2

www.wsp.com

Figure 12: Projected Site-Generated Traffic – Phase 1

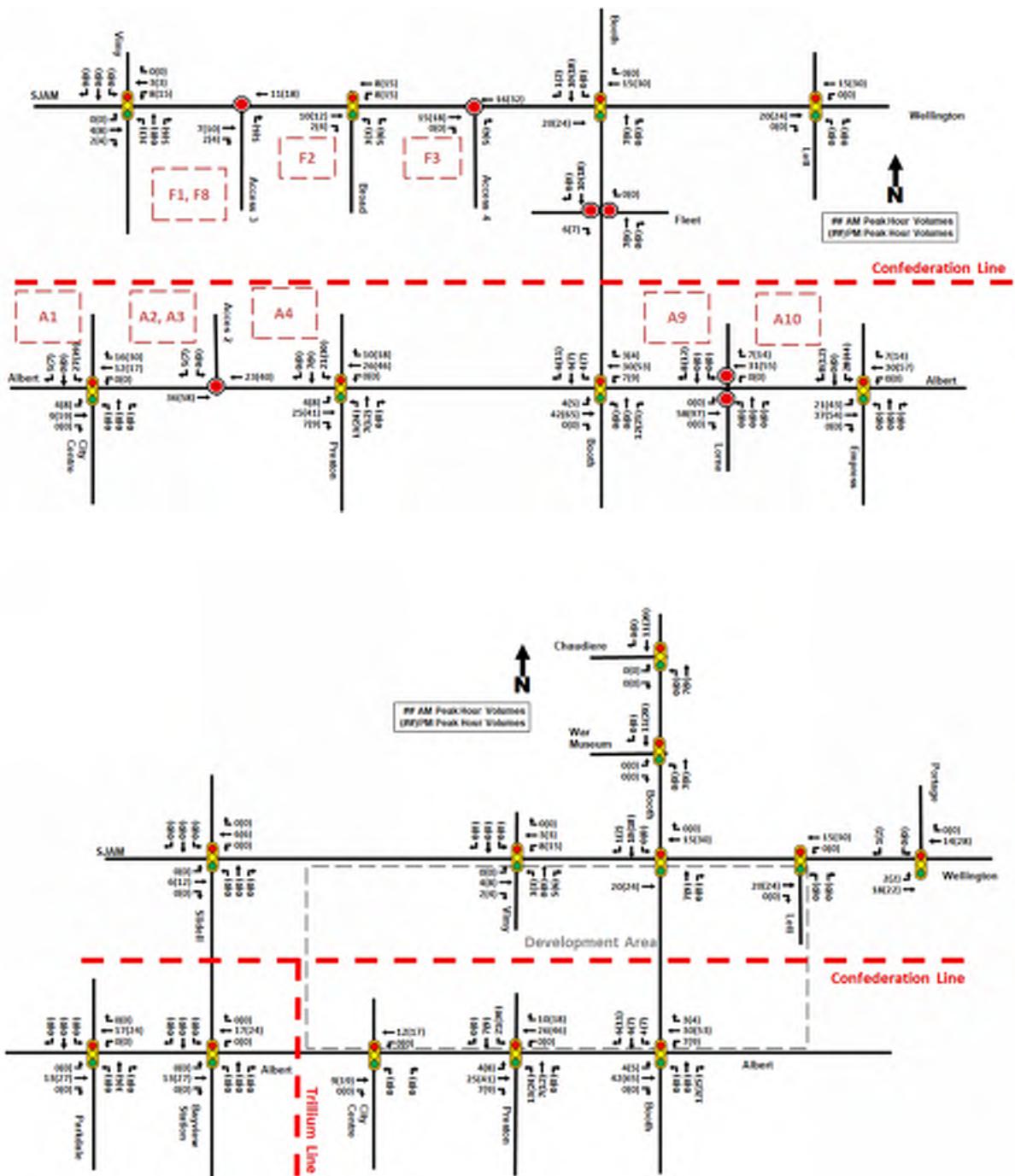


Figure 13: Projected Site-Generated Traffic – Phase 2

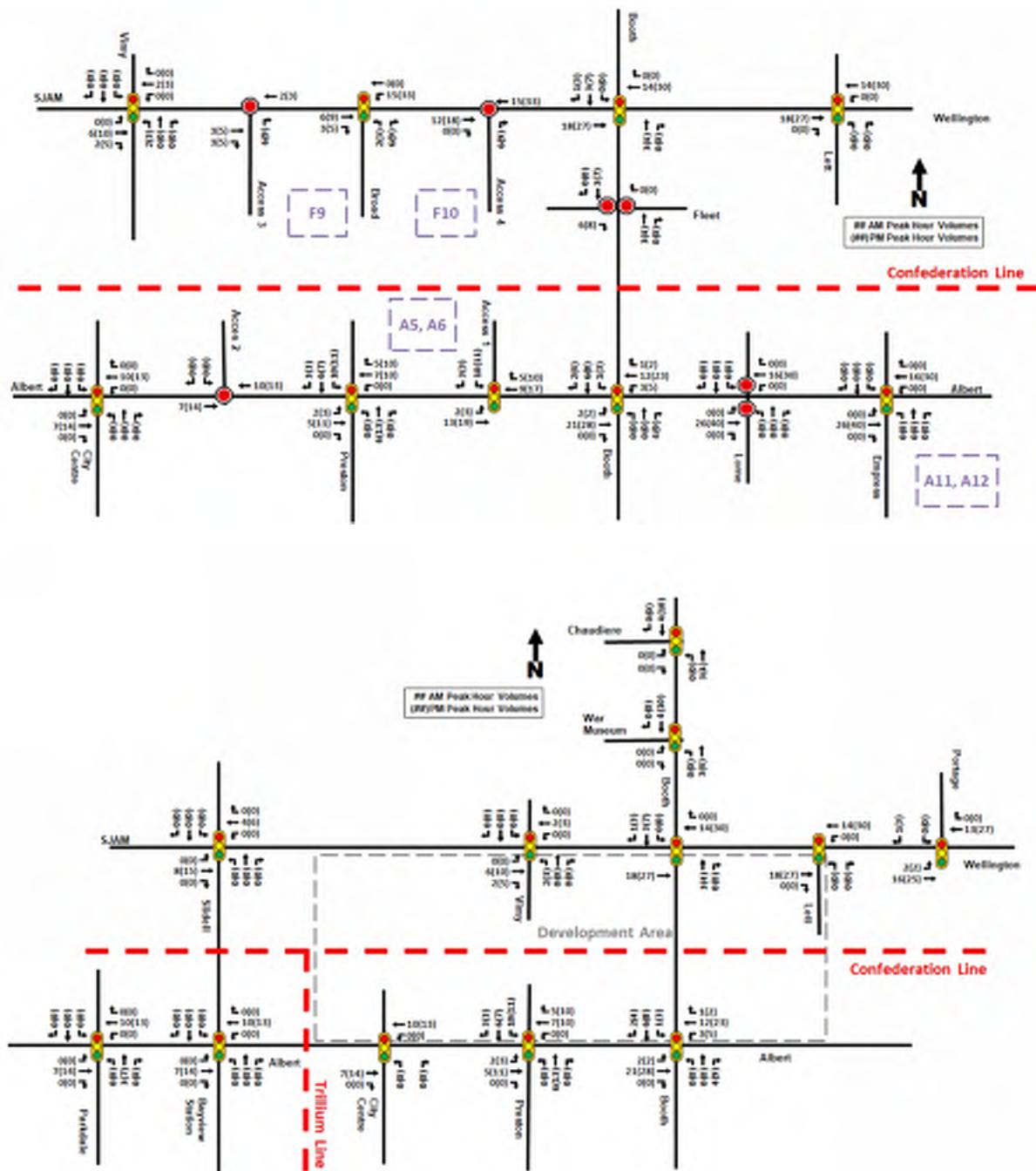


Figure 14: Projected Site-Generated Traffic – Phase 3

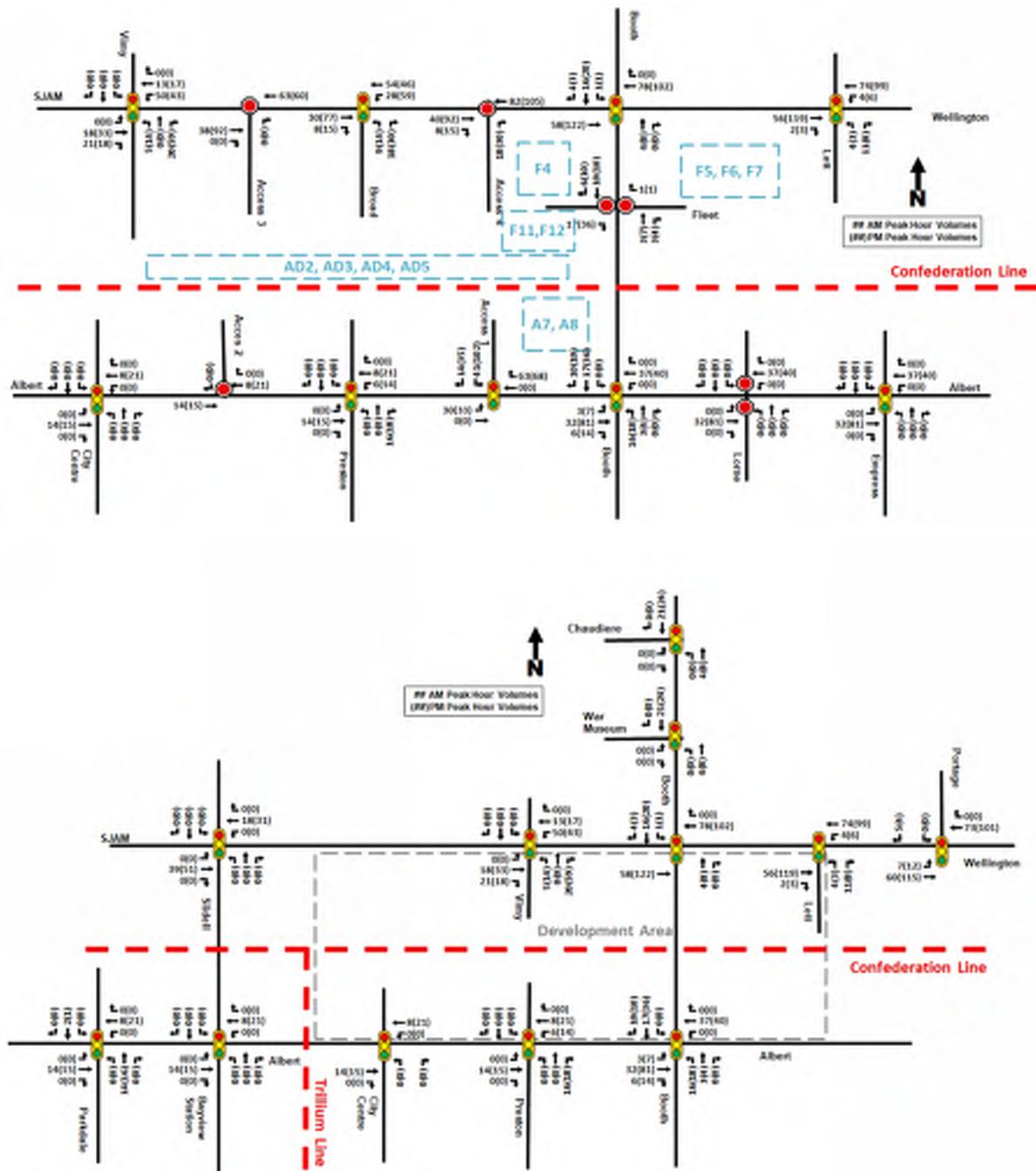
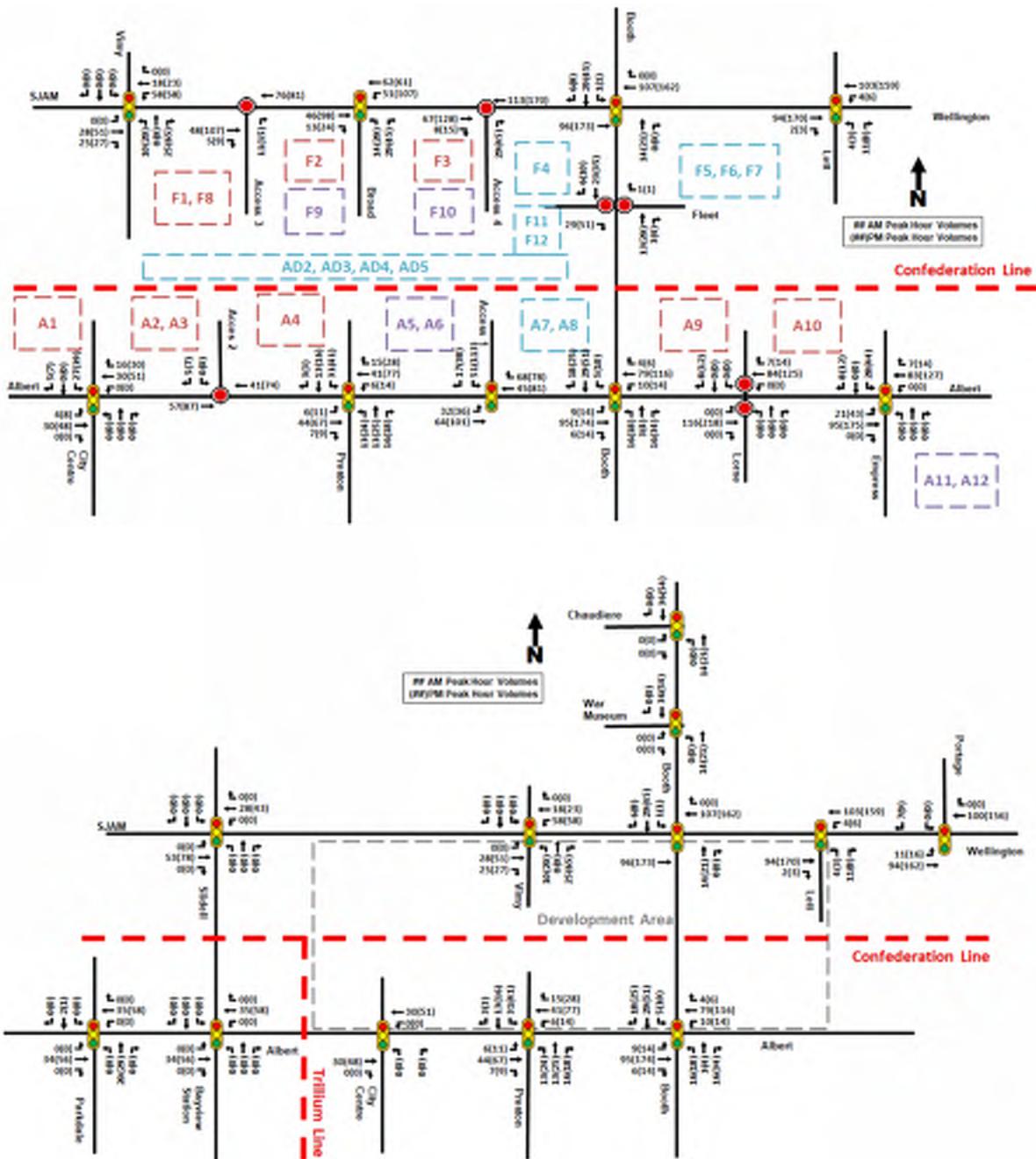
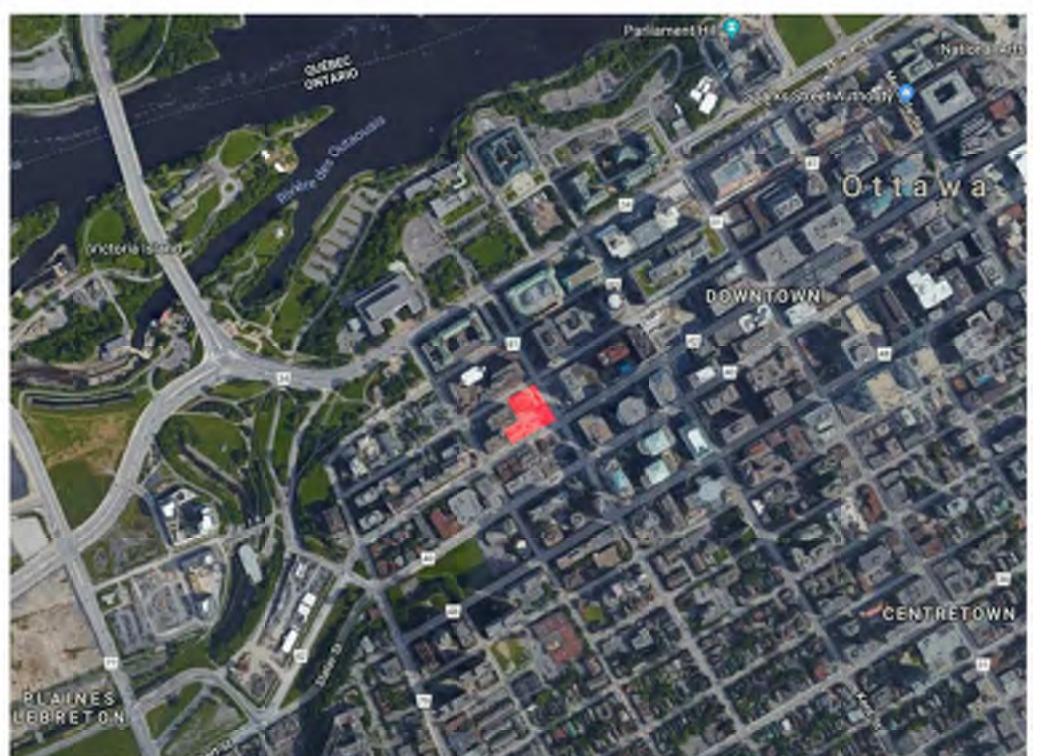


Figure 15: Projected Site-Generated Traffic – Full Build-Out

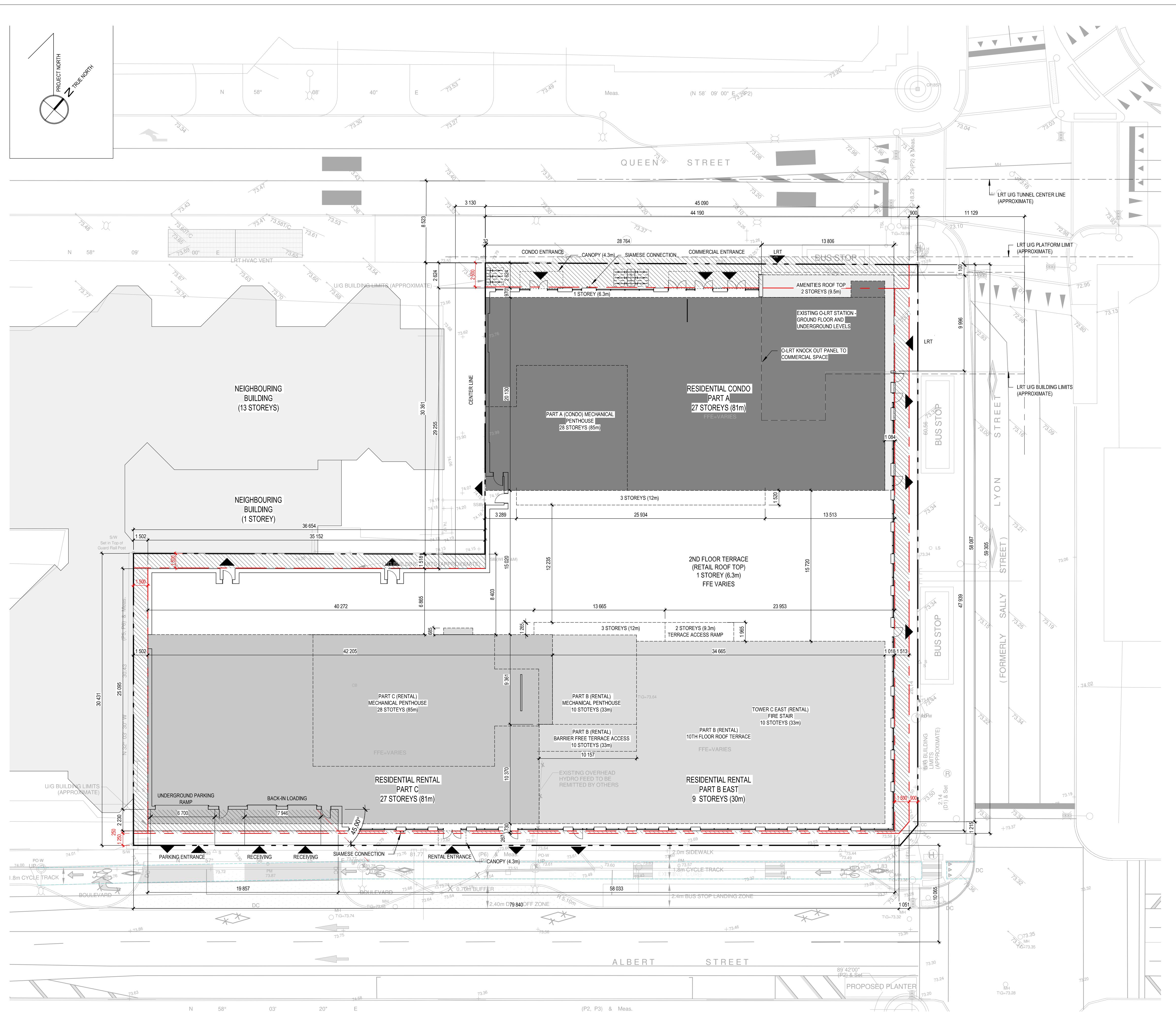




MIXED-USE RESIDENTIAL WITH GROUND FLOOR COMMERCIAL AND TWO RESIDENTIAL BUILDINGS 383 ALBERT ST ZONED R5Q(240) H(64) AND 340 QUEEN ST ZONED R5PH(64) SUBJECT TO OMB DECISION CASE NO. PL101388		
ZONING MECHANISM	REGULATION	PROVIDED
Minimum lot area	540m ²	3848.5m ²
Minimum lot width	18m	45.09m
Maximum building height	Part A: 81m Part C: 64m	Part A: 89.95m Part B: 29.05m Part C: 80.82m
Minimum front yard setback (Queen St.)	2.5m	1.10m
Minimum corner side yard setback (Lyon St.)	1.5m	1.513m
Minimum interior side yard setback	Along West property line, adjacent to Part C: 1.5m Along north property line, adjacent to Part C: 1.518m (podium only); 8.403m for remainder Along west property line, adjacent to Part A: 0.032m	Along West property line, adjacent to Part C: 1.502m Along north property line, adjacent to Part C: 1.518m (podium only); 8.403m for remainder Along west property line, adjacent to Part A: 0.032m
Minimum rear yard setback (Albert St.)	0.25m	0.267m
Minimum landscaped area (hard and soft landscaping, al-grade only)	8.9% of the total lot area (0.089x3848.5m ² = 342.75m ²)	8.9% (342.75m ²)
Commercial uses	Can occupy 100% of the total ground floor area (1935m ²)	100% of GFA (1935m ²)
Minimum amenity area	Total amenity area = 6m ² per dwelling unit (588m ² x 6 m ² = 3528 m ² required total amenity area) Community amenity area = 33% of total amenity area (33% x 3528 m ² = 1164 m ² required community amenity area) Layout = Aggregated into areas up to 54 m ² , and where more than one aggregated area is provided, at least one must be a minimum of 54 m ²	Total amenity area: 4051 m ² provided Community amenity area: 1771 m ² provided (Lounges: 30+18m ² (6m ²); Pod Rooms: 141+14m ² ; Business Centers: 78+55m ² ; Fitness Rooms: 93+9m ² ; Terraces: 400+422m ² ; Theatre: 36m ²) Private amenity area: 2280m ² provided (Part A/B/C: balconies)
	PART A	PART C / PART B
Number of Units	Total: 267 units (46 xStudio; 163 x1BR; 56 x2BR; 2 x3BR)	Total: 321 units (58 xStudio; 155 x1BR; 108 x2BR)
Number of Storeys	27	27 (Part C) / 9 (Part B)
GFA by Use	Residential (Condo) : 15824m ² Retail (Podium Part A, B, C): 1935m ²	Residential (Rental) : 19086m ²

AREA Z: NEAR LRT STATIONS ON SCHEDULE A1, ZONING BY-LAW 2008-250		
ZONING MECHANISM	REGULATION	PROVIDED
Minimum parking space requirement	Residential: 0 Non residential use: 0 (Area Z) Visitor: 30 spaces	Residential: 314 spaces Retail: 15 spaces Visitor: 30 spaces
	Total = 27 required spaces (30-3 spaces as per Section 101(6)(c))	Total: 359 spaces
Maximum parking space requirement (within 600m of rapid transit station)	Residential: 1.5dwelling (Max: 882 spaces) Retail store: 1.0 per 100m of GFA (1935m ² /100m ² = 19 spaces)	Residential: 314 spaces Retail: 15 spaces
Minimum parking spaces reserved for physically disabled persons	4 spaces (given 300-399 spaces)	10 spaces
Minimum bicycle parking	Residential: 0.5dwelling (0.5*588=294 spaces required) Retail: 1.0 per 250m ² of GFA (1935m ² /250m ² = 8 spaces required)	Residential: 350 interior spaces (96 vertical spaces; 254 horizontal spaces) 72% of required spaces located on P1+P2 Retail: 9 exterior spaces (Queen St.)
Minimum loading spaces	Retail, retail food store = 2 (assuming entire ground floor is one space)	2
Minimum driveway width	6m	6.7m
Minimum aisle width	6m	6m
WASTE MANAGEMENT - SINGLE CHUTE TRI-SORTER WITH ORGANICS COLLECTION IN CENTRAL ROOM (P1)		
ZONING MECHANISM	REGULATION	PROVIDED
PART A (261 units)	GARBAGE (Ibox): 0.110 cubic yards/unit FIBER: 0.038 cubic yards/unit GLASS/METAL/PLASTIC: 0.018 cubic yards/unit ORGANICS: 1x (240L bin) / 50 units	GARBAGE: 6 x (4 yard) + 2 x (3 yard) bins FIBER: 3 x (4 yard) bins GLASS/METAL/PLASTIC: 2 x (3 yard) bins ORGANICS: 6 x (240L bins)
PART C / PART B (321 units)	GARBAGE: 0.086 cubic yards/unit FIBER: 0.038 cubic yards/unit GLASS/METAL/PLASTIC: 0.018 cubic yards/unit ORGANICS: 1x (240L bin) / 50 units	GARBAGE: 7 x (4 yard) + 1 x (3 yard) bins FIBER: 3 x (4 yard) + 1 x (3 yard) bins GLASS/METAL/PLASTIC: 2 x (3 yard) bins ORGANICS: 7 x (240L bins)

LEGEND		
PROPERTY LINE		
SETBACK LIMIT	A	REQUIRED SETBACK
PEDESTRIAN EASEMENT / LANDSCAPED AREA		
BICYCLE LANE DEMARCACTION		
EXISTING HYDRO / UTILITY POLE		
HP/UP		
0 2000 4000 6000 8000	BAR SCALE 1:200	



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Smith + Andersen
1690, Carling Avenue, Suite 530, Ottawa, ON K2C 7Z7
T 613 226 6558 smithandersen.com

STRUCTURE Structural
Goodvee Manhire Inc.
18-12, Jurgis Drive, Ottawa, ON K2E 7Z7
T 613 226 6558 goodvee.com

ARCHITECTURE DE PAYSAGE Landscape Architect
James B. Lennox & Associates
3332, Carling Avenue, Ottawa, ON K2B 1P8
T 613 722 5168 jblassociates.ca

CIVIL Civil
Novatech Eng. Consultants Ltd.
240, Michael Coyle Drive, Suite 200, Ottawa ON K2M 1P8
T 613 234 9643 novatech-eng.com

ARCHITECTES Architect
NEUF architecte(s) SNCRL
830, boulevard René-Lévesque O, 32e étages, Montréal QC H3B 1S6
T 514 847 1117 NEUFarchitectes.com

SCEAU / Seal



NEUF
ARCHITECT(E)
NEUF ARCHITECTES SNCRL

CLARIDGE
HOMES

OUVRAGE Project
MOON - PARKING, PODIUM & RENTAL TOWER "C"

EMPLACEMENT Location
383 ALBERT ST.
OTTAWA, ON
NO PROJET No.
11679.00

NO. RÉVISION
0 SITE PLAN APPLICATION REVISION
DATE (aa-mm-jj)
2019.05.03

DESSINÉ PAR Drawn by
CR/PV/RB
DATE (aa-mm-jj)
NOV 2018
ÉCHELLE Scale
As indicated
TITRE DU DESSIN Drawing Title

VERIFIÉ PAR Checked
LH/AC
ÉCHELLE Scale
As indicated

REVISION Revision
NO. DESSIN Dwg Number

0 A100

The projected person trips by modal share, compared to the assumed trip generation for the subject site in the previous TIS is summarized in **Table 3**.

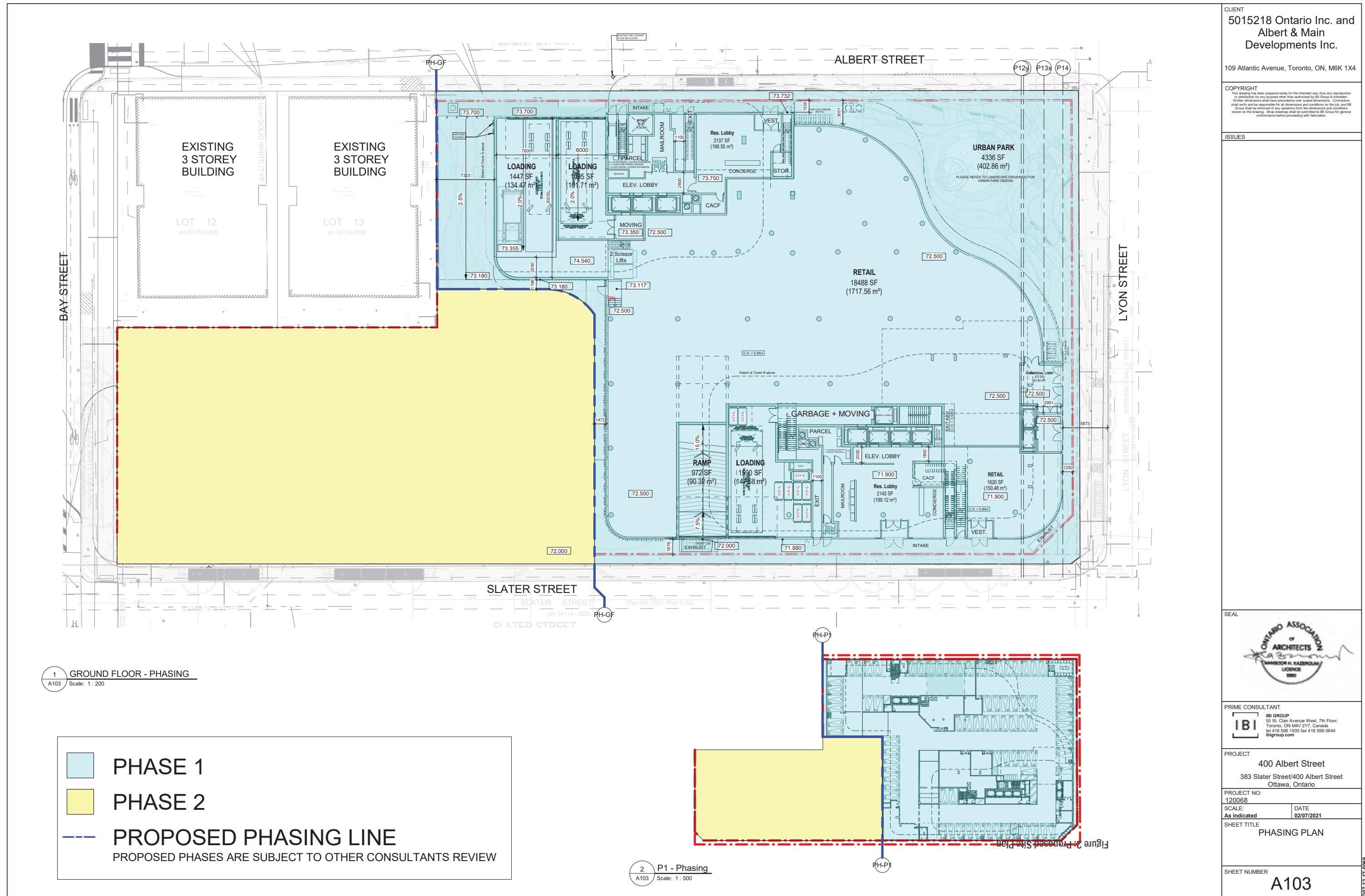
Table 3: Person Trips by Modal Share

Travel Mode	Modal Share		AM Peak			PM Peak		
	AM	PM	IN	OUT	TOT	IN	OUT	TOT
Previous TIS								
<i>Residential Person Trips</i>			52	219	271	188	115	303
Auto Driver	35%	26%	18	77	95	49	30	79
Auto Passenger	3%	10%	3	6	9	19	11	30
Transit	19%	26%	9	42	51	49	30	79
Non-Auto	43%	38%	22	94	116	71	44	115
<i>Commercial Person Trips</i>			0	0	0	48	49	97
Auto Driver	35%	26%	0	0	0	12	13	25
Auto Passenger	3%	10%	0	0	0	5	5	10
Transit	19%	26%	0	0	0	13	13	26
Non-Auto	43%	38%	0	0	0	18	18	38
Auto Driver (Total)	18		77	95	61	43	104	
Auto Passenger (Total)	3		6	9	24	16	40	
Transit (Total)	9		42	51	62	43	105	
Non-Auto (Total)	22		94	116	89	62	151	
Proposed Development								
<i>Residential Person Trips</i>			49	207	256	177	109	286
Auto Driver	10%		5	20	25	19	11	30
Auto Passenger	5%		2	11	13	10	6	16
Transit	60%		30	124	154	105	65	170
Non-Auto	25%		12	52	64	43	27	70
<i>Supermarket Person Trips</i>			55	35	90	129	124	253
Auto Driver	15%		10	5	15	20	20	40
Auto Passenger	5%		3	2	5	7	6	13
Transit	40%		21	14	35	51	49	100
Non-Auto	40%		21	14	35	51	49	100
Auto Driver (Total)	15		25	40	39	31	70	
Auto Passenger (Total)	5		13	18	17	12	29	
Transit (Total)	51		138	189	156	114	270	
Non-Auto (Total)	33		66	99	94	76	170	
Auto Driver (Difference)	-3		-52	-55	-22	-12	-34	
Auto Pass. (Difference)	2		7	9	-7	-4	-11	
Transit (Difference)	42		96	138	94	71	165	
Non-Auto (Difference)	11		-28	-17	5	14	19	

Based on the revised modal shares shown above in **Table 3**, the proposed development is anticipated to generate 55 fewer vehicle trips during the AM peak hour and 34 fewer vehicle trips during the PM peak hour, compared to the projections of the previous TIS.

It is recognized that some trips generated by the proposed development will be internally captured (for example, a resident making a trip to the ground level to buy groceries at the supermarket and

Figure 2: Proposed Site Plan



3.1.2. TRIP DISTRIBUTION

The projected 'new' and 'pass-by' trips were distributed based on the site's connectivity to the existing road network and our knowledge of the surrounding area. The resultant distribution is assumed to be:

- 55% to/from the west via Slater Street, Albert Street, Kent Street, and Laurier Avenue; and
- 45% to/from the north via Lyon Street, Bay Street, and Queen Street.

100%

3.1.3. TRIP ASSIGNMENT

A full movement driveway connection to Slater Street is proposed to serve the subject development's underground parking lot. There is a proposed pick-up/drop-off driveway connection to/from Slater Street and Albert Street and truck loading is proposed to Albert Street and Slater Street. For the purposes of this analysis, the vehicle trips are assigned to the Slater Street access only as the number of vehicle trips to/from the Albert and Slater Street driveways are expected to be negligible in terms of capacity analysis. As 'pass-by' trips are trips that are already travelling along the roadway, they have not been added to the network, but they have been added to the site's driveway. 'New' and 'Pass-by' site-generated vehicle trips are assigned to the study area network for Phase 1 and full build-out and are illustrated as Figure 10 and Figure 11.

Figure 10: 'New' and 'Pass-by' Site-Generated Traffic, Phase 1

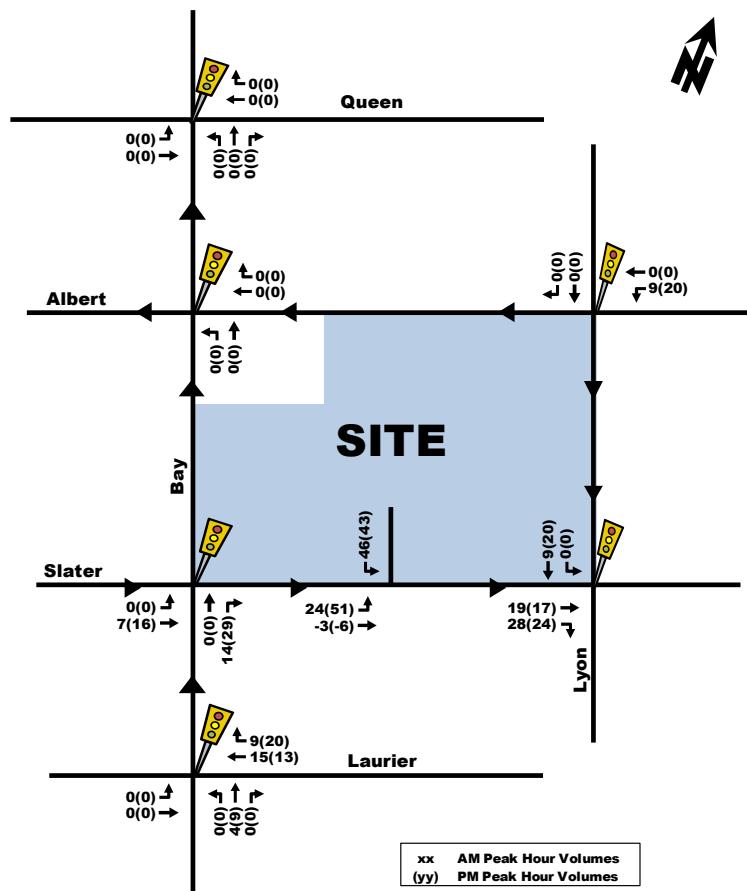
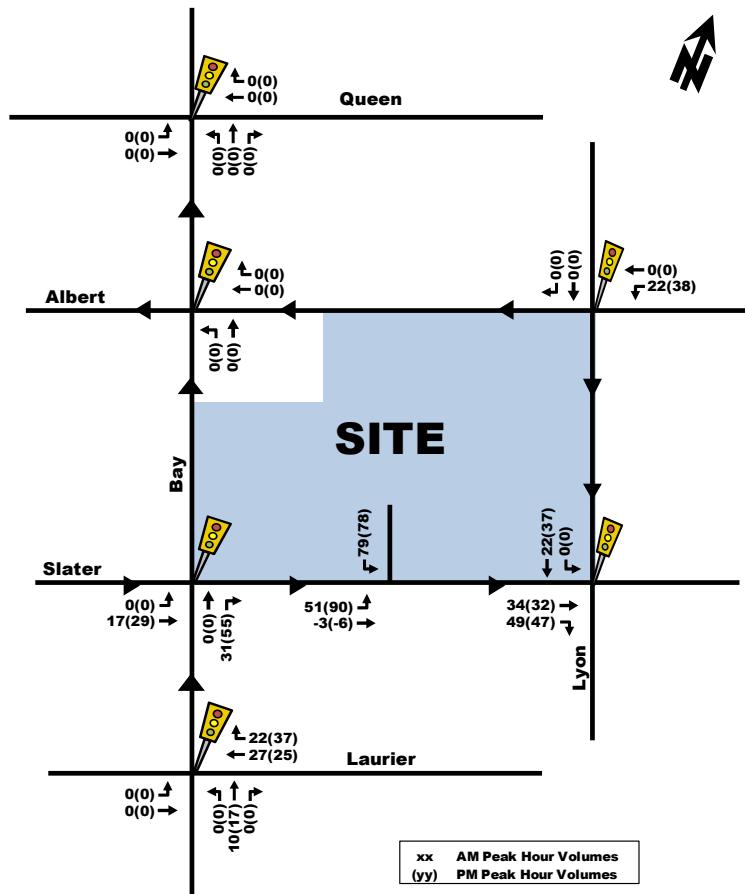


Figure 11: 'New' and 'Pass-by' Site-Generated Traffic, Full Build-Out



3.2. BACKGROUND NETWORK TRAVEL DEMANDS

3.2.1. TRANSPORTATION NETWORK PLANS

Refer to Section 2.1.3 Planned Conditions – Planned Study Area Transportation Network Changes.

3.2.2. BACKGROUND GROWTH

The following background traffic growth (summarized in

Table 14) was calculated based on historical traffic count data (years 2007, 2011 and 2015) provided by the City of Ottawa at the Bay/Slater intersection. Detailed background traffic growth analysis is included as Appendix E. Because of LRT construction, using more current data would not reflect actual growth conditions as there were many changes due to construction within the study area in the past four years.

Table 14: Bay/Slater Historical Background Growth (2007 – 2015)

Time Period	Percent Annual Change				
	North Leg	South Leg	East Leg	West Leg	Overall
8 hrs	-1.10%	-2.30%	-2.00%	-2.00%	-1.84%
AM Peak	-3.44%	-4.49%	-2.13%	-2.01%	-2.48%
PM Peak	-1.12%	-2.78%	-2.15%	-5.32%	-2.77%

As shown in Table 14, the Bay/Slater intersection has experienced negative overall growth (calculated as weighted average) over an 8-year time period. As an average background traffic growth rate of -2% was calculated, and since the study area is located within the downtown core, directly adjacent to the LRT, no overall growth rate has been applied on forecasted background traffic volumes. This is consistent with the anticipated decline in vehicular traffic within this area outline in the TMP.



As shown in Table 5, the resulting number of potential ‘new’ two-way vehicle trips for the proposed development is approximately 14 and 18 veh/h during the weekday morning and afternoon peak hours, respectively. This results in approximately 1 vehicle every 3 to 4 minutes which is considered negligible. As such, no future intersection analysis was needed.

3.1.2. TRIP DISTRIBUTION

This section of the TIA process is exempt from a need for completion since the proposed development generates less than 60 person-trips during weekday peak hours.

3.1.3. TRIP ASSIGNMENT

As previously discussed, no future horizons were analyzed in this TIA since the proposed development is expected to generate fewer than 60 person-trips during weekday peak hours. Therefore, this section was exempt.

3.2. BACKGROUND NETWORK TRAVEL DEMANDS

3.2.1. TRANSPORTATION NETWORK PLANS

Refer to Section 2.1.3 Planned Conditions – Planned Study Area Transportation Network Changes.

3.2.2. BACKGROUND GROWTH

The following background traffic growth (summarized in Table 6) was calculated based on historical traffic count data (years 2007, 2011 and 2015) provided by the City of Ottawa at the Bay/Albert intersection. Detailed background traffic growth analysis is included as Appendix D.

Table 6: Bay/Albert Historical Background Growth (2007 – 2015)

Time Period	Percent Annual Change				
	North Leg	South Leg	East Leg	West Leg	Overall
8 hrs	-1.75%	-1.57%	-2.03%	-1.90%	-1.82%
AM Peak	-3.70%	-4.26%	-2.19%	-2.67%	-3.19%
PM Peak	-2.53%	-2.41%	-1.67%	-1.41%	-2.00%

As shown in Table 6, Bay Street, at the Bay/Albert intersection, has experienced approximately 1.57 to 4.26% annual decrease within recent years during the weekday morning and afternoon peak hours and over an 8-hour count. This is consistent with the decline in vehicular traffic outline in the TMP. Therefore, the was expected to be no background traffic growth within the study area.

3.2.3. OTHER DEVELOPMENTS

Refer to Section 2.1.4 Planned Conditions – Other Area Developments.

3.3. DEMAND RATIONALIZATION

As previously discussed, the trip generation estimates for the proposed development are not expected to exceed 60 person-trips during the peak hour. Vehicular traffic in the Central Area is also expected plateau or decrease over time when the Confederation Line LRT opens in 2019. Therefore, there are no concerns with network capacity and traffic demand related to or associated with the proposed development.



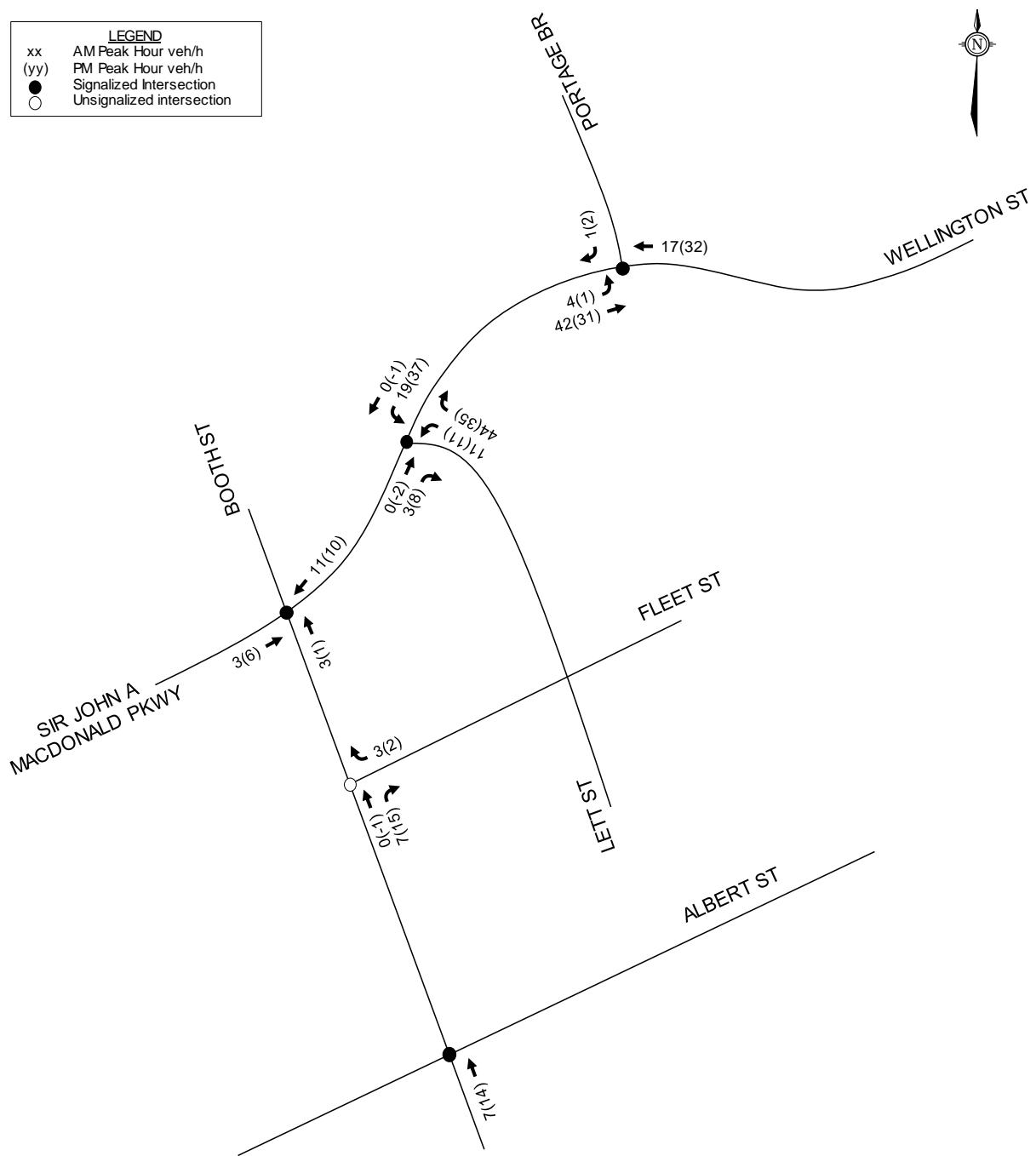
NOTE: PROJECTION NAD 83, MTM 3°; ZONE 9

Project
National Capital Commission
LeBreton Flats Infrastructure and
Remediation Project

Title
BLOCK SUBDIVISION OF LEBRETON FLATS

DESSAU SOPRIN
Dessau-Soprin inc.
920, bld Saint-Joseph
Hull (Québec) J8Z 1S9
Phone: (819) 777-6832
Fax: (819) 778-3786

Prepared D.MORIN	Discipline AR
Drawing F.BOUDREAU	Scale 1:4000
Verified C.MARCOTTE	Date 2002-11-18
Project 0480000110AR00020B	
Lot	
Disc.	
Drawing No.	
Rev.	

Figure 5: Site Generated Traffic

APPENDIX I

TDM Checklists

TDM-Supportive Development Design and Infrastructure Checklist:
Residential Developments (multi-family or condominium)

Legend	
REQUIRED	The Official Plan or Zoning By-law provides related guidance that must be followed
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance

TDM-supportive design & infrastructure measures: Residential developments		Check if completed & add descriptions, explanations or plan/drawing references
1. WALKING & CYCLING: ROUTES		
1.1 Building location & access points		
BASIC	1.1.1 Locate building close to the street, and do not locate parking areas between the street and building entrances	<input checked="" type="checkbox"/>
BASIC	1.1.2 Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	<input checked="" type="checkbox"/>
BASIC	1.1.3 Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	<input checked="" type="checkbox"/>
1.2 Facilities for walking & cycling		
REQUIRED	1.2.1 Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations (see <i>Official Plan policy 4.3.3</i>)	<input checked="" type="checkbox"/>
REQUIRED	1.2.2 Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible (see <i>Official Plan policy 4.3.12</i>)	<input checked="" type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3 Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks (see <i>Official Plan policy 4.3.10</i>)	<input checked="" type="checkbox"/>
REQUIRED	1.2.4 Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps (see <i>Official Plan policy 4.3.10</i>)	<input checked="" type="checkbox"/>
REQUIRED	1.2.5 Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians (see <i>Official Plan policy 4.3.11</i>)	<input checked="" type="checkbox"/>
BASIC	1.2.6 Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	<input checked="" type="checkbox"/>
BASIC	1.2.7 Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	<input type="checkbox"/>
BASIC	1.2.8 Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility	<input type="checkbox"/>
1.3 Amenities for walking & cycling		
BASIC	1.3.1 Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails	<input type="checkbox"/>
BASIC	1.3.2 Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious)	<input type="checkbox"/>

TDM-supportive design & infrastructure measures: Residential developments		Check if completed & add descriptions, explanations or plan/drawing references
2. WALKING & CYCLING: END-OF-TRIP FACILITIES		
2.1 Bicycle parking		
REQUIRED	2.1.1 Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible (see <i>Official Plan policy 4.3.6</i>)	<input checked="" type="checkbox"/>
REQUIRED	2.1.2 Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas (see <i>Zoning By-law Section 111</i>)	<input checked="" type="checkbox"/>
REQUIRED	2.1.3 Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored (see <i>Zoning By-law Section 111</i>)	<input checked="" type="checkbox"/>
BASIC	2.1.4 Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists	<input type="checkbox"/>
2.2 Secure bicycle parking		
REQUIRED	2.2.1 Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers (see <i>Zoning By-law Section 111</i>)	<input checked="" type="checkbox"/>
BETTER	2.2.2 Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	<input type="checkbox"/>
2.3 Bicycle repair station		
BETTER	2.3.1 Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	<input type="checkbox"/>
3. TRANSIT		
3.1 Customer amenities		
BASIC	3.1.1 Provide shelters, lighting and benches at any on-site transit stops	<input type="checkbox"/>
BASIC	3.1.2 Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	<input type="checkbox"/>
BETTER	3.1.3 Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	<input type="checkbox"/>

TDM-supportive design & infrastructure measures: Residential developments		Check if completed & add descriptions, explanations or plan/drawing references
4. RIDESHARING		
4.1 Pick-up & drop-off facilities		
BASIC	4.1.1 Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	<input type="checkbox"/>
5. CARSHARING & BIKE SHARING		
5.1 Carshare parking spaces		
BETTER	5.1.1 Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses (see <i>Zoning By-law Section 94</i>)	<input type="checkbox"/>
5.2 Bikeshare station location		
BETTER	5.2.1 Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	<input type="checkbox"/>
6. PARKING		
6.1 Number of parking spaces		
REQUIRED	6.1.1 Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	<input type="checkbox"/>
BASIC	6.1.2 Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	<input type="checkbox"/>
BASIC	6.1.3 Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly (see <i>Zoning By-law Section 104</i>)	<input type="checkbox"/>
BETTER	6.1.4 Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking (see <i>Zoning By-law Section 111</i>)	<input type="checkbox"/>
6.2 Separate long-term & short-term parking areas		
BETTER	6.2.1 Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa)	<input type="checkbox"/>

TDM Measures Checklist:
Residential Developments (multi-family, condominium or subdivision)

Legend	
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance
★	The measure is one of the most dependably effective tools to encourage the use of sustainable modes

TDM measures: Residential developments		Check if proposed & add descriptions
1. TDM PROGRAM MANAGEMENT		
1.1 Program coordinator		
BASIC	1.1.1 Designate an internal coordinator, or contract with an external coordinator	<input type="checkbox"/>
1.2 Travel surveys		
BETTER	1.2.1 Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	<input type="checkbox"/>
2. WALKING AND CYCLING		
2.1 Information on walking/cycling routes & destinations		
BASIC	2.1.1 Display local area maps with walking/cycling access routes and key destinations at major entrances (<i>multi-family, condominium</i>)	<input checked="" type="checkbox"/>
2.2 Bicycle skills training		
BETTER	2.2.1 Offer on-site cycling courses for residents, or subsidize off-site courses	<input type="checkbox"/>

TDM measures: <i>Residential developments</i>			Check if proposed & add descriptions
3. TRANSIT			
3.1 Transit information			
BASIC	3.1.1	Display relevant transit schedules and route maps at entrances (<i>multi-family, condominium</i>)	<input checked="" type="checkbox"/>
BETTER	3.1.2	Provide real-time arrival information display at entrances (<i>multi-family, condominium</i>)	<input type="checkbox"/>
3.2 Transit fare incentives			
BASIC ★	3.2.1	Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit	<input type="checkbox"/>
BETTER	3.2.2	Offer at least one year of free monthly transit passes on residence purchase/move-in	<input type="checkbox"/>
3.3 Enhanced public transit service			
BETTER ★	3.3.1	Contract with OC Transpo to provide early transit services until regular services are warranted by occupancy levels (<i>subdivision</i>)	<input type="checkbox"/>
3.4 Private transit service			
BETTER	3.4.1	Provide shuttle service for seniors homes or lifestyle communities (e.g. scheduled mall or supermarket runs)	<input type="checkbox"/>
4. CARSHARING & BIKE SHARING			
4.1 Bikeshare stations & memberships			
BETTER	4.1.1	Contract with provider to install on-site bikeshare station (<i>multi-family</i>)	<input type="checkbox"/>
BETTER	4.1.2	Provide residents with bikeshare memberships, either free or subsidized (<i>multi-family</i>)	<input type="checkbox"/>
4.2 Carshare vehicles & memberships			
BETTER	4.2.1	Contract with provider to install on-site carshare vehicles and promote their use by residents	<input type="checkbox"/>
BETTER	4.2.2	Provide residents with carshare memberships, either free or subsidized	<input type="checkbox"/>
5. PARKING			
5.1 Priced parking			
BASIC ★	5.1.1	Unbundle parking cost from purchase price (<i>condominium</i>)	<input type="checkbox"/>
BASIC ★	5.1.2	Unbundle parking cost from monthly rent (<i>multi-family</i>)	<input checked="" type="checkbox"/>

TDM measures: <i>Residential developments</i>		Check if proposed & add descriptions
6. TDM MARKETING & COMMUNICATIONS		
6.1 Multimodal travel information		
BASIC	★	6.1.1 Provide a multimodal travel option information package to new residents <input checked="" type="checkbox"/>
6.2 Personalized trip planning		
BETTER	★	6.2.1 Offer personalized trip planning to new residents <input type="checkbox"/>