

Prepared for:

**THE REGIONAL MUNICIPALITY OF NIAGARA**

**ENVIRONMENTAL STUDY REPORT  
SCHEDULE C CLASS ENVIRONMENTAL ASSESSMENT FOR  
REGIONAL ROAD 20 (LUNDY'S LANE) BETWEEN REGIONAL ROAD 98  
(MONTROSE ROAD) AND HIGHLAND AVENUE  
NIAGARA FALLS, ONTARIO**



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**If technical reports are required in an alternative format for accessibility needs, please contact:**

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## EXECUTIVE SUMMARY

In October 2021, the Regional Municipality of Niagara (Niagara Region) initiated a Class Environmental Assessment (EA) Study for the reconstruction of Regional Road 20 (Lundy's Lane) in the City of Niagara Falls. The Class EA Study was undertaken in compliance with Schedule 'C' of the Municipal Class Environmental Assessment planning and design process document (Municipal Engineers Association, October 2000, as amended in 2004, 2007, 2011, 2015, 2023, and 2024). The project study area extends from Regional Road 98 (Montrose Road) to Highland Avenue and is approximately 1.7 kilometers in length (as shown in Figure ES-1 below).

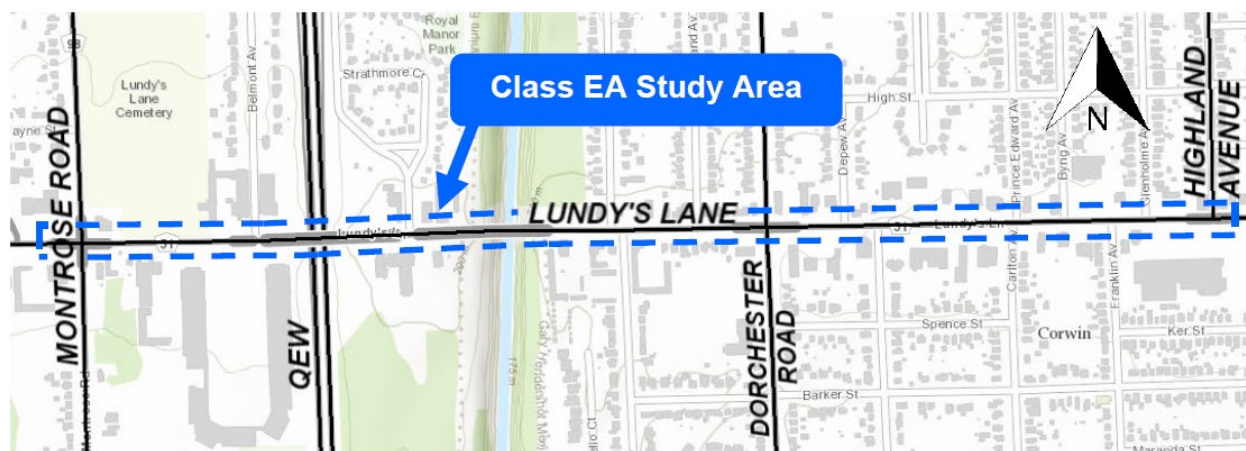


**Figure ES-1:** Lundy's Lane Class EA Study Area (approximate boundaries)

Lundy's Lane is an urban arterial road in Niagara Falls that experiences moderate volumes of traffic (Annual Average Daily Traffic (AADT) = 23,000 west of Dorchester Road and 22,300 east of Dorchester Road). The predominant land-use along the study area is commercial, with several established residential homes throughout the corridor. It features a four-lane urban cross-section within a Region-owned Right-of-Way (ROW) ranging from 19m to 36m within the study area. The Niagara Falls Official Plan identifies a target 26.2m ROW for the study area. The posted speed limit within the study area is 50km/hr. The Niagara Region has jurisdiction over Lundy's Lane.

The purpose of the Class EA Study was to provide an assessment of the need for improvements to Regional Road 20 (Lundy's Lane) to best meet the needs of all road users (motorists, pedestrians, cyclists). Sight lines at intersections, provision of cycling and pedestrian facilities, street lighting, utility relocations, property constraints, capital costs, and other environmental and social impacts were considered during the identification and evaluation of alternatives. The study identified a preferred planning solution that would best address those needs, while providing a comprehensive, environmentally sound planning process that would facilitate dialogue between interested parties.

The Schedule 'C' Class EA planning process requires an initial screening for a project of this type, which did not identify any significant environmental concerns that cannot be addressed by incorporating established mitigative measures during construction. Public

consultation included a Notice of Study Commencement being sent out to all affected parties including nearby residents, affected public agencies and Indigenous Communities contacts, advertisements in local newspapers, and posting of the local notice on the Niagara Region website. Three Public Information Centres (PICs) were also held (two virtually and one in-person) and two meetings were held with the Lundy's Lane Business Improvement Association. Comments submitted online, on the Region's website, were also taken into consideration.

A Schedule 'C' Class EA involves completing five phases in accordance with the Ontario Municipal Engineers Association (MEA) *Municipal Class Environmental Assessment document (October 2000, as amended in 2004, 2007, 2011, 2015, 2023, and 2024)*. The second phase of the Schedule 'C' Class EA involved the identification of alternative planning solutions to address the problem/opportunity statement and evaluation of the various alternatives. At the end of this phase, the schedule of this Class EA was re-evaluated and was confirmed to be a Schedule 'C' undertaking.

The six alternative planning solutions that were developed and evaluated are as follows:

1. Do Nothing;
2. Encourage Use of Alternative Routes;
3. Roadway/Intersection Improvements;
4. Implement Active Transportation;
5. Roadway/Intersection Improvements and Implement Active Transportation; and,
6. Limit Development.

Following evaluation of the alternative planning solutions, **Alternative Planning Solution #5**, Roadway/Intersection Improvements and Implement Active Transportation, was determined to be the preferred planning solution.

The third phase of the Schedule C Class EA involved the identification and evaluation of alternative design concepts for the preferred planning solution identified at the end of Phase 2.

Five alternative design concepts were considered, which included the following:

1. 30.5m Right-of-Way – Five lanes, cycle track, sidewalk and grass boulevards;
2. 26.2m Right-of-Way – Cycle track and sidewalk, no boulevard;
3. 26.2m Right-of-Way – Grass boulevard (1.75m) and sidewalk (2.0m);
4. 26.2m Right-of-Way – Curb face sidewalk (1.8m) and grass boulevard behind sidewalk (2.25m); and,
5. 26.2m Right-of-Way – Concrete boulevard (1.0m), sidewalk (1.8m) and additional boulevard space behind sidewalk.

The preferred alternative design concept was identified as **Alternative Design Concept #3** (as shown below in **Figure ES-2**). Specific advantages provided by this design alternative include:

- Provides sufficient traffic capacity for the planning horizon (to the year 2041), which will improve traffic flow throughout the Regional Road 20 (Lundy's Lane) corridor;
- Improves the efficiency of the road and safety for motorists waiting to turn into and

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out of commercial properties and side streets through the inclusion of a continuous two-way left-turn lane (centre turn lane);

- Ability to remain within the 26.2m ROW defined in the Niagara Falls Official Plan, and in some portions within the existing ROW, which results in less impact to the surrounding environment than the wider ROW of design alternative #2 and doesn't require an Official Plan amendment;
- The grass boulevard provides a safety buffer from the road for pedestrians, as well as provides space for transit and utility infrastructure; and,
- Provides connectivity for pedestrian facilities with wider sidewalks on both sides of the road.

While Alternative Design #3 was chosen as a result of the evaluation process, technical review and feedback from interested parties resulted in further refinements to the preferred design concept following PIC #3. It was decided that the sidewalks should be widened from 1.8m to 2.0m where adequate space is available, and consequently, the width of the grass boulevard should be narrowed from 1.95m to 1.75m.

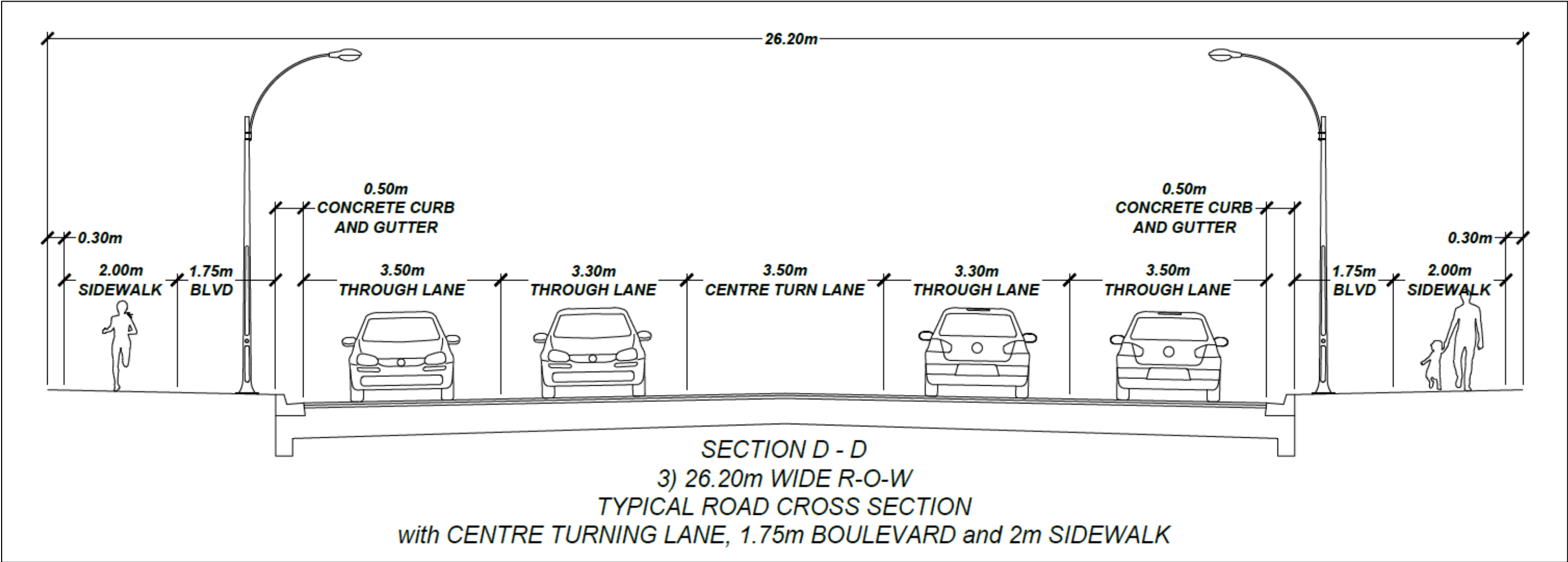


**Figure ES-2:** 26.2m Right-of-Way – Five lanes including a continuous dual centre turn lane, grass boulevard (1.75m) and sidewalk (2.0m) (Refined Design #3)

It is noted that the preferred design concept #3 does not provide a separate cycling facility within the study area. This reflects the revised evaluation of Alternative Designs in Phase 3, including a fulsome assessment of property impacts that the available 26.2m ROW is not wide enough to accommodate a cycle track in addition to the five-lane cross-section, wide sidewalks and boulevards with required infrastructure. It is recommended that alternate cycle routes be considered during detailed design.

Notwithstanding the preferred design concept selected during the planning phase of this EA does not include cycling facility, it should be noted that more investigation will be conducted during the detailed design phase for the feasibility of a cycling facility along this corridor. The current preferred design concept shows a 2.0m wide sidewalk on each side of the road. This can potentially be converted to a 3.0m Multi-Use Path (MUP) on one side of the road and keeping a 1.8m sidewalk on the other side. This might require narrowing the grass boulevard from 1.75m to 1.50m or less if needed. Any revision to the preferred design concept will require detailed review along the entire corridor to ensure that adding a cycling facility is feasible based on available ROW especially near the intersections.

The preliminary cost estimate for the project is \$36.94 million. Project construction is within the 10-year capital forecast, following detailed design and property acquisition, subject to budget approvals.

The Environmental Study Report (ESR) was made available for public review and comment on October 20, 2026, which marks the beginning of the mandatory 30-day review period. Once the 30-day review period is completed, any comments or additional input received will be considered and following successful resolution of any outstanding concerns, the Niagara Region may proceed to implement the preferred design concept.

## 1.0 INTRODUCTION

### 1.1. STUDY AREA

The Regional Municipality of Niagara (Niagara Region) has completed a Class Environmental Assessment (Class EA) Study for the reconstruction of Regional Road 20 (Lundy's Lane) in the City of Niagara Falls. The project study area extends from Regional Road 98 (Montrose Road) to the west, to the Highland Avenue intersection to the east, and is approximately 1.7 kilometers in length. **Figure 1-1** depicts the approximate study area boundaries.

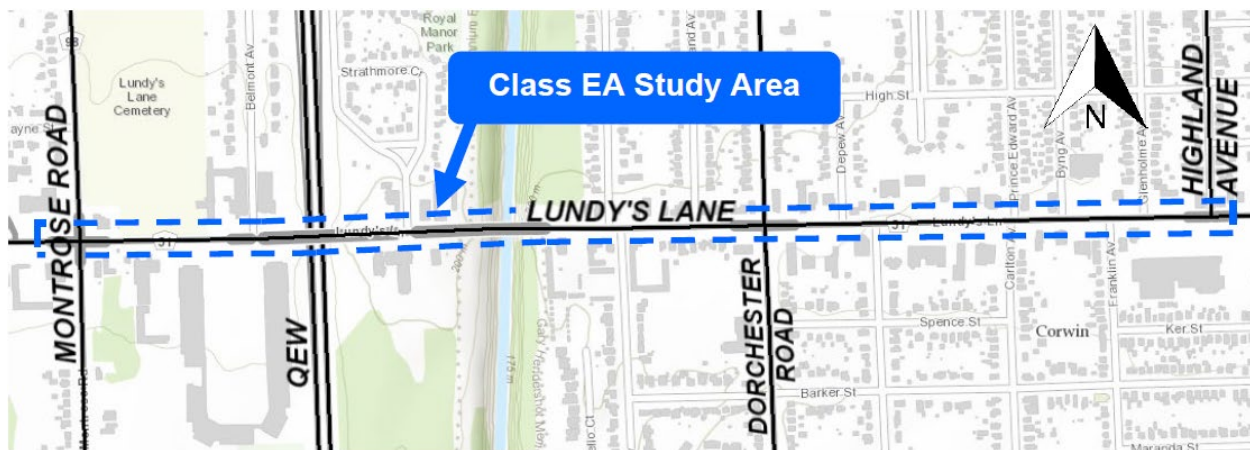


**Figure 1-1: Class EA Study Area Limits**

Lundy's Lane is a major east/west urban arterial road in the City of Niagara Falls, connecting new development in the west end of Niagara Falls to the commercial businesses and neighbourhoods in the east end of the City. It features a four-lane urban cross-section within a Right-of-Way (ROW) that ranges from 19m to 36m and averages 20m within the study area. The posted speed limits within the study area are 50km/hr. Lundy's Lane experiences moderate volumes of traffic, with Annual Average Daily Traffic (AADT) volumes of 23,000 west of Dorchester Road and 22,300 east of Dorchester Road. Adjacent land uses within the study area are predominantly commercial, with several established residential homes also located on Lundy's Lane throughout the study area. Niagara Region has jurisdiction over Lundy's Lane.

### 1.2. PURPOSE OF THE CLASS ENVIRONMENTAL ASSESSMENT STUDY

The Class EA study was undertaken in compliance with Schedule 'C' of the Municipal Class Environmental Assessment planning and design process (Municipal Engineers Association, October 2000, as amended in 2004, 2007, 2011, 2015, 2023, and 2024), which was approved under the Ontario Environmental Assessment Act.

The purpose of the study was to assess the need to reconstruct the road to meet all road user needs while utilizing complete streets best practices. Sight lines at intersections, provision of cycling and pedestrian facilities, street lighting, utility relocations, property constraints, capital costs, and other environmental and social impacts were considered during the identification and evaluation of alternatives.

The primary range of considerations that were addressed through the Class EA planning and design process within the context of the study was:

- Accommodation of all road users;
- Enhancement of safety measures for all road users;
- Improvement of traffic flow through road widening and/or intersection improvements, especially during peak periods;
- Preservation or enhancement of the ecological functions of the surrounding natural environment (both aquatic and terrestrial environments);
- Minimizing impacts on nearby properties;
- Improvement of roadway drainage (i.e. stormwater management);
- Minimizing impacts on existing utilities;
- Identification and conservation of archaeological resources, cultural heritage landscapes and built heritage resources;
- Reduction of noise, vibration, and air quality impacts.

The key principles of carrying out a successful Class EA under the EA Act include:

- Consulting with interested parties early in and throughout the Class EA process to ensure that the planning process is a cooperative venture between the project team and interested parties;
- Considering a reasonable range of alternatives, both “alternatives to” the proposed solution (all Class EAs) and the “alternative methods” of implementing the solution (for Schedule C Class EAs). The “Do Nothing” alternative must be considered for all Class EAs;
- Identifying and considering both the positive and negative effects of each alternative on all aspects of the environment (the term environment includes the natural, social cultural, technical and economic/financial environments);
- Systematically evaluate all the proposed alternatives in terms of their advantages and disadvantages to determine their net environmental effects to arrive at a preferred alternative solution and a preferred design concept;
- Documenting the planning process in sufficient detail to allow “traceability” of decision-making throughout the course of the Class EA study.

### **1.3. BACKGROUND**

At the outset of the study, there were several issues identified within the study corridor, which included the following:

#### **Pavement Condition**

The asphalt pavement on this section of Lundy's Lane is in poor condition. Transverse and longitudinal cracking is widespread. There are also a number of asphalt patches and rideability is poor. The street consists of an urban cross-section. The lack of consistent sub-surface drainage has likely contributed to the existing poor pavement condition.

---

### Traffic

Lundy's Lane is a major east/west regional arterial road in the City of Niagara Falls with operational deficiencies, safety concerns, and access constraints to adjacent residential and commercial properties, as documented in the Transportation Assessment (**Appendix A**). The study area has a higher percentage of collisions at intersections than the Ontario average with rear-end collisions being almost double the Ontario average. The study area also has a high density of driveways and lacks auxiliary turning lanes for many intersecting driveways and streets.

The traffic data provided indicates that three of the five signalized intersections within the Lundy's Lane study area (Montrose Road, Royal Manor Drive and Dorchester Road) are currently operating at Level of Service (LOS) of D and E during the weekday PM peak hour, with congestion resulting in left-turn queues extending beyond available storage. During the AM peak hour, only the Dorchester Road intersection operates at a LOS D. All unsignalized intersections operate at LOS A to C during both AM and PM peak hours.

### Active Transportation

There is currently no cycling infrastructure on Lundy's Lane, and the existing sidewalks do not meet AODA requirements for width and crossfall in certain sections. Given that Lundy's Lane is a major east/west arterial road, and that it is one of only five streets in Niagara Falls accessible to pedestrians and cyclists that crosses the OPG canal, improved active transportation infrastructure is desirable from a multi-modal transportation perspective.

### Archaeological Resources

The Stage 1 Archaeological Assessment (**Appendix B**) determined that the entire study area had a moderate to high potential for the identification and recovery of archaeological resources. A Stage 2 Archaeological Assessment of the manicured grass boulevards within the study area is recommended and will be completed during the detailed design phase of the project and prior to any ground disturbing activities.

### Built Heritage Resources and Cultural Heritage Landscapes

Three Cultural Heritage Landscapes and 12 Built Heritage Resources were identified within and adjacent to the Lundy's Lane study area, as documented in the Cultural Heritage Report (**Appendix C**). The Cultural Heritage Landscapes include the William Lundy Homestead plaque, Lundy's Lane Cemetery and the OPG Hydro Canal. The 12 Built Heritage Resources include several historically significant buildings and houses, the bridge crossing the Queen Elizabeth Way, and the bridge crossing the OPG Hydro Canal.

### Soil Quality

The Geotechnical Investigation (Appendix D.1) found the soil in the study area to be corrosive to steel or iron in 16 of the 18 boreholes. Therefore, corrosion protection on below grade steel pipes and appurtenances is recommended. Samples were also tested for sulphate levels, however results were considered to be negligible.

An Assessment of Past Uses (**Appendix D.2**) dated June 7, 2022 was conducted and 14 potential contaminated sites were discovered in the study area. A Preliminary Excess Soil

Characterisation Report (**Appendix D.3**) dated June 8, 2022 was completed and provided background on potential areas of environmental concern, the site visit and soil sampling methodology used in the field, laboratory analytical test results used for all 18 boreholes, environmental considerations for soil reuse, and the results of toxicity characteristic leaching procedure (TCLP) sampling.

#### Driveway Consolidation

There are many driveway accesses along Lundy's Lane. This has created traffic issues when attempting to turn left from Lundy's Lane into a property, or when turning left from a property onto Lundy's Lane. One option to consider for managing accesses is driveway consolidation.

#### City of Niagara Falls Servicing

The Niagara Region plans to abandon a 500mm diameter cast iron watermain from the elevated tank at 6250 Lundy's Lane, west to Montrose Road. This watermain currently services the properties along this section of Lundy's Lane. The City of Niagara Falls intends to construct a PVC watermain to replace the cast iron watermain and service the properties on Lundy's Lane.

The City of Niagara Falls is responsible for the existing sanitary sewer on Lundy's Lane. A study was done by the City in the past to identify sections of the sewer that require replacement, and sections that require rehabilitation. The sections that require work will be confirmed during the detailed design phase.

### 1.4. DESCRIPTION OF THE CLASS EA PROCESS

Municipal road projects in Ontario are subject to the provisions of the Environmental Assessment Act (EA Act) and its requirement to undertake an Environmental Assessment (EA). The Ontario Municipal Engineers Association (MEA) *Municipal Class Environmental Assessment document (October 2000, as amended in 2004, 2007, 2011, 2015, 2023, and 2024)*, provides municipalities with a five phase planning process approved under the EA Act, to plan and undertake all municipal transportation, stormwater management, water, and sewage projects that recur frequently, are usually limited in scale, and have a predictable range of impacts. The Municipal Class EA document also serves as a public statement of the decision-making process followed by municipalities in the planning and implementation of needed infrastructure.

The five phases of the Municipal Class Environmental Assessment (MCEA) planning and design process are summarized as follows:

**Phase 1** Identify the problem (deficiency) or opportunity.

**Phase 2** Identify alternative solutions to address the problem or opportunity by taking into consideration the existing environment and establish the preferred planning solution taking into account public, Indigenous Communities, and review agency input. At this point, determine the appropriate Schedule for the undertaking (see Appendix 1 of MCEA process document) and document decisions in a Project File Report for Schedule B projects, or proceed through the Phases 3 and 4 for Schedule C projects.

- Phase 3** Examine alternative methods (design alternatives) of implementing the preferred planning solution, based upon the existing environment, public, Indigenous Community and review agency input, anticipated environmental effects and methods of minimizing negative effects and maximizing positive benefits.
- Phase 4** Document in an Environmental Study Report (ESR) a summary of the rationale, and the planning, design, and consultation process of the project as established through the above Phases, and make such documentation available for review by agencies, Indigenous Communities and the public. If concerns are raised regarding potential impact on constitutionally protected Aboriginal and treaty rights that cannot be resolved through discussions with the Niagara Region, a "Section 16 Order" request may be submitted to the Minister of the Environment, Conservation and Parks before the end of the review period. For more information about Section 16 Order Requests, refer to **Section 1.5** of this report.
- Phase 5** Complete contract drawings and documents; proceed to construction and operation; monitor construction for adherence to environmental provisions and commitments. Where special conditions dictate, also monitor the operation of the completed facilities.

Projects undertaken through the Municipal Class EA process are "classified" by municipalities as an Exempt Project from the requirements of the Environmental Assessment Act (formerly Schedule 'A' and 'A+' Class EAs), a Schedule 'B' Class EA or a Schedule 'C' Class EA in accordance with their degree of potential environmental impact.

Schedule 'C' Class EAs must proceed with the first four phases of the Class EA process specified in the Municipal Class EA document. The Class EA study for improvements to Regional Road 20 (Lundy's Lane) was classified as a Schedule 'C' project. Schedule 'C' projects have the potential for some adverse environmental impacts, which requires the proponent to undertake a screening process in consultation with relevant interested parties. These projects generally include the construction of new facilities and major expansions to existing facilities.

**Figure 1-2** summarizes the basic structure of the MCEA process and highlights the planning phases that were followed to complete this study.

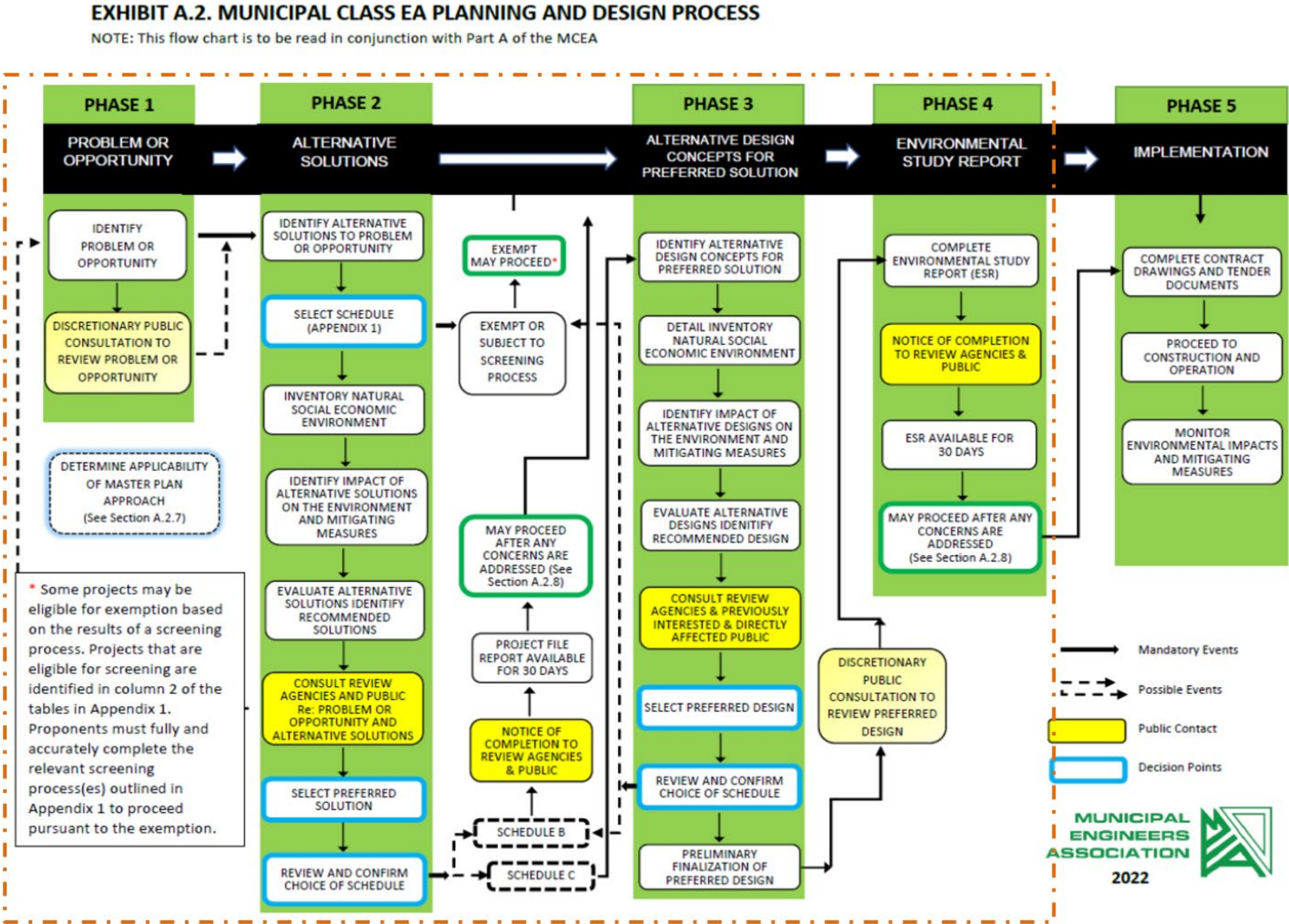


Figure 1-2: Municipal Class EA Planning and Design Process

(Source: Municipal Engineers Association Municipal Class Environmental Assessment Document, October 2000, as amended in 2004, 2007, 2011, 2015, 2023, and 2024)

Consistent with the Municipal Class EA requirements, the study approach has been designed to meet the following objectives:

1. Protection of the environment, including natural, social and economic components of the environment.
2. Minimal disruption during construction to existing residents and business owners who rely on this roadway.
3. Participation of a broad range of interested parties in the study process to allow for sharing of ideas, education and developing alternatives.
4. Documentation of the study process in the form of an ESR.

Once the ESR is filed with the MECP, and if there are no outstanding Section 16 Order requests, then the proponent (Niagara Region) will have complied with Section 13(3) of the EA Act and may proceed to implement the preferred design concept.

## **1.5. SECTION 16 ORDER REQUESTS**

Section 16 of the amended *Ontario EA Act* contains provisions for the Minister of the Environment, Conservation and Parks (or delegate) to review the status of a project, which may result in the Minister issuing a Section 16(1) or Section 16(3) Order. A Section 16(1) Order requires the proponent to obtain approval under Part II of the *Ontario EA Act* (a Class Environmental Assessment). A Section 16(3) Order requires the proponent to meet conditions specified by the Minister in the Order. Interested parties may also submit an order to the Minister (or delegate) under Section 16, called a Section 16(6) Order request, if they feel that the project may have adverse impacts to constitutionally protected Aboriginal and treaty rights that cannot be resolved privately with the proponent (Niagara Region). The Minister can then require Niagara Region to undertake a Comprehensive Environmental Assessment or comply with new conditions under a Section 16(3) Order before proceeding with a proposed project.

It is preferable to resolve these concerns at the local level rather than to refer the matter to the Minister. Accordingly, even when serious concerns are raised late in the planning process, specifically during the 30-day review period, the proponent and the concerned party should work together to resolve conflicts and the 30-day review period may be extended to allow for the resolution of outstanding issues. Negotiations between the proponent and the concerned party will continue for a mutually acceptable specified time period, following which, if the issues remain unresolved, the concerned party may write to the Minister (or delegate) and request a Section 16(6) Order within a further seven (7) calendar days.

Interested parties may request that the Minister (or delegate) review a specific project only on the grounds that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights. The Minister of the Environment, Conservation and Parks would respond to a Section 16(6) Order request by deciding whether to deny the request, refer the matter to mediation or require the proponent to comply with further conditions in addition to the conditions of the Class EA.

To submit a Section 16(6) Order request, the following information must be provided to ensure that the ministry is able to efficiently begin reviewing the request:

- Name, address and email address;
- Project name;
- Proponent name;
- What kind of Order is being requested i.e., a request for additional conditions or a request for an individual environmental assessment;
- Details about the concerns about potential adverse impacts on constitutionally protected Aboriginal or treaty rights and how the proposed Order may prevent, mitigate potential adverse impacts on Aboriginal and treaty rights, and any information in support of the statements in the request;
- Whether the concerned party belongs to, represents or has spoken with an Indigenous community whose constitutionally protected Aboriginal or treaty rights may be adversely impacted by the proposed project;
- Whether the concerned party has raised their concerns with the proponent, the proponent's response (if any) and why the concerns could not be resolved with the proponent; and
- Any other information to support the request.

Anyone wishing to request a Section 16 Order for the Regional Road 20 (Lundy's Lane) Class EA Study must submit a written request by the end of the 30-calendar day review period to the Minister of the Environment, Conservation and Parks at the following address, with a copy sent to Niagara Region:

**Minister**  
**Ministry of the Environment, Conservation and Parks**  
777 Bay Street, 5th Floor  
Toronto ON M7A 2J3  
Email: [Minister.mecp@ontario.ca](mailto:Minister.mecp@ontario.ca)

**Director**  
**Environmental Assessment Branch**  
**Ministry of the Environment, Conservation and Parks**  
135 St. Clair Avenue West, 1st Floor  
Toronto ON M4V 1P5  
Email: [EABDirector@ontario.ca](mailto:EABDirector@ontario.ca)

**Niagara Region**  
**Attn: Mr. Maged Elmadhoon, M.Eng., P.Eng.**  
**Manager, Transportation Planning**  
1815 Sir Isaac Brock Way  
PO Box 1042  
Thorold, Ontario, L2V 4T7  
Telephone: (905) 980-6000 ext. 3583  
Email: [maged.elmadhoon@niagararegion.ca](mailto:maged.elmadhoon@niagararegion.ca)

Once the 30-day review period is completed, any comments or additional input received will be considered and following successful resolution of any outstanding concerns, the Niagara Region may proceed to implement the preferred design concept as described in the Environmental Study Report. For more information and specific instruction and details on the process, please visit:

<https://www.ontario.ca/page/class-environmental-assessments-section-16-order>

**NOTE:** The Section 16 Order process does not allow the Minister to reject, cancel or otherwise stop an EA conducted by a proponent. Instead, the Minister makes a decision on whether or not the EA process has been followed and may place conditions on the implementation of the undertaking.

## 1.6. STUDY SCHEDULE – CONSULTATION AND KEY MILESTONES

The Class EA study was initiated in September 2021 at a project initiation meeting. The Notice of Study Commencement was circulated in October 2021. The study was carried out in accordance with the approved Municipal Class EA process for a Schedule C Class EA project. Key milestones are detailed in **Table 1-1**.

**Table 1-1: Class EA Study Key Milestones**

| Notice Type                                                                 | Delivery Methods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notice of Study Commencement                                                | <ul style="list-style-type: none"> <li>Published on the Region's website on October 28, 2021</li> <li>Advertised in <i>Niagara This Week</i> on October 22, 2021.</li> <li>Distributed to Indigenous Communities on November 3, 2021 by Niagara Region staff.</li> <li>A combined Notice of Study Commencement and Notice of PIC #1 was hand-delivered to area residents and businesses on March 25, 2022 and emailed to interested parties on April 1, 2022.</li> <li>Provided to MECP (EAAB department) via email on April 1, 2022.</li> </ul> |
| Public Information Centre (PIC) #1 – Held to introduce the Class EA project | <ul style="list-style-type: none"> <li>Held virtually on April 20, 2022 at 6:00 p.m.</li> <li>Notice of PIC #1 was hand-delivered to study area residents and businesses on March 25, 2022.</li> <li>Notice of PIC #1 was emailed to interested parties on April 1, 2022.</li> </ul>                                                                                                                                                                                                                                                             |

| Notice Type                                                                                                                 | Delivery Methods                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Public Information Centre (PIC) #2 – Held to present the alternative planning solutions and the preferred planning solution | <ul style="list-style-type: none"> <li>Held virtually on June 22, 2022 at 6:00 p.m.</li> <li>Notice of PIC #2 was hand-delivered to study area residents and businesses on May 25, 2022.</li> <li>Notice of PIC #2 was emailed to interested parties on May 27, 2022.</li> </ul>                                                     |
| Public Information Centre (PIC) #3 – Held to present the alternative design concepts and the preferred design concept       | <ul style="list-style-type: none"> <li>Held in-person on May 17, 2023, at Stamford Collegiate Secondary School from 6:30 p.m. to 8:00 pm</li> <li>Notice of PIC #3 was delivered to study area residents and businesses on April 20, 2023.</li> <li>Notice of PIC #3 was emailed to interested parties on April 14, 2023.</li> </ul> |
| Notice of Study Completion                                                                                                  | <ul style="list-style-type: none"> <li>Published the week of October 12, 2026.</li> </ul>                                                                                                                                                                                                                                            |
| Environmental Study Report released for mandatory 30-day public review                                                      | <ul style="list-style-type: none"> <li>October 20, 2026.</li> </ul>                                                                                                                                                                                                                                                                  |
| End of the mandatory 30-day public review period (last day for interested parties to provide comment)                       | <ul style="list-style-type: none"> <li>November 19, 2026.</li> </ul>                                                                                                                                                                                                                                                                 |

## 1.7. STUDY TEAM ORGANIZATION

The Project Team included staff from the Niagara Region, the City of Niagara Falls and Urban & Environmental Management Inc. (UEM) and its sub-consultants. Below, **Table 1-2** provides an overview of the main members of the Lundy's Lane Class EA study team.

**Table 1-2: Lundy's Lane Class EA Study Team**

| Organization                  | Project Team Members            | Roles                                                 |
|-------------------------------|---------------------------------|-------------------------------------------------------|
| Niagara Region<br>(Proponent) | Maged Elmadhoon, M.Eng., P.Eng. | Manager<br>Transportation Planning                    |
|                               | Graeme Guthrie, C.E.T.          | Associate Director,<br>Transportation Engineering     |
|                               | Scott Fraser, M.Eng., P.Eng.    | Associate Director,<br>Transportation Planning        |
|                               | Stephanie Huppunen, C.E.T.      | Manager, Capital Projects                             |
|                               | Rawi El-Masri, P.Eng.           | Senior Project Manager,<br>Transportation Engineering |

| Organization                                                  | Project Team Members                                                                                                   | Roles                                                                                             |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Urban & Environmental Management Inc.<br>(Primary Consultant) | Steve Brant, P.Eng.                                                                                                    | Consultant Project Manager                                                                        |
|                                                               | Greg Taras, RPP                                                                                                        | Senior Planner                                                                                    |
|                                                               | Art Klassen                                                                                                            | Senior CAD Designer                                                                               |
|                                                               | Erin Lee, P.Eng.                                                                                                       | Design Engineer                                                                                   |
|                                                               | Samantha Beam, B.Sc., EMAGC                                                                                            | Environmental Planner                                                                             |
|                                                               | Mike Benson, BES, RPP                                                                                                  | Land Use Planner                                                                                  |
| City of Niagara Falls                                         | Zach Staples                                                                                                           | Project Engineer                                                                                  |
|                                                               | Wendy Eitzen                                                                                                           | Project Manager, Municipal Works - Engineering                                                    |
|                                                               | Mathew Bilodeau                                                                                                        | Senior Manager, Transportation Services                                                           |
|                                                               | Erik Nickel                                                                                                            | Director, Municipal Works                                                                         |
| Detritus Consulting Ltd.<br>(Sub-Consultant)                  | Michael Pitul, M.A.                                                                                                    | Stage 1 Archaeological Assessment;                                                                |
| Archaeological Research Associates Ltd.<br>(Sub-Consultant)   | Amy Barnes, M.A., CAHP                                                                                                 | Cultural Heritage Assessment                                                                      |
| Soil-Mat Engineers & Consultants Ltd.<br>(Sub-Consultant)     | Ian Shaw, P.Eng.<br>Adam Roemmele, B.Eng.<br>Peter Markesic<br>Keith Gleadall, B.A. EA Dipl<br>Kyle Richardson, P.Eng. | Assessment of Past Uses<br>Preliminary Excess Soil Characterisation<br>Geotechnical Investigation |
| Paradigm Transportation Solutions Limited<br>(Sub-Consultant) | Adam Makarewicz, C.E.T.<br>Stew Elkins, B.E.S.<br>Greg Lue, M.A.Sc., P.Eng.                                            | Transportation Assessment                                                                         |
| Russell Technical Services Inc.<br>(Sub-Consultant)           | Gary Russell, C.E.T.                                                                                                   | Topographic Survey                                                                                |

## 2.0 EXISTING CONDITIONS

The Municipal Class EA process requires that the existing conditions within the project study area be inventoried to provide a basis of comparison to future conditions and to assist in the evaluation of potential environmental impacts of the alternative solutions and design concepts.

The following sections describe the existing environment and physical conditions within the study area. The project boundaries are shown in **Figure 1-1**.

### 2.1. TRANSPORTATION ENVIRONMENT

A Transportation Assessment was completed by Paradigm Transportation Solutions Limited and the detailed report is provided in **Appendix A**. The report describes the profile of existing roadways, analysis of operational conditions, active transportation facilities, and collision data.

The future horizon year considered for this Class EA transportation assessment is the year 2041. The assessment provides an overview of the existing conditions within the study area and documents the findings of the traffic operations analysis, based on the traffic forecasting that was completed to obtain the 2041 travel demands at the study intersections.

#### 2.1.1. EXISTING ROADWAY FACILITIES

The Lundy's Lane study area extends from Highland Avenue in the east to Regional Road 98 (Montrose Road) in the west in the City of Niagara Falls. Within the project limits, the road serves local residents, commercial properties, and tourists visiting Niagara Falls.

Lundy's Lane has an east/west orientation and intersects with numerous roadways and driveways, which provides access to private residences and commercial establishments. Thirteen intersections were analyzed as part of this Class EA Study, of which five are signalized and eight are unsignalized. The intersections analyzed are as follows:

##### Signalized Intersections:

- Lundy's Lane @ Montrose Road
- Lundy's Lane @ Belmont Avenue
- Lundy's Lane @ Royal Manor Drive
- Lundy's Lane @ Dorchester Road
- Lundy's Lane @ Highland Avenue

##### Unsignalized Intersections:

- Lundy's Lane @ Brookfield Avenue
- Lundy's Lane @ Mouland Avenue
- Lundy's Lane @ Depew Avenue
- Lundy's Lane @ Corwin Avenue
- Lundy's Lane @ Prince Edward Avenue
- Lundy's Lane @ Byng Avenue/Carlton Avenue
- Lundy's Lane @ Franklin Avenue
- Lundy's Lane @ Glenholme Avenue

The 2016 Transportation Tomorrow Survey (TTS), conducted by the University of Toronto Data Management Group, indicates that active transportation (i.e. walking and cycling) accounts for 4% of trips originating in the City of Niagara Falls.

Within the study area, sidewalks are provided on both sides of Lundy's Lane. The existing cycling network, specifically along Lundy's Lane, is limited, with no on-street bike lanes, paved shoulders, or off-street facilities in the form of multi-use or informal trails. Cyclists wishing to travel east-west along Lundy's Lane are faced with shared arrangements with high volumes of vehicle traffic or are required to divert to lower-order nearby roadways to limit exposure to vehicle conflicts. The lack of on-street cycling facilities and high volume of vehicles may dissuade cyclists from traveling along the road.

Lundy's Lane is designated as a Regional Road and the entirety of the Study Area lies within the Settlement Area per Schedule A of the *Niagara Region Official Plan (2022)*.

### 2.1.2. ROADWAY CHARACTERISTICS

Regional Road 20 (Lundy's Lane), within the study area, is a four-lane roadway with an urban cross-section. It has auxiliary left-turn lanes at its intersections with Regional Road 98 (Montrose Road), Belmont Avenue, Dorchester Road, and Highland Avenue. The road allowance width of Regional Road 20 (Lundy's Lane) within the study area varies between 19m and 36m, but averages approximately 20m. The width of the roadway is constrained at the location where it crosses over the Ontario Power Generation (OPG) hydro canal.

The posted speed limit on the section of the Regional Road 20 (Lundy's Lane) corridor within the project limits is 50 km/h.

### 2.1.3. TRANSIT

Niagara Region Transit provides service on weekdays and weekends within the limits of the study area. The 2016 Transportation Tomorrow Survey (TTS) indicates that transit ridership accounts for 1% of trips originating in the City of Niagara Falls and does not include school buses. Transit ridership volumes within the Lundy's Lane study area were obtained from the City of Niagara Falls, which indicated that pre-COVID ridership in 2019 was 73,500. Long-term growth is considered to be an increase of 4% annually to a ridership projection of 107,400 for 2041 in the Lundy's Lane study area.

Route 116/216 runs along Lundy's Lane, across the entirety of the study area and beyond. The frequency of bus service is every 30 minutes, Monday to Saturday from 6:00 AM to 11:29 PM and every 30 minutes from 6:35 AM to 9:17 PM on Sundays.

On the western limit of the study area, Route 60/65 has a stop at the intersection of Lundy's Lane and Montrose Road, intersecting it perpendicularly and connecting to hubs such as Morrison/Dorchester, Canada Drive, the Welland Bus Terminal, and Niagara College's Welland Campus. The frequency of bus service on this route on weekdays is every 30 minutes from 7:00 AM to 11:15 PM and, on Saturdays, every 60 minutes from 7:00 AM to 10:45 PM. There is no bus service for this route on Sundays.

Also on the western limit of the study area, Routes 113/113b and 213/213b run north/south along Montrose Road connecting the Mount Carmel transit hub with the Canadian Drive hub at Niagara Square. The frequency of bus service on this route from

Monday to Saturday is every 60 minutes from 5:57 AM to 10:04 PM and every 60 minutes from 7:15 AM to 7:38 PM on Sundays.

Route 111/211 crosses through the study area, running north/south along Dorchester Road between the Morrison/Dorchester transit hub with the Canadian Drive hub at Niagara Square. The frequency of bus service on this route from Monday to Saturday is every 30 minutes between 6:00 AM and 11:15 PM and every 30 minutes from 7:15 AM to 8:42 PM on Sundays.

#### **2.1.4. ACTIVE TRANSPORTATION MODAL SPLIT**

Travel modes within the City of Niagara Falls are estimated based on the 2016 Transportation Tomorrow Survey, referenced in the Transportation Assessment (**Appendix A**) by Paradigm Transportation Solutions Limited (May 2024). According to the survey, active transportation accounted for 5% of daily trips in 2016, including 0.6% by cycling and 4.4% by walking.

The modal share within the Lundy's Lane study area differs from the city at large. Along Lundy's Lane, during a survey conducted in October 2022 during peak hours, cyclists accounted for 0.30% of trips at the intersections with Montrose Road and Dorchester Road, and 0.20% of trips at the intersection with Highland Avenue. This means that cycling represents less than half of the modal share in the study area than it does for the entire city.

#### **2.1.5. EXISTING TRAFFIC VOLUMES AND OPERATIONS**

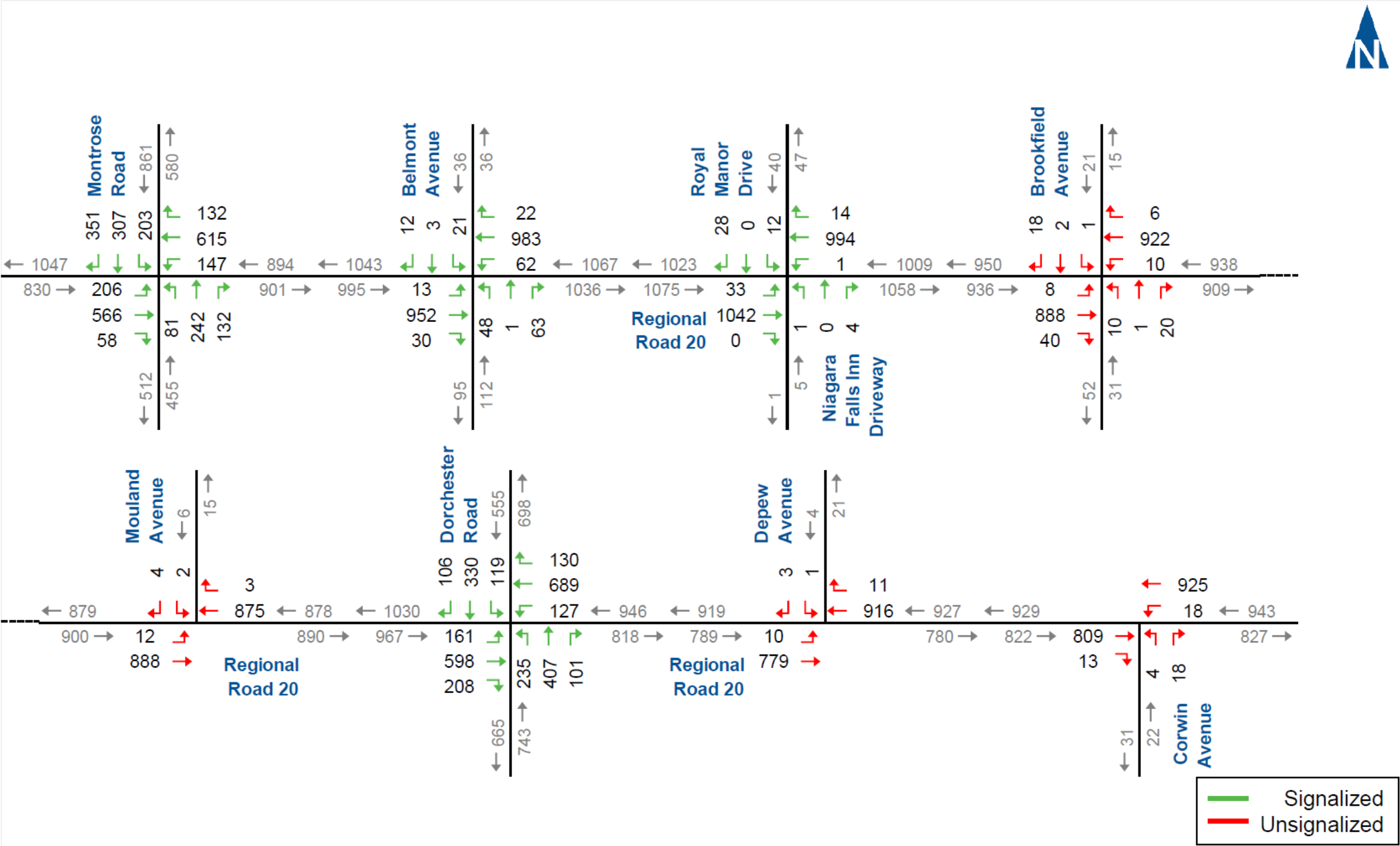
Traffic volumes were primarily collected within the Lundy's Lane study area in November 2021 by Paradigm Transportation Solutions Limited using turning movement counts (TMC) at intersections. Some intersections' traffic counts utilized, however, were collected by the Niagara Region in July and October 2019. These counts were utilized due to them being more reflective of the traffic volumes pre-COVID. The counts obtained in November 2021 were adjusted to account for lower vehicle use due to COVID-19. **Figures 2-1A to 2-2B** display base year traffic volumes during the peak AM and PM hours.



**Figure 2-1A: Existing Traffic Volumes During AM Peak Hours (Montrose Road to Corwin Avenue)**

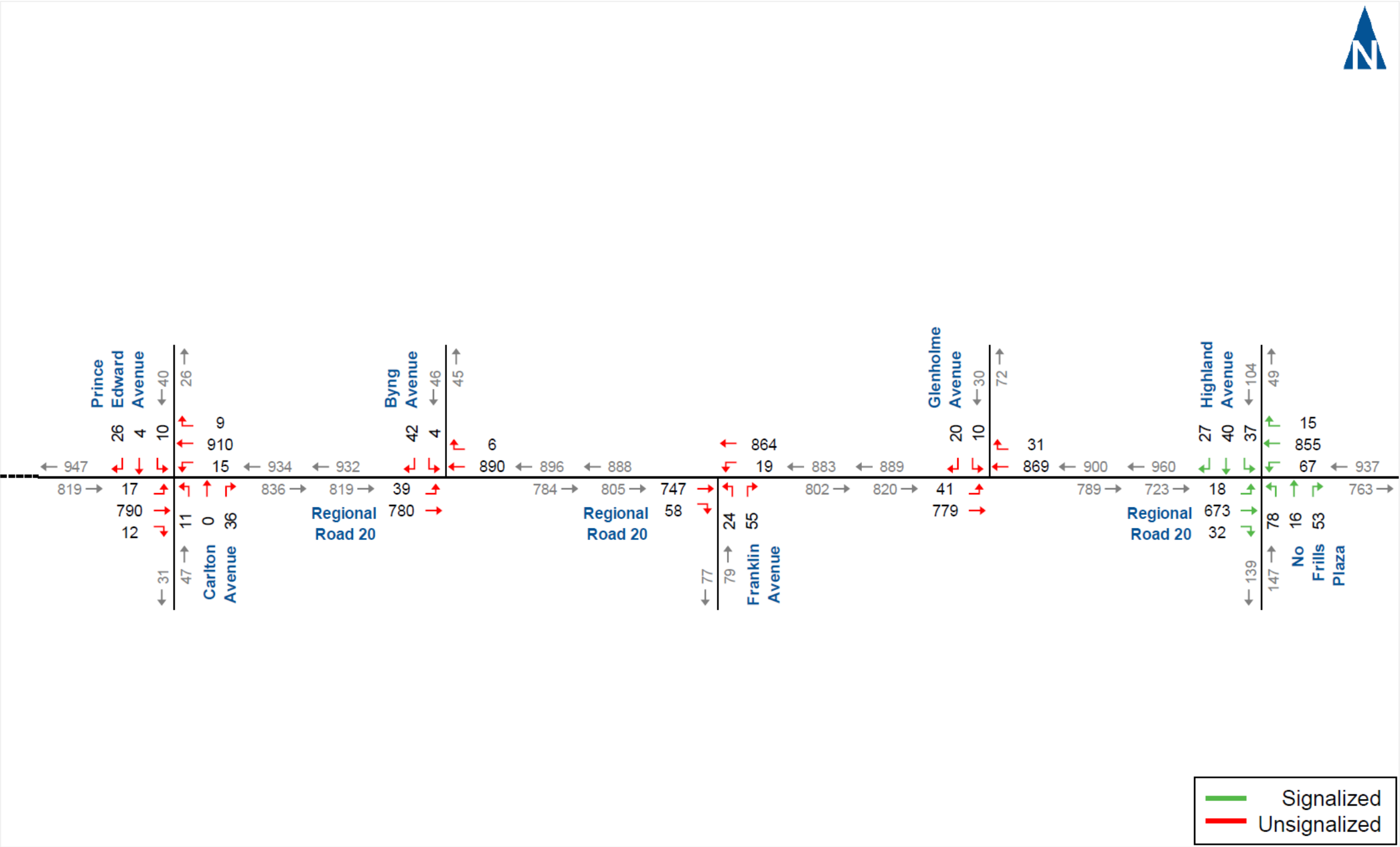


**Figure 2-1B: Existing Traffic Volumes During AM Peak Hours (Carlton Avenue to Highland Avenue)**



# Base Year Traffic Volumes (Montrose Road to Corwin Avenue) - PM Peak Hour

Figure 2-2A: Existing Traffic Volumes During PM Peak Hours (Montrose Road to Corwin Avenue)



# Base Year Traffic Volumes (Carlton Avenue to Highland Avenue) - PM Peak Hour

Figure 2-2B: Existing Traffic Volumes During PM Peak Hours (Carlton Avenue to Highland Avenue)

Currently, localized congestion occurs at study area intersections during the AM and PM peak hours. Eastbound through movement at the signalized intersection at Lundy's Lane and Belmont Avenue operates at LOS (level of service) D with a volume/capacity ratio of 0.95 during the peak hour. At the signalized intersection of Lundy's Lane and Dorchester Road, eastbound through/right, westbound through/right, and northbound through/right movements operate at LOS E and a volume/capacity ratio above 0.85 during the PM peak hour. **Figure 2-3** details the full sensitivity analysis of existing traffic operations.

Generally, congestion results in left-turn queues extending beyond available storage, particularly eastbound and westbound left turns at Montrose Road and Dorchester Road. In the PM peak hour, eastbound shared through/right movements and westbound shared through/right movements at Dorchester Road experience delays. LOS diagrams for the study area's base year are shown in **Figures 2-4A** and **2-4B**.

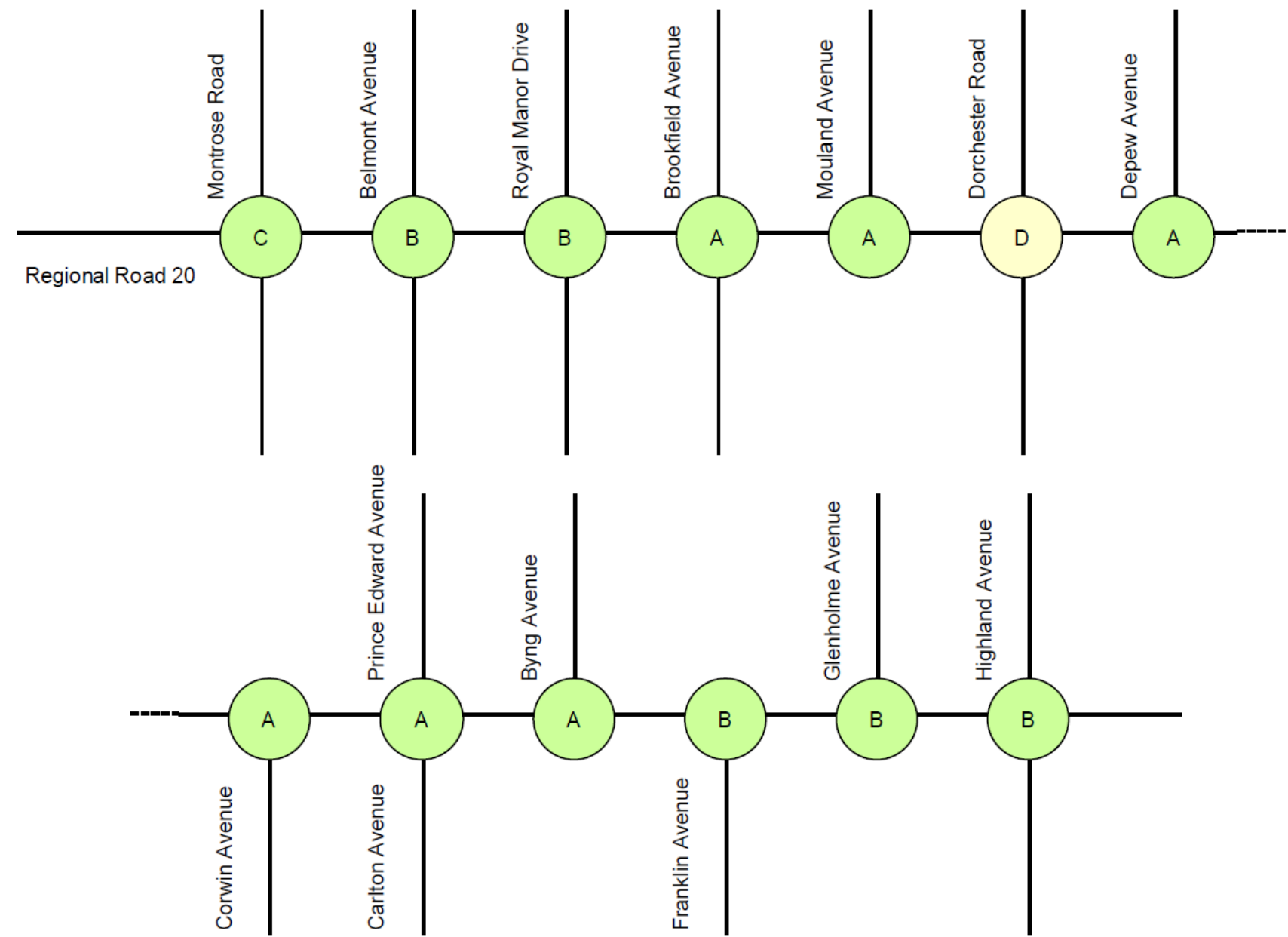
| Analysis Period | Intersection                           | Control Type | Scenario                 | MOE                                      | Direction / Movement / Approach      |                                   |                            |          |                                     |                                   |                                 |          |                                       |                                   |                                 |          |                                      |                                    |                                   |          |          |
|-----------------|----------------------------------------|--------------|--------------------------|------------------------------------------|--------------------------------------|-----------------------------------|----------------------------|----------|-------------------------------------|-----------------------------------|---------------------------------|----------|---------------------------------------|-----------------------------------|---------------------------------|----------|--------------------------------------|------------------------------------|-----------------------------------|----------|----------|
|                 |                                        |              |                          |                                          | Eastbound                            |                                   |                            |          | Westbound                           |                                   |                                 |          | Northbound                            |                                   |                                 |          | Southbound                           |                                    |                                   |          | Overall  |
|                 |                                        |              |                          |                                          | Left                                 | Through                           | Right                      | Approach | Left                                | Through                           | Right                           | Approach | Left                                  | Through                           | Right                           | Approach | Left                                 | Through                            | Right                             | Approach |          |
| AM Peak Hour    | 1- Regional Road 20 & Regional Road 98 | TCS          | Without Right Turn Lanes | LOS<br>Delay<br>V/C<br>Q<br>Ex<br>Avail. | D<br>40<br>0.83<br>101<br>55<br>-46  | D<br>36<br>0.55<br>93<br>-<br>-   | ><br>><br>><br>><br>><br>> | D<br>38  | D<br>37<br>0.36<br>24<br>35<br>11   | D<br>47<br>0.51<br>67<br>-<br>-   | D<br>40<br>0.08<br>13<br>-<br>- | D<br>44  | C<br>26<br>0.14<br>17<br>45<br>28     | E<br>56<br>0.86<br>193<br>-<br>-  | ><br>><br>><br>><br>><br>>      | D<br>52  | C<br>30<br>0.57<br>36<br>80<br>44    | C<br>30<br>0.31<br>61<br>-<br>-    | C<br>28<br>0.16<br>17<br>70<br>53 | C<br>29  | D<br>40  |
|                 |                                        |              | With Right Turn Lanes    | LOS<br>Delay<br>V/C<br>Q<br>Ex<br>Avail. | D<br>53<br>0.94<br>97.5<br>55<br>-43 | D<br>29<br>0.6<br>73<br>-<br>-    | ><br>><br>><br>><br>><br>> | D<br>38  | D<br>22<br>0.33<br>18<br>18<br>0    | D<br>28<br>0.41<br>44<br>-<br>-   | D<br>25<br>0.08<br>12<br>-<br>- | D<br>27  | C<br>20<br>0.14<br>13<br>13<br>0      | D<br>36<br>0.69<br>95<br>-<br>-   | C<br>24<br>0.10<br>13<br>-<br>- | C<br>31  | C<br>24<br>0.44<br>28<br>28<br>0     | C<br>20<br>0.36<br>50<br>-<br>-    | C<br>26<br>0.16<br>16<br>-<br>-   | C<br>23  | C<br>31  |
|                 | 6 - Regional Road 20 & Dorchester Road | TCS          | Without Right Turn Lanes | LOS<br>Delay<br>V/C<br>Q<br>Ex<br>Avail. | C<br>32<br>0.60<br>61<br>40<br>-21   | E<br>60<br>0.93<br>143<br>-<br>-  | ><br>><br>><br>><br>><br>> | E<br>56  | C<br>30<br>0.47<br>18<br>45<br>27   | D<br>37<br>0.63<br>70<br>-<br>-   | ><br>><br>><br>><br>><br>>      | D<br>36  | C<br>23<br>0.60<br>44<br>50<br>6      | D<br>39<br>0.77<br>152<br>-<br>-  | ><br>><br>><br>><br>><br>>      | C<br>34  | C<br>22<br>0.38<br>23<br>30<br>7     | D<br>35<br>0.65<br>112<br>-<br>-   | ><br>><br>><br>><br>><br>>        | C<br>33  | D<br>43  |
|                 |                                        |              | With Right Turn Lanes    | LOS<br>Delay<br>V/C<br>Q<br>Ex<br>Avail. | C<br>28<br>0.66<br>40<br>40<br>0     | D<br>55<br>0.96<br>140<br>-<br>-  | ><br>><br>><br>><br>><br>> | D<br>50  | C<br>25<br>0.45<br>17<br>45<br>28   | C<br>30<br>0.55<br>59<br>-<br>-   | ><br>><br>><br>><br>><br>>      | C<br>29  | C<br>21<br>0.54<br>40<br>50<br>10     | C<br>30<br>0.61<br>101<br>-<br>-  | C<br>20<br>0.06<br>9<br>-       | C<br>26  | B<br>19<br>0.38<br>21<br>30<br>9     | C<br>28<br>0.65<br>81<br>-<br>-    | C<br>21<br>0.05<br>3<br>-         | C<br>26  | D<br>36  |
| PM Peak Hour    | 1- Regional Road 20 & Regional Road 98 | TCS          | Without Right Turn Lanes | LOS<br>Delay<br>V/C<br>Q<br>Ex<br>Avail. | F<br>129<br>1.11<br>139<br>55<br>-84 | E<br>57<br>0.90<br>166<br>-<br>-  | ><br>><br>><br>><br>><br>> | E<br>75  | E<br>78<br>0.95<br>89<br>35<br>-54  | E<br>80<br>1.00<br>179<br>-<br>-  | D<br>38<br>0.18<br>25<br>-<br>- | E<br>73  | C<br>34<br>0.44<br>30<br>45<br>15     | F<br>135<br>1.14<br>246<br>-<br>- | ><br>><br>><br>><br>><br>>      | F<br>117 | F<br>120<br>1.08<br>134<br>80<br>-54 | D<br>42<br>0.70<br>146<br>-<br>-14 | D<br>38<br>0.58<br>84<br>70<br>-  | E<br>59  | E<br>76  |
|                 |                                        |              | With Right Turn Lanes    | LOS<br>Delay<br>V/C<br>Q<br>Ex<br>Avail. | F<br>80<br>1.00<br>99<br>55<br>-44   | D<br>38<br>0.84<br>115<br>-<br>-  | ><br>><br>><br>><br>><br>> | D<br>49  | E<br>65<br>0.93<br>64<br>35<br>-29  | E<br>65<br>0.99<br>139<br>-<br>-  | C<br>27<br>0.14<br>16<br>-<br>- | E<br>59  | D<br>39<br>0.53<br>40<br>45<br>5      | D<br>41<br>0.72<br>98<br>-<br>-   | C<br>27<br>0.13<br>16<br>-      | D<br>36  | F<br>81<br>1.00<br>90<br>80<br>-10   | C<br>30<br>0.67<br>109<br>-<br>-   | C<br>28<br>0.58<br>69<br>70<br>1  | D<br>41  | D<br>48  |
|                 | 6 - Regional Road 20 & Dorchester Road | TCS          | Without Right Turn Lanes | LOS<br>Delay<br>V/C<br>Q<br>Ex<br>Avail. | F<br>230<br>1.34<br>90<br>40<br>-50  | F<br>168<br>1.24<br>214<br>-<br>- | ><br>><br>><br>><br>><br>> | F<br>178 | F<br>117<br>1.06<br>74<br>45<br>-29 | F<br>168<br>1.27<br>221<br>-<br>- | ><br>><br>><br>><br>><br>>      | F<br>161 | F<br>330<br>1.62<br>153<br>50<br>-103 | F<br>124<br>1.16<br>271<br>-<br>- | ><br>><br>><br>><br>><br>>      | F<br>189 | F<br>112<br>1.06<br>71<br>30<br>-41  | F<br>89<br>1.06<br>226<br>-<br>-   | ><br>><br>><br>><br>><br>>        | F<br>94  | F<br>161 |
|                 |                                        |              | With Right Turn Lanes    | LOS<br>Delay<br>V/C<br>Q<br>Ex<br>Avail. | F<br>154<br>1.18<br>105<br>40<br>-65 | F<br>96<br>1.09<br>212<br>-<br>-  | ><br>><br>><br>><br>><br>> | F<br>106 | F<br>120<br>1.08<br>81<br>45<br>-36 | F<br>131<br>1.18<br>228<br>-<br>- | ><br>><br>><br>><br>><br>>      | F<br>129 | F<br>159<br>1.23<br>134<br>50<br>-84  | E<br>67<br>0.97<br>218<br>-<br>-  | C<br>26<br>0.13<br>18<br>-      | F<br>91  | F<br>110<br>1.02<br>69<br>30<br>-39  | E<br>60<br>0.90<br>176<br>-<br>-   | C<br>30<br>0.11<br>15<br>-        | E<br>65  | F<br>102 |

MOE - Measure of Effectiveness  
LOS - Level of Service  
Delay - Average Delay per Vehicle in Seconds  
Q - 95th Percentile Queue Length  
Ex. - Existing Available Storage  
Avail. - Available Storage  
TCS - Traffic Control Signal  
TWSC - Two-Way Stop Control  
AWSC - All-Way Stop Control  
RBT - Roundabout

Figure 2-3: Sensitivity Analysis of Existing Conditions at Intersections in the Lundy's Lane Study Area



Weekday AM Peak Hour

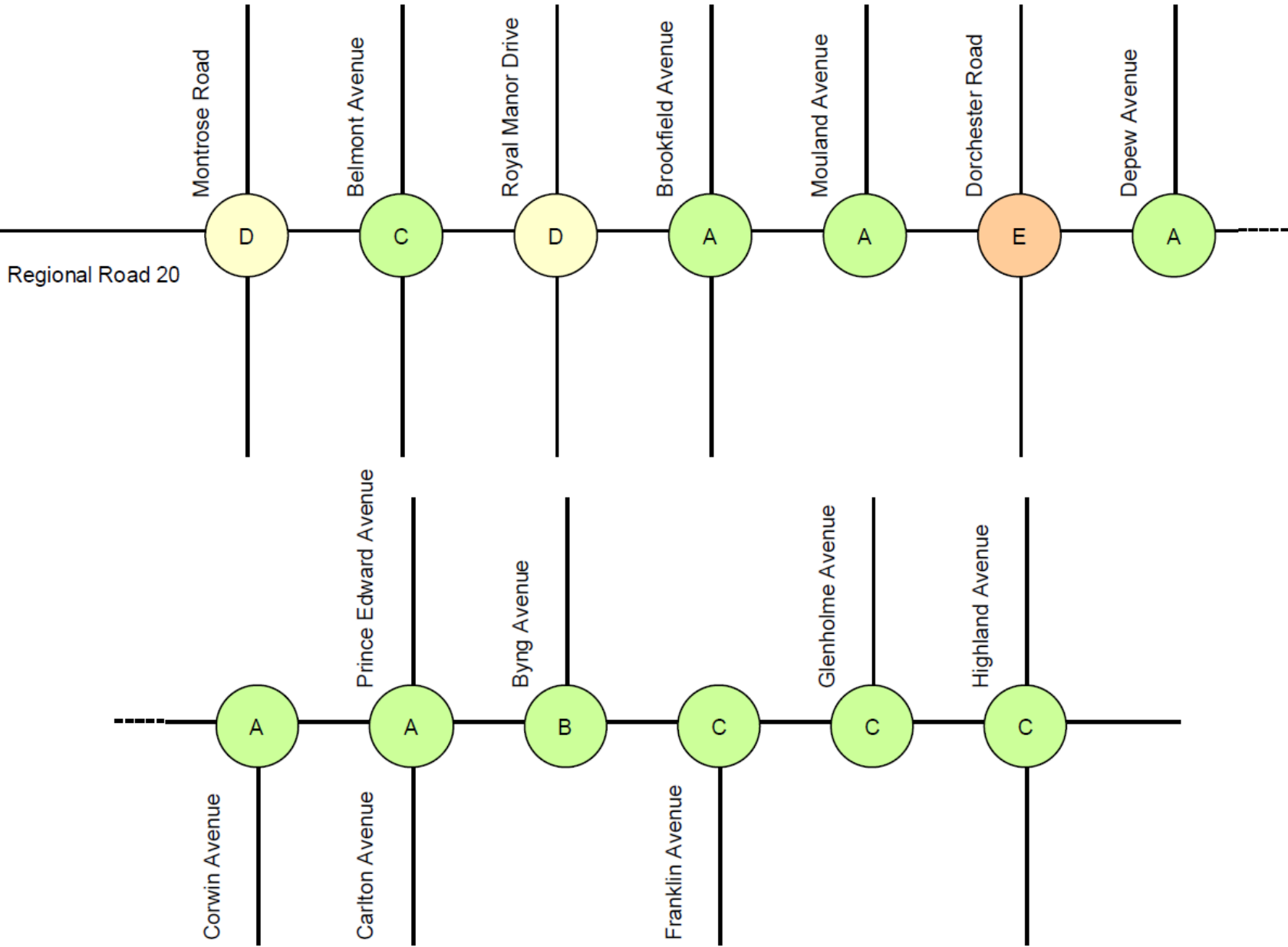


Base Year Peak Hour LOS – AM Peak Hour

Figure 2-4A: Existing Conditions LOS During AM Peak Hour



Weekday PM Peak Hour



Base Year Peak Hour LOS – PM Peak Hour

Figure 2-4B: Existing Conditions LOS During PM Peak Hour

### 2.1.6. COLLISION HISTORY

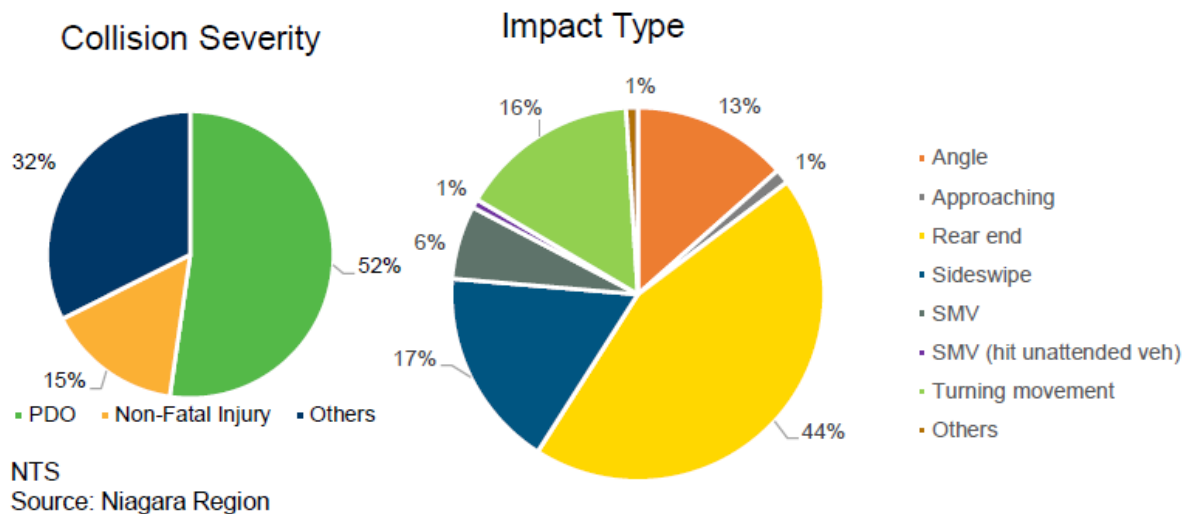
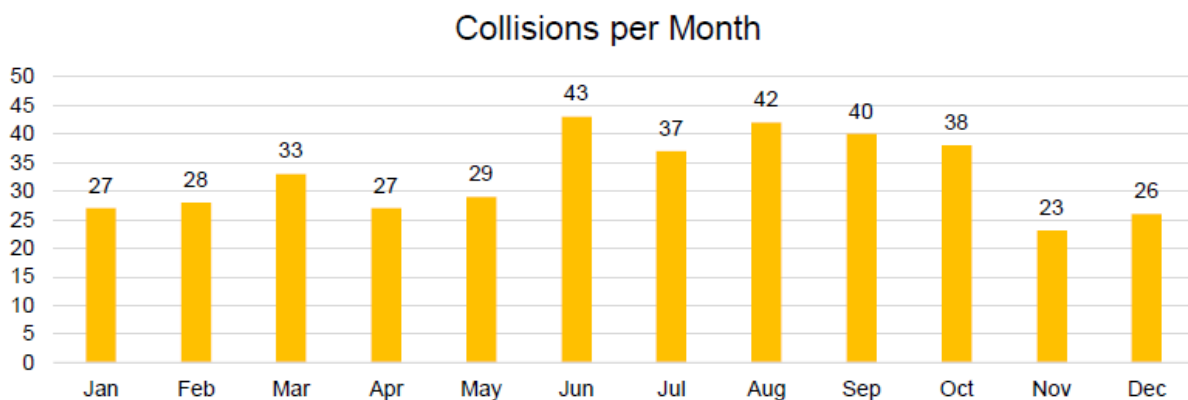
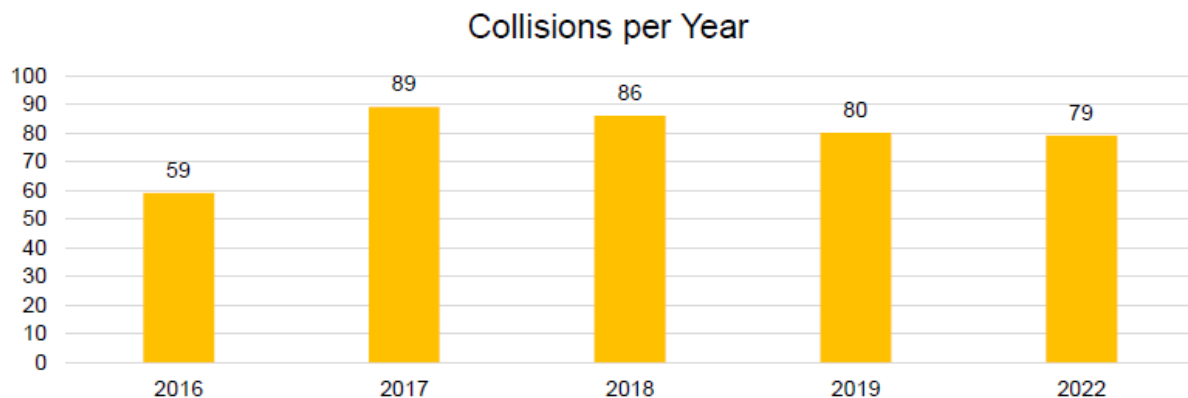
Collision history from 2016 to 2022 (excluding 2020 and 2021 due to the covid-19 pandemic) for Lundy's Lane within the study area was reviewed in the Transportation Assessment (Paradigm Transportation Solutions Limited, May 2024) (**Appendix A**) as part of this Class EA Study. The collision history indicated that a total of 393 collisions occurred within the study area between 2016 and 2019, and in 2022. **Figure 2-5** below shows the collision data visualized over the reviewed years.

As part of the collision review, the summary results were compared against Ontario averages (2020) using the Ontario Road Safety Annual Report to determine if there were any differing profile trends for the distribution of collisions within the Lundy's Lane study area. The following was noted:

- The one fatal collision reported was consistent with the Ontario average, while the non-fatal injury collisions were lower, and property damage was only modestly higher than the Ontario average.
- The study area has a higher percentage of collisions at intersections than the Ontario average. Rear-end collisions are almost double the Ontario average, while single motor vehicle impacts are significantly lower.
- Collisions occurring during rainy conditions are higher than Ontario averages, while those during daylight, dawn/dusk, and dark conditions are relatively close to the Ontario average.
- Collisions during the spring months are higher than the Ontario average, which could be due to sudden weather changes and major storms that impact roadway conditions.

Additionally, based on the same 2020 Ontario Road Safety Annual Report, the Transportation Assessment concluded that the percentage of fatal injury collisions within the study corridor is lower than the City of Niagara Falls average.

Of the 393 documented collisions between 2016 and 2019, and in 2022, 287 (73%) occurred at intersections and 106 (27%) were mid-block collisions. This distribution shows that collisions at intersections are significantly higher within the study area compared to the Ontario average (45.6%). Specifically, collisions are elevated at two signalized intersections (Lundy's Lane at Dorchester Road and Lundy's Lane at Montrose Road), exceeding the general collision predictions for Niagara Regional roads (shown in **Figure 2-6** below). This includes the single fatal collision, which occurred at the Lundy's Lane and Montrose Road intersection in 2019. As noted, these intersections have existing congestion problems. These severe collisions reflect excessive queuing at intersections, which lead to more rear-end collisions due to insufficient storage capacity for the queue, causing it to spill back towards the through lane and risk collisions when drivers behind them have insufficient space to stop.



## Total Collisions Analysis Summary (2016-2019 + 2022)

**Figure 2-5: Total Collisions Analysis Summary (2016-2019 + 2022)**

| Intersection                      | Collision Per Year | Collision Type |        |       |
|-----------------------------------|--------------------|----------------|--------|-------|
|                                   |                    | Total          | Severe | PDO   |
| Lundy's Lane at Belmont Avenue    | Predicted          | 2.48           | 0.44   | 2.04  |
|                                   | Actual (Average)   | 4.00           | 1.00   | 3.00  |
| Lundy's Lane at Royal Manor Drive | Predicted          | 1.93           | 0.34   | 1.59  |
|                                   | Actual (Average)   | 4.80           | 0.00   | 4.80  |
| Lundy's Lane at Highland Avenue   | Predicted          | 2.80           | 0.50   | 2.30  |
|                                   | Actual (Average)   | 5.60           | 1.00   | 4.60  |
| Lundy's Lane at Dorchester Road   | Predicted          | 6.96           | 1.15   | 5.80  |
|                                   | Actual (Average)   | 16.00          | 3.00   | 13.00 |
| Lundy's Lane at Montrose Road     | Predicted          | 7.24           | 1.20   | 6.04  |
|                                   | Actual (Average)   | 18.60          | 2.60   | 16.00 |
| Lundy's Lane at Mouland Avenue    | Predicted          | 0.52           | 0.06   | 0.46  |
|                                   | Actual (Average)   | 0.40           | 0.20   | 0.20  |
| Lundy's Lane at Brookfield Avenue | Predicted          | 0.67           | 0.34   | 0.34  |
|                                   | Actual (Average)   | 0.60           | 0.00   | 0.60  |
| Lundy's Lane at Byng Avenue       | Predicted          | 0.72           | 0.10   | 0.62  |
|                                   | Actual (Average)   | 1.40           | 0.00   | 1.40  |
| Lundy's Lane at Depew Avenue      | Predicted          | 0.50           | 0.06   | 0.44  |
|                                   | Actual (Average)   | 0.40           | 0.00   | 0.40  |
| Lundy's Lane at Glenhome Avenue   | Predicted          | 0.70           | 0.09   | 0.61  |
|                                   | Actual (Average)   | 0.60           | 0.40   | 0.20  |
| Lundys' Lane at Carlton Avenue    | Predicted          | 0.66           | 0.33   | 0.33  |
|                                   | Actual (Average)   | 0.60           | 0.20   | 0.40  |
| Lundy's Lane at Corwin Avenue     | Predicted          | 0.64           | 0.08   | 0.55  |
|                                   | Actual (Average)   | 0.60           | 0.00   | 0.60  |
| Lundy's Lane at Franklin Avenue   | Predicted          | 0.83           | 0.12   | 0.71  |
|                                   | Actual (Average)   | 3.80           | 0.80   | 3.00  |

**Figure 2-6:** Predicted vs. Actual Collisions at Intersections within the Lundy's Lane Study Area

When analyzing mid-block collisions, a collision rate is calculated to adjust the data for traffic volumes and the length of the study area. The resulting collision rate represents the collisions per one million vehicles travelled. This rate is calculated using the following formula:

$$CR = N * 10^6 / 365n * ADT * L$$

CR = Collision Rate

N = Number of Reported Collisions

n = number of years of collision data available

ADT = Average Daily Traffic

L = Length of road section (km)

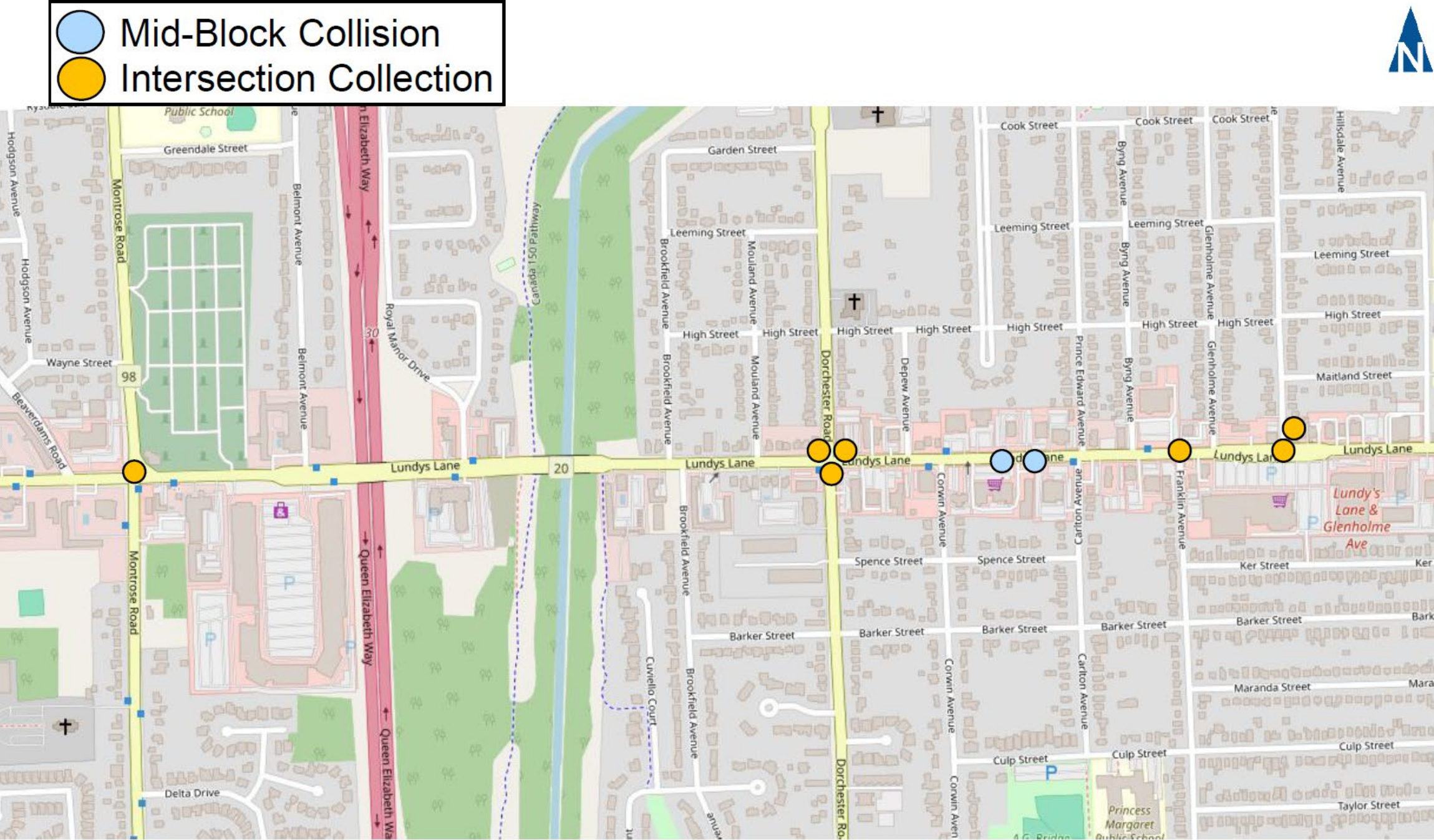
Within the Lundy's Lane Class EA Study Area, the average mid-block collision rate is 1.94 collisions per million vehicles travelled. The following segments of Lundy's Lane exceed the study area average:

- Between Byng Avenue and Carleton Avenue/Prince Edward Avenue
- Between Corwin Avenue and Depew Avenue
- Between Corwin Avenue and Carleton Avenue/Prince Edward Avenue
- Between Franklin Avenue and Byng Avenue

Of the total 106 mid-block collisions in the study area, 67% are reported to be rear-end and sideswipe classifications. This is due to drivers not knowing access points and lacking auxiliary turning lanes. Lack of wayfinding signage and heavy traffic could also be contributing factors. Additionally, the high density of driveways is contributing to higher collision rates.

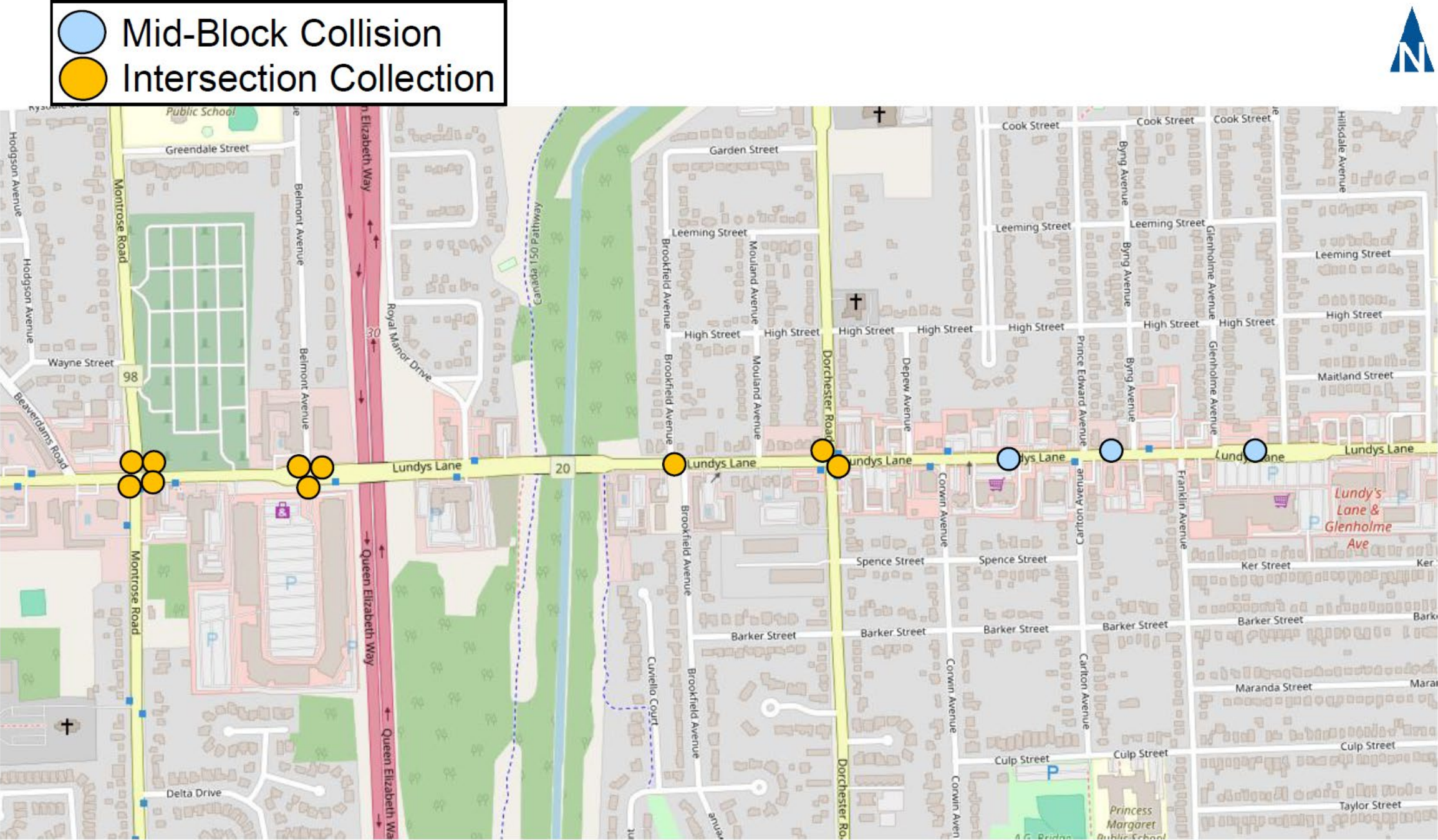
Pedestrian and cyclist collisions represent 5.6% of total collisions within the study area, which is generally consistent with the 5% modal split on the corridor, however 77.8% of all pedestrian collisions and 76.9% of all cyclist collisions result in a form of injury. This indicates that these groups are the most vulnerable road users. Further, the distribution of collisions involving cyclists (~3%) is elevated compared to the number of collisions involving cyclists overall in Niagara Region in 2019 (1.1%). Rear-end and side-swipe collisions accounted for approximately 30% of all collisions involving cyclists and 69% of the collisions involving cyclists occurred during peak hours when traffic operations are degraded, impacting safety performance. Approximate locations of pedestrian and cyclist collisions are displayed in **Figures 2-7** and **2-8**.

Additional details regarding collisions along the Lundy's Lane study area can be found in the Transportation Assessment (Paradigm Transportation Solutions Limited, May 2024) (**Appendix A**). Further safety review was undertaken in a Road Safety Audit (CIMA+, November 2024), which is examined in **Section 6.5** below and is included in **Appendix H**.



## Approximate Location of Pedestrian Collisions

Figure 2-7: Approximate Location of Pedestrian Collisions



## Approximate Location of Cyclist Collisions

Figure 2-8: Approximate Location of Cyclist Collisions

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## 2.1.7. POLICY CONSIDERATIONS

### 2.1.7.1. PROVINCIAL POLICY STATEMENT

The Provincial Policy Statement (PPS; 2024) provides critical guidance for land use and development across Ontario. The PPS includes informative policies regarding the construction of homes within and outside of urban areas, development of new infrastructure and public facilities, use and management of natural resources and the protection of public health and safety.

In relation to the establishment of new transportation systems, the following policy from the PPS is key and must be taken into consideration during the Municipal Class EA process:

- Per Policy 3.2 1., transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, are appropriate to address projected needs, and support the use of zero- and low- emission vehicles.

### 2.1.7.2. NIAGARA REGION TRANSPORTATION MASTER PLAN

Niagara Region's 2017 Transportation Master Plan (TMP) is a key guiding document for providing strategic direction, initiatives, and objectives for the implementation of significant improvements to the transportation system in the Niagara Region.

The TMP recommends that the Niagara Region plan and design all Regional Road projects identified in the Road Capital Plan using a complete streets approach, designing roads to be universally accessible, safe and comfortable for all users (i.e. walking, cycling, public transit and the automobile). Active transportation facilities should be designed, developed, and maintained to ensure they are safe and accessible for all users while balancing the needs of the different active transportation modes and trip types that share the network.

The concept of complete streets is not always about accommodating all modes of transportation on a street to the highest level of service. Rather, the aim is to pursue incremental improvement to a street, making it as complete as possible, with a priority for the main function of the road and ensuring network connectivity. This approach seeks to balance the needs of all users and, while design does not always provide equal accommodation, it is a context sensitive approach that considers both the transportation and placemaking function of the road. As such, complete streets improvements can be realized through a wide variety of roadway projects, from small operations to major roadway constructions.

In addition to the above, one of the key messages expressed by interested parties that were engaged in developing of the TMP was a desire for localized road improvements that improve overall efficiency and operations.

### 2.1.7.3. NIAGARA OFFICIAL PLAN

The Niagara Official Plan (2022) is the Regional Municipality of Niagara's long-term, strategic policy planning framework for managing growth in Niagara. The policies of the Plan guide land use and development, thereby influencing economic, environmental, and planning decisions until 2051 and beyond.

As of March 31, 2025, the Niagara Region transitioned to an upper-tier municipality without planning responsibilities. As a result, the Niagara Official Plan is deemed an official plan of the City of Niagara Falls, as outlined in Section 70.13 (2) of *The Planning Act*.

The Niagara Region is planning to accommodate a minimum population of 694,000 people and 272,000 jobs by 2051. This represents an increase of over 200,000 people and 85,000 jobs compared to 2021. Effective and proactive growth management is needed to ensure there is appropriate housing, employment, and infrastructure available to support Niagara's growth. This includes a 2051 population of 141,650 people and 58,110 jobs within the City of Niagara Falls, up from 94,415 people and 34,527 jobs in 2021.

The following Official Plan policies relate to the need to plan for the above growth projections:

- Under Policy 2.1.1.3, the above population and employment forecasts are used to determine the location and capacity of infrastructure, public service facilities, and the delivery of related programs and services required to meet the needs of Niagara's current and future residents.
- Under Policy 2.1.1.4, local area municipalities shall plan to accommodate the above population and employment allocations in local official plans and use the allocations to determine the location and capacity of local infrastructure, public service facilities, and related programs and services to 2051.
- Under Policy 5.1.5.9, the rights-of-way for the Region's transportation system, major goods movement facilities and corridors, active transportation and public transit facilities will be planned and protected to meet current and projected needs, while ensuring that development is not permitted in planned corridors that could preclude or negatively affect the purposes of the corridor.

#### 2.1.7.4. CITY OF NIAGARA FALLS OFFICIAL PLAN

The Official Plan for the City of Niagara Falls is intended to guide growth and development to the year 2031. For the Class EA Study, the following growth objectives in the City's Official Plan must be taken into account:

- To support increased densities, where appropriate, and the efficient use of infrastructure within the Built-Up section of the urban area.
- To accommodate growth in accordance with the household, population and employment forecasts of the Region's Comprehensive Review.
- To encourage alternative forms of transportation such as walking, cycling and public transit.

Under Niagara Falls Official Plan Policy 1.5.34, the proposed road ROW width for Regional Road 20 (Lundy's Lane) is 26.2m from Garner Road to Main Street, which encompasses the entire study area. Any proposed ROW width greater than 26.2 m would require an amendment to the Niagara Falls Official Plan.

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## **2.2. SOCIO-ECONOMIC ENVIRONMENT**

### **2.2.1. SURROUNDING LAND USE**

The properties abutting Regional Road 20 (Lundy's Lane) within the study area boundaries are primarily commercial but also include a cemetery, as well as some residential and open space land uses. The City of Niagara Falls Official Plan identifies that there are three land use types abutting Regional Road 20 (Lundy's Lane) within the study area. The three land use types are Tourist Commercial, which comprises the majority of the study area, Environmental Conservation, which is only found along the Ontario Power Generation Hydro Canal, and Open Space (Lundy's Lane Cemetery) (see **Figure 2-9**).

Further, the City's Zoning By-law indicates there are four zones within the study area, as seen in **Figure 2-10**: Tourist Commercial (TC), General Commercial (GC), Parking (P), and Open Space (OS).

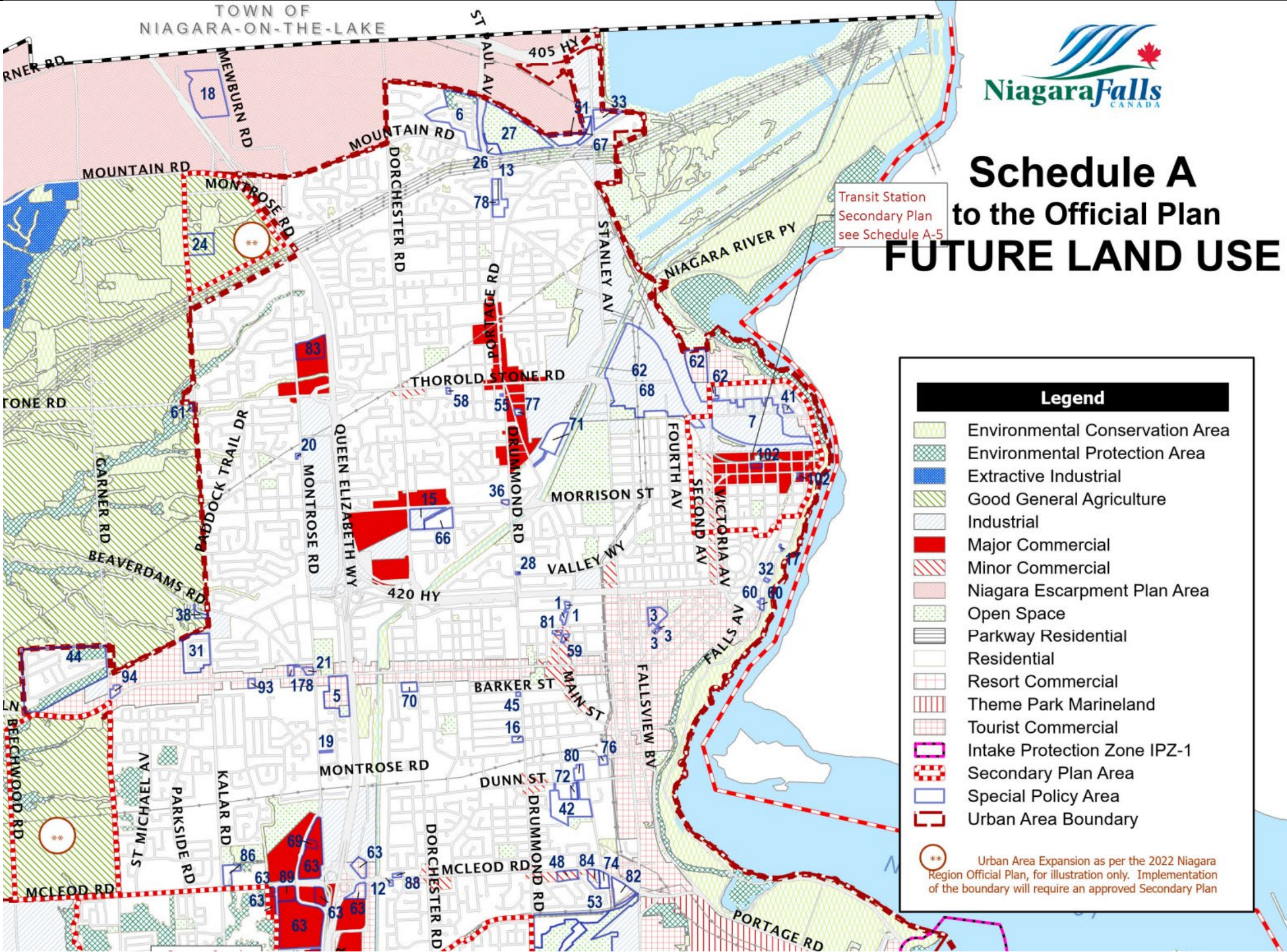


Figure 2-9: City of Niagara Falls Official Plan Schedule – Future Land Use

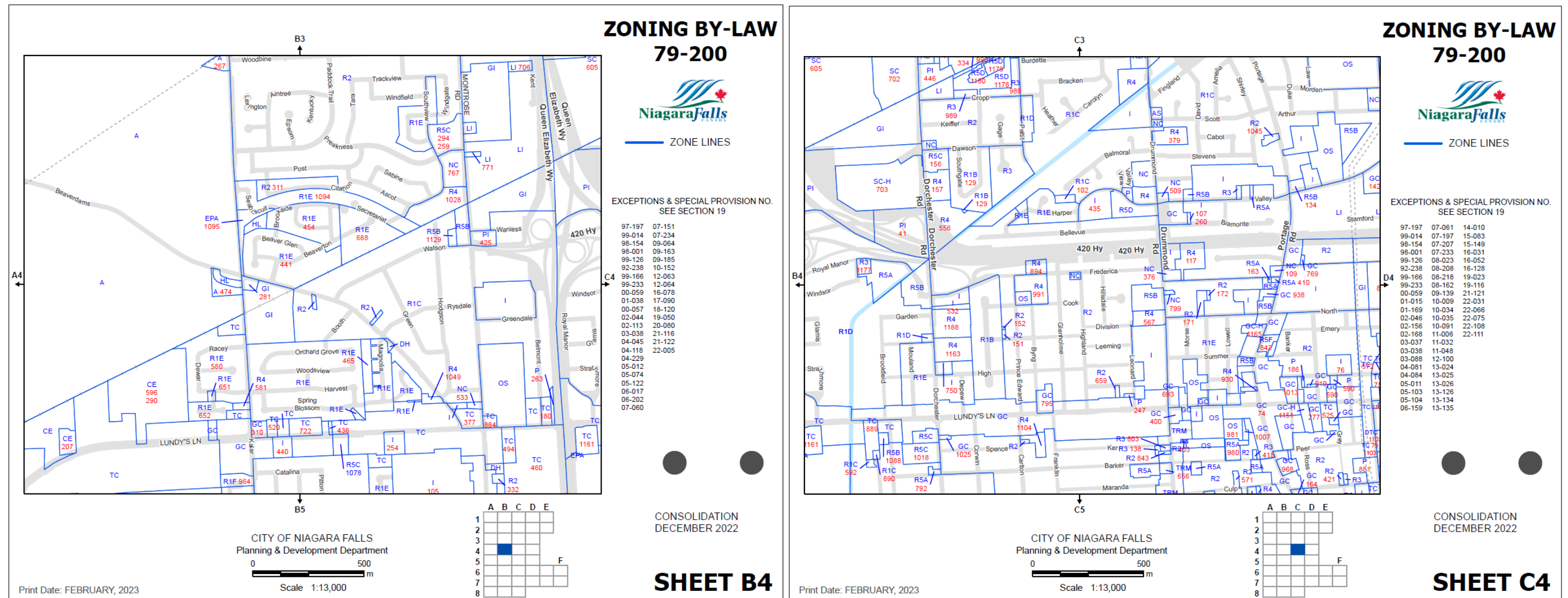


**Figure 2-10: City of Niagara Falls Zoning By-Law Schedules**

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### **2.2.2.     ARCHAEOLOGICAL RESOURCES**

A Stage 1 Archaeological Assessment was undertaken under Project Information Form number P462-0113-2021 (April 20, 2022) by Detritus Consulting Ltd. for the Lundy's Lane study area. A Stage 1 Archaeological Assessment consists of a review of geographic, land use and historical information for the property/study area and the relevant surrounding area, a property visit to inspect its current condition and contacting the Ministry of Citizenship and Multiculturalism (MCM) to find out whether, or not, there are any known archaeological sites within or near the area. Its purpose is to identify areas of archaeological potential and further archaeological assessment (e.g., Stage 2-4) as necessary. The Stage 1 Archaeological Assessment Report is provided in **Appendix B**.

The Lundy's Lane ROW, including the paved road, was evaluated during the archaeological assessment. It was determined that the area has high archaeological potential in undisturbed areas due to its location relative to several known archaeological sites. Eighteen registered archaeological sites were found to exist within a 1-kilometre radius of the study area.

It was also determined that 95% of the study area is disturbed, including pavement, sidewalks, and driveways. The remaining 5% of the study area is comprised of grass boulevards that are likely to have been disturbed in the past. Due to the area's high archaeological potential, a Stage 2 Archaeological Assessment is recommended within the grass boulevards during detailed design.

The Stage 1 Archaeological Assessment is currently under review by the MCM. As such, the findings shall be considered preliminary until the report has been entered into the Ontario Public Register of Archaeological Reports.

A Stage 2 Archaeological Assessment and any further recommended assessment (e.g., Stage 3 and 4) will be carried out by a licensed archaeologist during detailed design at their earliest convenience and prior to any ground disturbing activities to determine impacts and potential mitigation measures.

### **2.2.3.     CULTURAL AND BUILT HERITAGE RESOURCES**

A cultural and built heritage resource assessment was undertaken by Archaeological Research Associates Ltd. (ARA Ltd., January 2022, Revised June 2026) as part of this study and was summarized in a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment provided in **Appendix C**.

Within and adjacent to the study area, 3 cultural heritage landscapes and 12 built heritage resources were identified. The 3 cultural heritage landscapes identified were the William Lundy Homestead plaque, Lundy's Lane Cemetery and the Ontario Power Generation Hydro Canal. The 12 built heritage resources included numerous private residences and commercial buildings that met one or more evaluation criteria as defined in O. Reg 9/06, which include design or physical value, historical value and contextual value related to the overall area.

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## 2.3. NATURAL ENVIRONMENT

### 2.3.1. SPECIES AT RISK

As per the Request for Proposal (RFP) for this project, no Environmental Impact Study (EIS) or Species at Risk (SAR) Screening was required in support of the project. The study area is within a fully developed urban area with no known SAR.

### 2.3.2. SOURCE WATER PROTECTION

In accordance with Ontario's *Clean Water Act*, municipalities must ensure protection of existing and future drinking water sources through preventative means. Therefore, the applicable Source Water Protection Plan is required to be considered during the Class EA process to ensure that the proposed development does not pose any threat to drinking water sources.

The study area is located within the Niagara Source Water Protection Plan, which was developed jointly by the Niagara Region and other local municipalities. As indicated in the Provincial Government's Source Protection Information Atlas, the study area is not within any Intake Protection Zones (IPZs), and therefore there are no perceived threats to drinking water by the project. The study area is within a Highly Vulnerable Aquifer (HVA), as shown in **Figure 2-11**. Mitigation measures will be implemented during construction to reduce risks posed to the HVA, which are detailed in **Section 8**.

Lundy's Lane Class Environmental Assessment

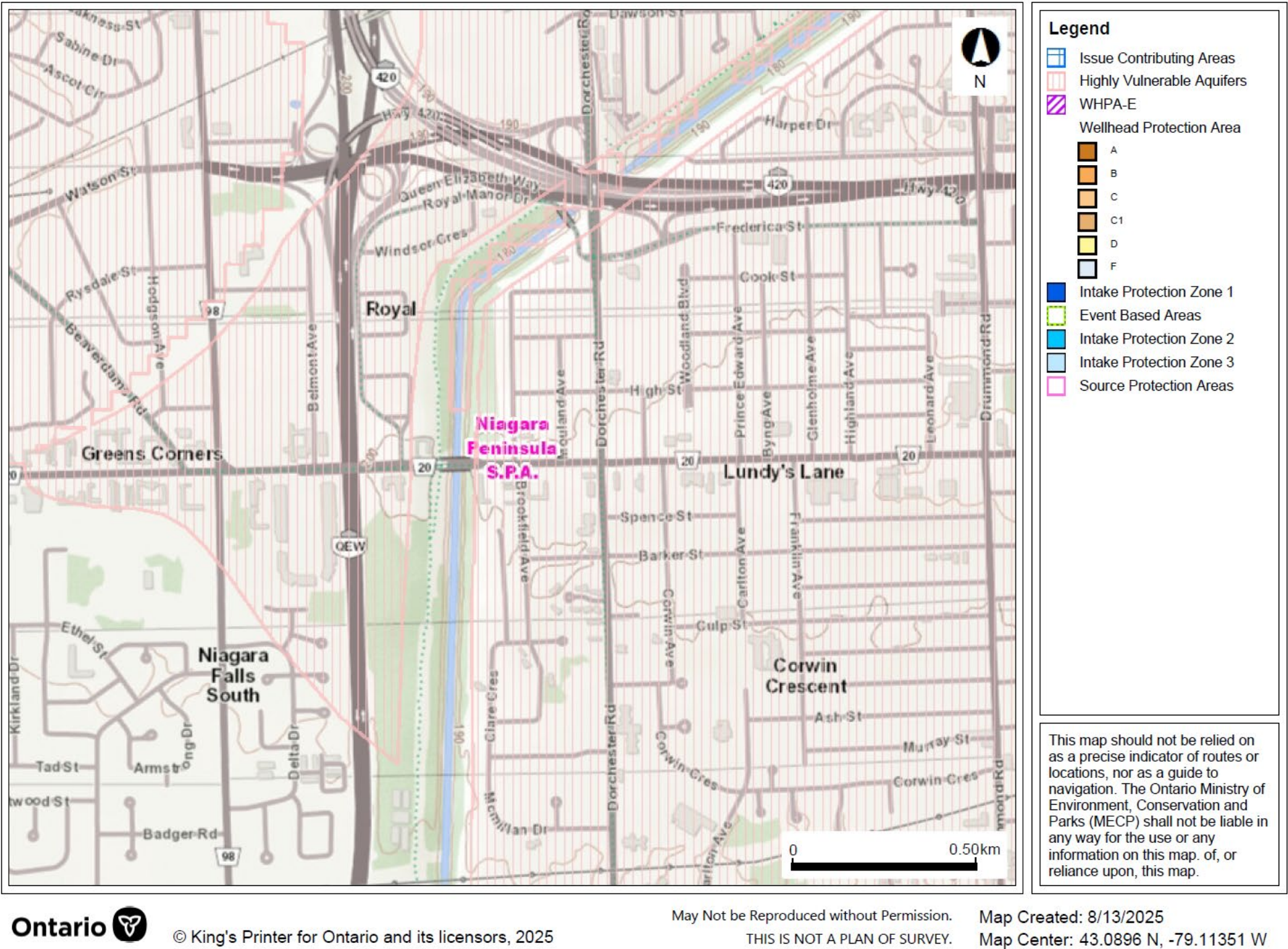


Figure 2-11: Source Protection Information Atlas Map of the Lundy's Lane Class EA Study Area  
(Source: Ministry of the Environment, Conservation and Parks)

## 2.4. ENGINEERING CONSIDERATIONS FOR EXISTING CONDITIONS

### 2.4.1. MUNICIPAL SERVICES AND UTILITIES

Within the study area there are various municipal services and utilities (aerial and buried) within the existing ROW including natural gas, hydro, street illumination, telephone, television/internet cable, storm sewers, sanitary sewers and watermains. Where conflicts exist between the location of the existing municipal services and utilities and the proposed road improvements, relocations will be required.

The following summarizes information regarding municipal services and utilities within the study area. Available correspondence with and information provided by utility providers is included in **Appendix E**.

#### 2.4.1.1. STORM SEWERS

Drainage along Regional Road 20 (Lundy's Lane) is conveyed by a Regionally owned storm sewer system. The existing conveyance system is summarized as follows:

- 1) Between Montrose Road and Belmont Avenue, storm water flows into catchbasins that connect to two combined 300mm diameter sewers, on both sides of the road, and outlet northbound up both Montrose Road and Belmont Avenue.
- 2) Between Belmont Avenue and Royal Major Drive, storm water flows into catchbasins that outlet into the Ontario Power Generation (OPG) canal.
- 3) Between Royal Manor Drive and Highland Avenue, storm water flows into catchbasins and eventually outlets into the OPG canal. On the west side of the OPG canal, the storm sewers range between 300mm diameter and 375mm diameter and on the east side of the OPG canal the storm sewers range between 600mm diameter and 1200mm diameter.

#### 2.4.1.2. SANITARY SEWERS

Regional Road 20 (Lundy's Lane) within the study area has only City owned sanitary sewers, which are located on both sides of the roadway. Unlike the storm sewers, the sanitary sewers are not connected in a continuous run of pipes flowing to a single outlet. Sanitary sewers are split up per block and run towards individual intersections and then flow northbound up the connecting streets. The sewer diameters range between 225mm and 300mm within the study area.

#### 2.4.1.3. WATERMAINS

Lundy's Lane is serviced by a 500mm diameter cast iron Regionally owned trunk watermain serviced by an elevated tank east of the study area to the west end of Niagara Falls and the regional trunk watermain on Montrose Road. Over the OPG canal the pipe material changes to a combination of concrete pressure pipe and insulated stainless steel with 2 water valve chambers on either side of the bridge. This is the only watermain on Lundy's Lane in the study area and it is also used to service the properties on Lundy's Lane.

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#### 2.4.1.4. NATURAL GAS

The majority of the existing gas mains on Regional Road 20 (Lundy's Lane) within the study area are located on both sides of the roadway. The gas mains are currently located in the sidewalk/boulevard portion of the ROW.

#### 2.4.1.5. HYDRO SERVICES

All existing hydro lines on Regional Road 20 (Lundy's Lane) within the study area are currently buried and located in the boulevard on the south side of the roadway.

#### 2.4.1.6. COMMUNICATION SERVICES

Bell services are buried along both sides of Regional Road 20 (Lundy's Lane) within the study area. The services are currently located in the sidewalk/boulevard portion of the ROW. Cogeco services are buried in several locations within the study area and are located within the sidewalk/boulevard portion of the ROW.

## 2.5. GEOTECHNICAL INVESTIGATION

### 2.5.1. BOREHOLE SAMPLING RESULTS

A geotechnical investigation was completed by Soil-Mat Engineers & Consultants Ltd. between January 24 and February 1, 2022, and the report (dated May 27, 2022) is provided in **Appendix D.1**. A total of 18 boreholes were drilled, to depths ranging from 4.9 to 6.7 metres below existing ground surface. The existing asphalt on Regional Road 20 (Lundy's Lane) ranges from 150mm to 400mm over approximately 200mm to 700mm of granular base within the study area boundaries.

The pavement condition of Regional Road 20 (Lundy's Lane) within the study area boundaries is in poor to fair condition, exhibiting occasional to regular longitudinal and traverse cracking, as well as occasional alligator cracking and repair patches. This is mostly consistent with age-related distress, with some isolated areas of subgrade failure.

Silty sand/sandy silt fill was found in 15 of the 18 boreholes. It was generally in a loose to compact state, containing traces of clay and gravel and occasionally organics and construction debris. It was found at depths of approximately 0.9 to 4.9 metres below existing ground surface. Silty clay/clayey silt fill was also found in two of the boreholes. It contained traces of sand, gravel and occasionally organics, and was stiff in consistency. This fill was found at depths of approximately 1.8 to 3.1 metres below existing ground surface.

The native soil encountered in all 18 boreholes in the study area was silty sand/sandy silt. It contained traces of clay and gravel and was in a compact to dense state. The native soil was proven to termination at a depth of approximately 5.2 to 6.7 metres below existing ground surface. This native silty sand/sandy silt soil is consistent with the surrounding area.

All borehole samples were determined to be 'dry', and the static groundwater level is estimated to be greater than 6 metres below existing grade, which is below the anticipated depth of construction.

Soil samples were tested for corrosivity and 16 of the 18 boreholes returned with AWWA soil corrosiveness values above 10, indicating that the soil is corrosive to steel and iron. The soil samples were also tested for sulphate content, with results showing a range from 7 to 291 ug/g (<0.1 percent). These sulphate content levels are considered negligible with regards to potential for sulphate attack on below grade concrete.

### 2.5.2. ASSESSMENT OF PAST USES

An Assessment of Past Uses (Soil-Mat Engineers & Consultants Ltd., June 7, 2022) identified potentially contaminating activities in the Lundy's Lane study area that are considered likely to cause an area of potential environmental concern. The 14 potential contaminated activities found include the following:

- The reconnaissance of the study area revealed one retail fuel outlet [RFO] located at 6644 Lundy's Lane and three [3] commercial autobody repair facilities located at 6910, 6499, and 7009 Lundy's Lane;
- The review of the historical fire insurance plans, including plans from 1951 and 1965 revealed three [3] historic auto service facilities located at 6499, 6555, and 7600 Lundy's Lane, and two historic dry cleaner operations located at 6488 and 6710 Lundy's Lane;
- The review of the Vernon City Directories series revealed an autobody repair facility at 7009 Lundy's Lane, four [4] historic service stations located at 6910, 6499, 6555, and 7600 Lundy's Lane, and two [2] dry cleaners located at 6710 and 7279 Lundy's Lane;
- A search of the Ministry of Environment, Conservation and Parks [MOE] Brownfields Environmental Site Registry revealed a Phase One, Phase Two, Record of Site Condition [RSC] and a Risk Assessment [RA] filed on December 21, 2012 for the property located at 6499 Lundy's Lane. The RSC filing indicated soil and groundwater with elevated petroleum hydrocarbons [PHCs], benzene, toluene, ethylbenzene and xylenes [BTEX] and volatile organic compounds [VOCs] remained in place on the property as of the date of filing;
- Information gathered from T.S.S.A records revealed four [4] properties with registered underground fuel storage tanks including 6555, 6499 and 6644 Lundy's Lane, and;
- Information gathered from an EcoLog ERIS Database search revealed waste generators at 6738-6758 [unit 1], 6644, and 6499 Lundy's Lane. In addition, a Certificate of Property Use was listed for 6499, and an Ontario spill was recorded in association with 'Sunoco Service Station', inferred to be located at 6555 Lundy's Lane.

More detailed information on the methodologies used and the findings themselves can be found in **Appendix D.2**.

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### 2.5.3. PRELIMINARY EXCESS SOIL CHARACTERISATION

A Preliminary Excess Soil Characterisation Report dated June 8, 2022, was prepared by Soil-Mat Engineers & Consultants Ltd. (2022). The full report can be found in **Appendix D.3** and provides information on the following:

- Summary of potential areas of environmental concern under the above Assessment of Past Uses
- Site visit and soil sampling field methodology used
- Laboratory analytical testing results for all 18 boreholes
- Environmental considerations for soil reuse
- Results of TCLP sampling

The results of the laboratory testing concluded that Borehole 14 (See **Figure 2-12** below) was found to exceed the Volatile Organic Compounds (VOCs) parameter exceedance, specifically for Tetrachloroethylene. Further testing indicated this borehole contained non-hazardous material that may be received at an appropriate MECP licensed waste receiver.



Figure 2-12: Location of Borehole 14 (BH14) within the Lundy's Lane Study Area (Soil-Mat Engineers & Consultants Ltd., 2022)

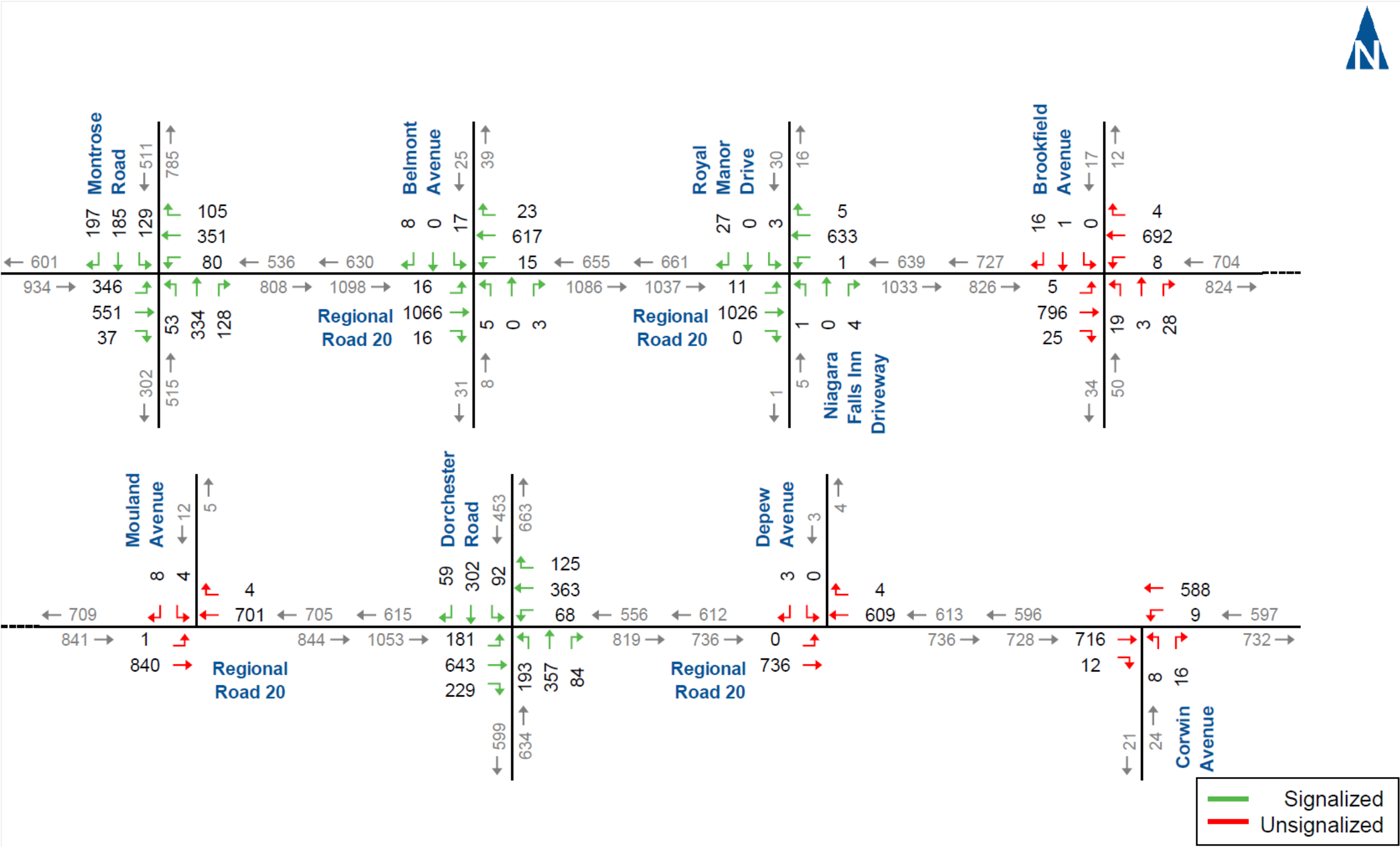
## 3.0 FUTURE TRAFFIC CONDITIONS

The Transportation Assessment (Paradigm Transportation Solutions Limited, May 2024) (**Appendix A**) determined future traffic conditions within the Lundy's Lane study area under different roadway configurations. Forecasts utilized include information from the Niagara Region Transportation Master Plan (TMP) and the Niagara Region Official Plan.

The Niagara Region Transportation Master Plan (TMP) projects a population of 610,000 people and 265,000 jobs that Niagara Region must plan for by the year 2041, up from 450,000 people and 203,000 jobs in 2016. With population and employment growth forecast to the year 2041, travel by motorized vehicles is expected to grow by 55%, reaching more than 10 million vehicle kilometres daily. Further, as indicated in the Niagara Region Official Plan, the Niagara Region forecasts population and employment growth in the Niagara Region to be a minimum of 694,000 people and 272,000 jobs by 2051, with approximately 23% of this growth in the City of Niagara Falls. This degree of growth will result in existing operational issues being amplified with an increase in road users throughout the Lundy's Lane study area.

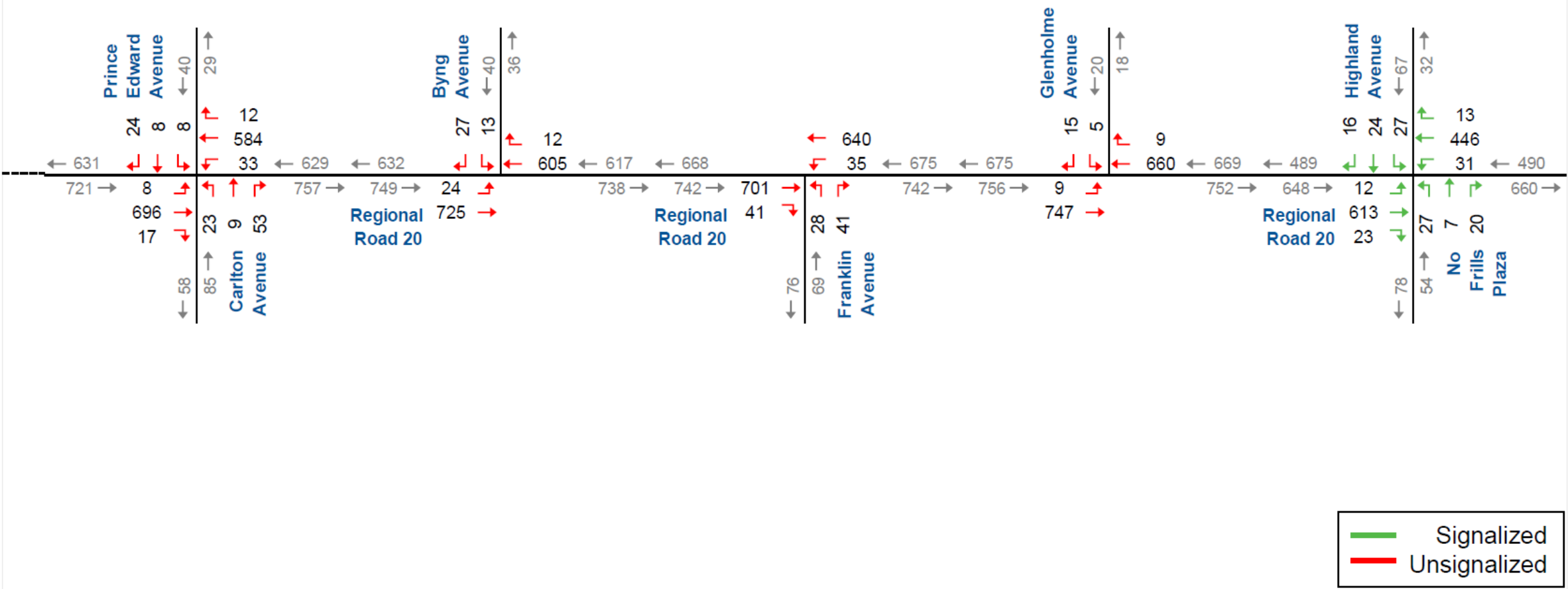
### 3.1. FUTURE TRAFFIC OPERATIONS

Between 2011 and 2041, traffic volumes in the Lundy's Lane corridor are forecast to grow between 0.7% and 2.1% in the peak direction (eastbound in the AM and westbound in the PM) during the AM and PM peak hours, with an average annual growth rate of 1.6% in the AM peak hour and 1.2% in the PM peak hour. By 2041, under a Do Nothing scenario, all approaches at the study area intersections are forecast to experience delays in the LOS (level of service) E/F range. **Figures 3-1A to 3-3B** show future traffic levels and LOS at all intersections within the study area with the current roadway configuration.



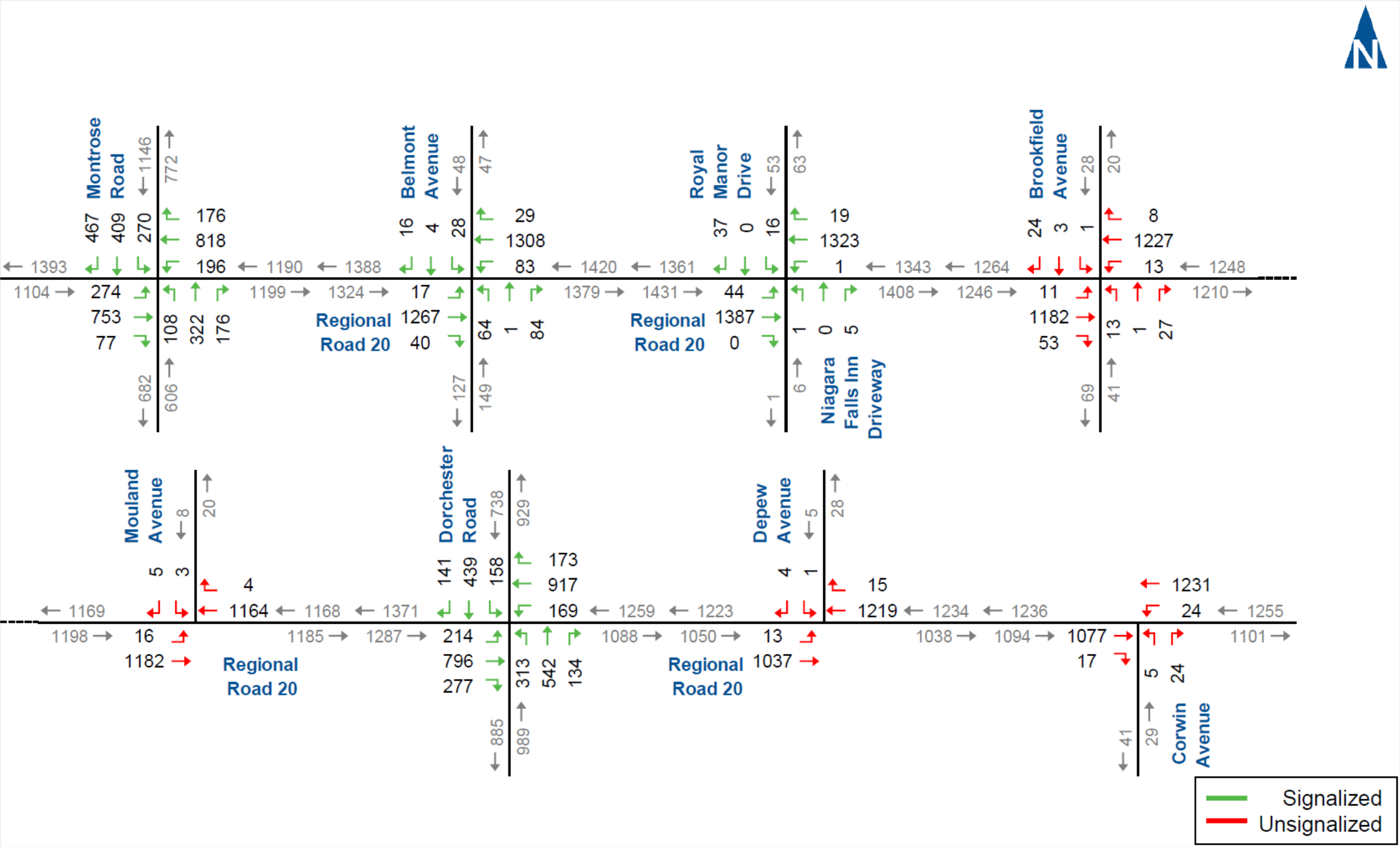
# Future 2041 Traffic Volumes (Montrose Road to Corwin Avenue) - AM Peak Hour

Figure 3-1A: Future 2041 Traffic Volumes During AM Peak Hour (Montrose Road to Corwin Avenue)



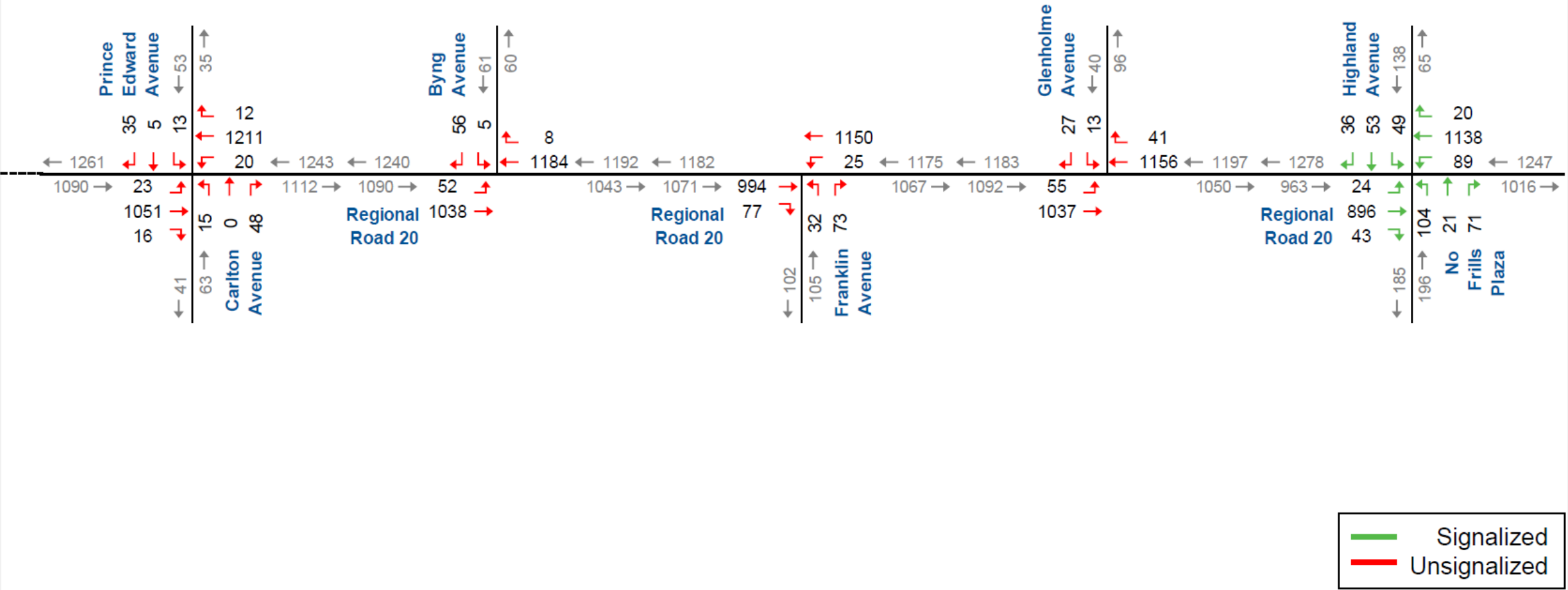
# Future 2041 Traffic Volumes (Carlton Avenue to Highland Avenue) - AM Peak Hour

Figure 3-1B: Future 2041 Traffic Volumes During AM Peak Hour (Carlton Avenue to Highland Avenue)



# Future 2041 Traffic Volumes (Montrose Road to Corwin Avenue) - PM Peak Hour

Figure 3-2A: Future 2041 Traffic Volumes During PM Peak Hour (Montrose Road to Corwin Avenue)

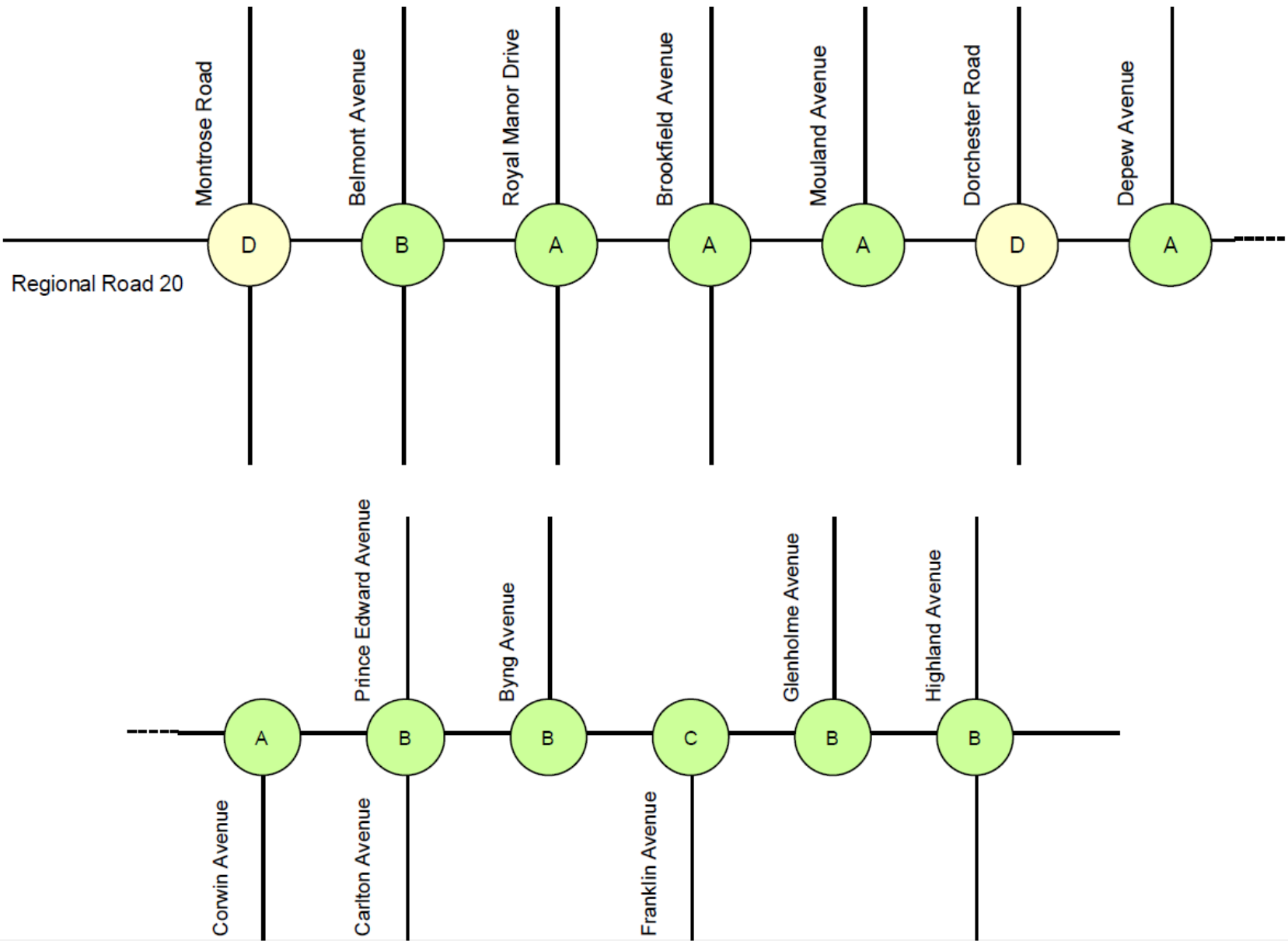


# Future 2041 Traffic Volumes (Carlton Avenue to Highland Avenue) - PM Peak Hour

Figure 3-2B: Future 2041 Traffic Volumes During PM Peak Hour (Carlton Avenue to Highland Avenue)



Weekday AM Peak Hour

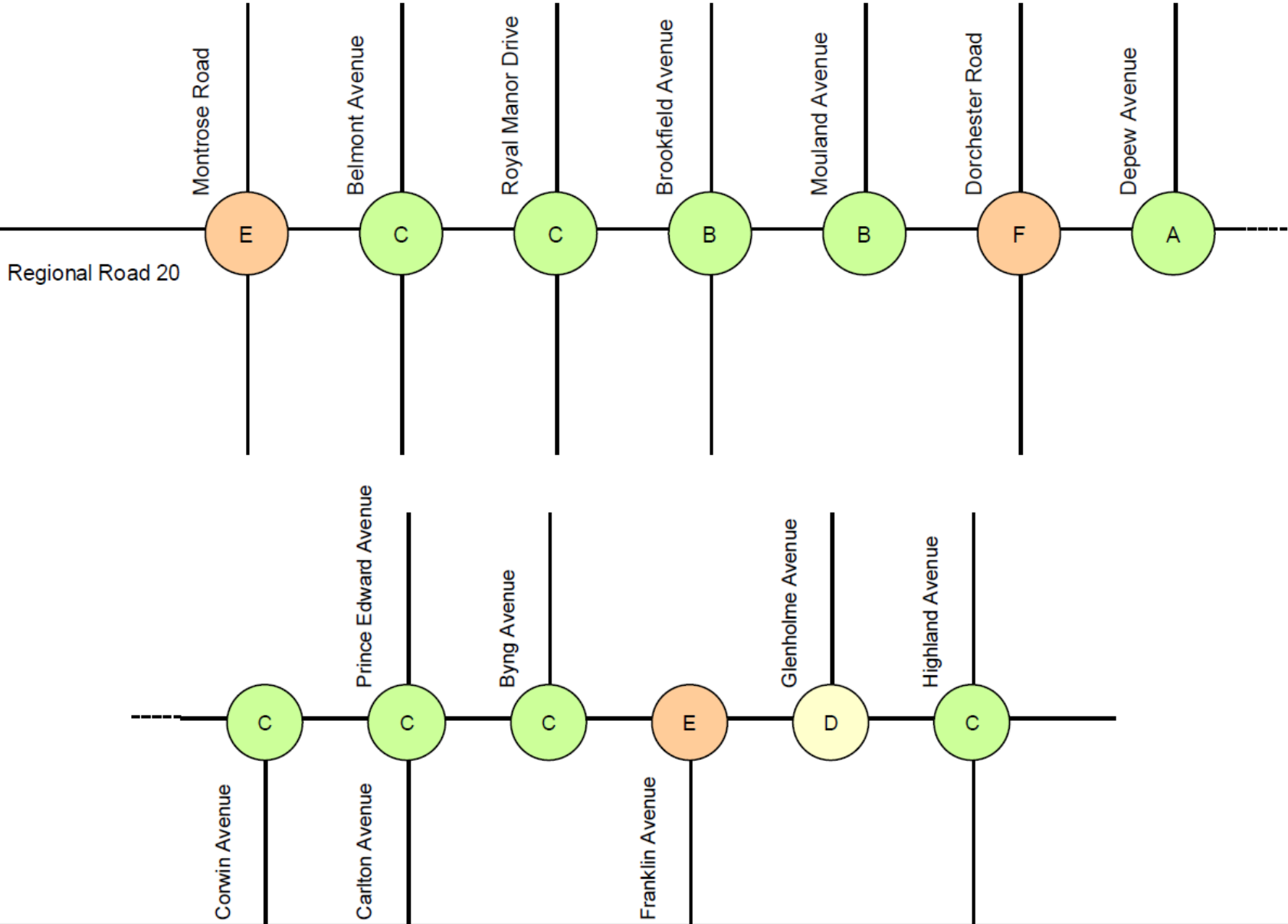


2041 Traffic Peak Hour LOS  
(Four-Lane) – AM Peak Hour

Figure 3-3A: 2041 Traffic LOS During AM Peak Hour (Existing 4-Lane Configuration)



Weekday PM Peak Hour



2041 Traffic Peak Hour LOS  
(Four-Lane) – PM Peak Hour

Figure 3-3B: 2041 Traffic LOS During PM Peak Hour (Existing 4-Lane Configuration)

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## **3.2. SAFETY CONSIDERATIONS**

The addition of a centre two-way left turn lane is expected to result in a 26% reduction in mid-block collisions (Traffic Assessment, Paradigm Transportation Solutions Limited, May 2024) (**Appendix A**). Further safety improvements that can be considered include access consolidation. Consolidating access points or restricting turning movements (i.e. right in/out) from driveways would be beneficial when close to an adjacent intersection.

Additionally, as a result of the higher cyclist collision rate in the study area relative to the City average, and the designation of Lundy's Lane as an arterial road warranting minimum speeds for high volumes of vehicular traffic, a desirable type of cycling facility for addressing safety concerns would be a separated bicycle lane, cycle track, or multi-use path as per Ontario Traffic Manual (OTM) Book 18. However, the high amount of individual commercial and residential parking entrances on Lundy's Lane would result in an increased number of potential cyclist and motorist conflicts in the event that bicycle traffic increases.

## 4.0 PHASE 1: PROBLEM/OPPORTUNITY STATEMENT

Phase 1 of the Class EA planning process requires the proponent of an undertaking to first document the factors that lead to the conclusion that improvement is needed (as presented in **Section 2.0** of this report) and to develop a clear statement of the identified problem to be investigated. As such, the problem/opportunity statement is the principal starting point in the undertaking of a Class EA and becomes the central theme and integrating element of the project. It also helps to define the scope of work for the project.

As noted above, the problem/opportunity statement was developed following the assessment of the existing conditions within the study area, as described in Section 2.0. The problem/opportunity statement for this undertaking is defined as follows:

*The study area includes Regional Road 20 (Lundy's Lane) from Regional Road 98 (Montrose Road) to Highland Avenue in the City of Niagara Falls, approximately 1.7 kilometers. It is a four-lane road that is often heavily populated with traffic associated with the tourism industry, as many attractions, restaurants and retail stores are located along Lundy's Lane. Lundy's Lane is vital to the Niagara Falls tourism industry, and it is imperative that it remains a safe and effective route now and in the future. The Class EA Study for Lundy's Lane presents an opportunity to explore options to improve the operational conditions of the right-of-way to provide safe and efficient movement of traffic and access management, implement a complete streets design, and enhance the overall appearance of the right-of-way with streetscaping.*

## 5.0 PHASE 2: ALTERNATIVE PLANNING SOLUTIONS

Under Phase 2 of the Class EA process, all reasonable planning solutions to address the problem and opportunity are to be considered including the “Do Nothing” alternative. The following alternative planning solutions were considered:

1. **Do Nothing:** The existing transportation system is not changed. However, ongoing maintenance of the existing infrastructure would continue. This alternative will form a baseline for comparison to the other alternative planning solutions.
2. **Encourage Use of Alternative Routes:** There will be no change to Lundy's Lane other than regular maintenance. This alternative encourages travelers to utilize other routes in the City to reduce demand on Lundy's Lane. This may require improvements and additional maintenance to other corridors (e.g., capacity improvements, active transportation, etc.) to accommodate additional traffic.
3. **Roadway/Intersection Improvements:** Modify roadway/lane configuration (e.g., add lanes, remove lanes, add central turning lane, etc.) and intersections (e.g., traffic signal and timing, adding through and turn lanes, Right-of-Way access management) to improve operations, roadway safety, and/or capacity.
4. **Implement Active Transportation:** Improve facilities for other modes of travel such as walking, cycling, and transit. This includes the reconstruction/rehabilitation of the existing lane configuration to accommodate active transportation infrastructure.
5. **Roadway/Intersection Improvements and Implement Active Transportation:** This is a combination of alternative solutions 3 and 4. Modifies roadway/lane configuration and intersections to improve operations, roadway safety, and/or capacity, as well as improve facilities for other modes of travel such as walking, cycling, and transit in consideration of the needs of all users.
6. **Limit Development:** Restrict development of surrounding lands now and in the future. This limits traffic volume increases from the current levels due to a decrease in the number of new developments.

### 5.1. COMPARATIVE EVALUATION OF THE ALTERNATIVE SOLUTIONS

The evaluation of the alternative planning solutions was undertaken based on a qualitative analysis, as opposed to a numerical ranking system, as such an approach would have to strictly adhere to statistical methods to ensure statistical validity, which are often difficult to apply in a multi-faceted study such as a Class EA. The qualitative analysis evaluates how well each of the alternative planning solutions meets the problem/opportunity statement using established criteria, which are identified in **Section 5.2**. **Figure 5-1** presents the rating system used in the evaluation that includes five options ranging from an open circle, which represents highest negative impacts or lowest benefits, to a full circle, which represents lowest negative impacts, or greatest benefits.

|                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |
| Highest negative impacts or lowest benefits                                       | Higher negative impacts or lower benefits                                         | Moderate negative impacts and benefits                                            | Lower negative impacts or greater benefits                                          | Lowest negative impacts or greatest benefits                                        |

**Figure 5-1: Evaluation Process Rating System**

Utilizing professional judgement, and being informed by the supporting studies, a rating is assigned to each criterion. The criteria are listed in **Section 5.2** and a summary of the ratings is provided for each of the environmental categories. Using these summaries, an overall rating is then assigned to each alternative planning solution. With this information, the preferred planning solution can appropriately be determined. The project team can revise the ratings as determined necessary throughout the duration of the project based on consideration of detailed study results and input received. The Preferred Planning Solution was originally presented to interested parties at PIC #2. Following further review of the ratings, and in consideration of input received at and following PIC #2, minor refinements were made. The ratings shown in **Table 5-2** represent the final ratings to be considered as part of this Class EA Study.

## 5.2. EVALUATION CATEGORIES AND CRITERIA

Detailed criteria were developed and organized into five environmental categories, as shown in **Table 5-1**, which were used to evaluate the alternative planning solutions and alternative design concepts during the Class EA Study. The list was finalized based on input received from the Niagara Region and other interested parties.

**Table 5-1: Evaluation Categories and Criteria**

| Category                     | Description                                                                                                                                                                                                           | Criteria                                                                                                                                                                                             |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transportation               | Considers technical suitability and other engineering aspects of each alternative. Does the alternative improve road safety? How will the alternative serve the existing and future traffic needs for all road users? | <ul style="list-style-type: none"> <li>• Vehicular Traffic Demand</li> <li>• Safety</li> <li>• Active Transportation</li> <li>• Transit</li> <li>• Complete Streets</li> </ul>                       |
| Cultural/ Heritage Resources | Considers impacts to archaeological resources, cultural heritage landscapes, and built heritage resources.                                                                                                            | <ul style="list-style-type: none"> <li>• Impacts to lands with archaeological potential</li> <li>• Impacts to cultural heritage landscapes</li> <li>• Impacts to built heritage resources</li> </ul> |

| Category            | Description                                                                                                                                                                                                                                                         | Criteria                                                                                                                                                                                                                     |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Socio-Economic      | Considers potential effects on residents, neighbourhoods, businesses and community features (e.g., impacts on property requirements, access restrictions, etc.). Examines if the project planning and design aligns with regional and municipal planning documents. | <ul style="list-style-type: none"> <li>• Local and Regional Planning Documents</li> <li>• Supports Local Growth and Development</li> <li>• Access To and From Properties</li> <li>• Private Property Requirements</li> </ul> |
| Financial           | Estimated capital, operating and maintenance costs.                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Capital Costs</li> <li>• Maintenance Costs</li> </ul>                                                                                                                               |
| Natural Environment | Considers the impacts to and/or from Climate Change, as well as regard for protecting the natural and physical aspects of the environment (i.e. air, land, water and biota) including natural heritage and environmentally sensitive areas.                         | <ul style="list-style-type: none"> <li>• Climate Change</li> <li>• Impact to Terrestrial Environment</li> <li>• Impact to Aquatic Environment (e.g. Water Quality and Quantity)</li> </ul>                                   |

Table 5-2: Evaluation of the Alternative Planning Solutions

| Criteria Category | Evaluation Criteria      | Alternative Solution #1: Do Nothing                                                                                                                                        | Alternative Solution #2: Encourage Use of Alternative Routes                                                                                                                   | Alternative Solution #3: Roadway/Intersection Improvements                                                                                                                                     | Alternative Solution #4: Implement Active Transportation                                                                                                                                                    | Alternative Solution #5: Roadway/Intersection Improvements and Implement Active Transportation                                                                                                                                                    | Alternative Solution #6: Limit Development                                                                                                                                                                           |
|-------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transportation    | Vehicular Traffic Demand | Does not address traffic demand and growth.<br><br>                                       | Addresses some traffic demand in the study area, but could impact alternate routes.<br><br> | Addresses traffic demand along the road and at intersections.<br><br>                                       | Provides better opportunities only for active transportation mode of travel.<br><br>                                     | Addresses traffic demand along the road and at intersections and provides better opportunities for other modes of travel.<br><br>                              | Reduces future traffic demand in study area but current planned growth will still be greater than existing road capacity.<br><br> |
| Transportation    | Safety                   | No improvements to vehicular, cyclist and pedestrian safety in the study area.<br><br>   | No improvements to vehicular, cyclist and pedestrian safety in the study area.<br><br>     | Improves vehicular safety in the study area.<br><br>                                                       | Improves cyclist and pedestrian safety in the study area.<br><br>                                                       | Improves vehicular, cyclist and pedestrian safety in the study area.<br><br>                                                                                  | No improvements to vehicular, cyclist and pedestrian safety in the study area.<br><br>                                           |
| Transportation    | Active Transportation    | Does not improve active transportation use in the study area.<br><br>                   | Does not improve active transportation use in the study area.<br><br>                     | Limited Improvement to active transportation.<br><br>                                                     | Improves and supports active transportation.<br><br>                                                                   | Improves and supports active transportation. Connected active transportation.<br><br>                                                                        | Does not improve active transportation use in the study area.<br><br>                                                           |
| Transportation    | Transit                  | Does not improve transit functioning and ease of transit use in the study area.<br><br> | Does not improve transit functioning and ease of transit use in the study area.<br><br>   | Supports increased transit use and operations by improving traffic flow and adding lanes for use.<br><br> | Supports increased transit use, as transit can provide a multimodal connection to active transportation users.<br><br> | Supports increased transit use and operations by improving traffic flow adding lanes for use, and creating opportunities for multimodal connections.<br><br> | Does not improve transit functioning and ease of transit use in the study area.<br><br>                                         |

| Criteria Category           | Evaluation Criteria                 | Alternative Solution #1: Do Nothing                                                                                                               | Alternative Solution #2: Encourage Use of Alternative Routes                                                                                                                                                                                | Alternative Solution #3: Roadway/Intersection Improvements                                                                                                                                                                                                                       | Alternative Solution #4: Implement Active Transportation                                                                                                                                                                                                                         | Alternative Solution #5: Roadway/Intersection Improvements and Implement Active Transportation                                                                                                                                                                                   | Alternative Solution #6: Limit Development                                                                                                          |
|-----------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Transportation              | Complete Streets                    | Does not address all road user needs.<br>                        | Does not address all road user needs.<br>                                                                                                                | Contributes to addressing some all road user needs for the study area.<br>                                                                                                                    | Contributes to addressing most all road user needs for the study area.<br>                                                                                                                    | Fully addresses all road user needs for the study area.<br>                                                                                                                                   | Does not address user needs approach.<br>                        |
| Transportation              | Summary                             | Does not address the transportation needs of the study area.<br> | Minimally addresses transportation needs of the study area, but could result in impacts to alternative routes.<br>                                       | Addresses several transportation needs such as traffic demand, safety and access in the study area.<br>                                                                                       | Addresses active transportation needs in the study area.<br>                                                                                                                                  | Addresses several transportation needs such as traffic demand, safety, access and active transportation, supporting all road user needs in the study area.<br>                                | Does not address the transportation needs of the study area.<br> |
| Cultural Heritage Resources | Impacts to archaeological resources | No impacts to archaeological resources.<br>                    | No impacts to archaeological resources in the study area. However, there may be impacts to alternative routes; further assessment may be required.<br> | Potential for impacts to archaeological resources. A Stage 2 Archaeological Assessment is required prior to any ground disturbing activities to identify avoidance/mitigative measures.<br> | Potential for impacts to archaeological resources. A Stage 2 Archaeological Assessment is required prior to any ground disturbing activities to identify avoidance/mitigative measures.<br> | Potential for impacts to archaeological resources. A Stage 2 Archaeological Assessment is required prior to any ground disturbing activities to identify avoidance/mitigative measures.<br> | No impacts to archaeological resources.<br>                    |

| Criteria Category           | Evaluation Criteria                                             | Alternative Solution #1: Do Nothing                                                                                                                                      | Alternative Solution #2: Encourage Use of Alternative Routes                                                                                                                                                                                                                          | Alternative Solution #3: Roadway/Intersection Improvements                                                                                                                                                                                                                                                            | Alternative Solution #4: Implement Active Transportation                                                                                                                                                                                                                                                              | Alternative Solution #5: Roadway/Intersection Improvements and Implement Active Transportation                                                                                                                                                                                                                        | Alternative Solution #6: Limit Development                                                                                                                                 |
|-----------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cultural Heritage Resources | Impacts to cultural heritage resources/built heritage resources | No impacts to cultural heritage landscapes/built heritage resources.<br><br>            | No impacts to cultural heritage landscapes/built heritage resources in the study area. However, there may be impacts to alternative routes; further assessment may be required.<br><br>            | Potential for impacts to cultural heritage landscapes/built heritage resources. Additional studies (i.e., Zone of Influence Study) may be required to identify potential ground vibration impacts and mitigative measures.<br><br> | Potential for impacts to cultural heritage landscapes/built heritage resources. Additional studies (i.e., Zone of Influence Study) may be required to identify potential ground vibration impacts and mitigative measures.<br><br> | Potential for impacts to cultural heritage landscapes/built heritage resources. Additional studies may be required (i.e., Zone of Influence Study) to identify potential ground vibration impacts and mitigative measures.<br><br> | No impacts to cultural heritage landscapes/built heritage resources.<br><br>            |
| Cultural Heritage Resources | Summary                                                         | No impacts to the cultural heritage resources as no work is being undertaken.<br><br> | No impacts to the cultural heritage resources in the study area as no work is being undertaken. However, there may be impacts to alternative routes; further assessment may be required.<br><br> | Potential for impacts to the cultural heritage resources. Impacts to be mitigated or avoided where possible.<br><br>                                                                                                             | Potential for impacts to the cultural heritage resources. Impacts to be mitigated or avoided where possible.<br><br>                                                                                                             | Potential for impacts to the cultural heritage resources. Impacts to be mitigated or avoided where possible.<br><br>                                                                                                             | No impacts to the cultural heritage resources as no work is being undertaken.<br><br> |
| Socio-Economic              | Local and Regional Planning Documents                           | Is not supported by the Transportation Master Plan (TMP).<br><br>                     | Addresses some traffic demand and growth in the City but not within the study area.<br><br>                                                                                                      | Supported by the TMP/OP by addressing vehicular safety, operations, road widening and growth.<br><br>                                                                                                                            | Supported by the TMP/OP by addressing pedestrian safety and active transportation.<br><br>                                                                                                                                       | Supported by the TMP/OP by addressing vehicular safety, operations, road widening, growth, pedestrian safety and active transportation.<br><br>                                                                                  | Is not supported by the Official Plan (OP).<br><br>                                   |

| Criteria Category | Evaluation Criteria                   | Alternative Solution #1: Do Nothing                                                                                                                                                      | Alternative Solution #2: Encourage Use of Alternative Routes                                                                                                                                                                      | Alternative Solution #3: Roadway/Intersection Improvements                                                                                                                                         | Alternative Solution #4: Implement Active Transportation                                                                                                                                           | Alternative Solution #5: Roadway/Intersection Improvements and Implement Active Transportation                                                                                                                                                     | Alternative Solution #6: Limit Development                                                                                                                                                 |
|-------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Socio-Economic    | Supports Local Growth and Development | Does not support local growth and development.<br>                                                      | Does not support local growth and development.<br>                                                                                             | Supports local growth and development by providing improved vehicular infrastructure.<br>                       | Supports local growth and development by providing improved cyclist and pedestrian infrastructure.<br>          | Supports local growth and development by providing improved vehicular, cyclist and pedestrian infrastructure.<br>                                               | Does not support local growth and development.<br>                                                      |
| Socio-Economic    | Access To and From Properties         | Does not impact existing access to and from properties but does not offer any access improvements.<br> | Does not impact existing access to and from properties but does not offer any access improvements.<br>                                        | Opportunities to improve and revise access to and from properties as needed.<br>                               | Potential for additional conflict with adjacent properties.<br>                                                | Opportunities to improve and revise access to and from properties as needed, however also some potential for additional conflict with adjacent properties.<br> | Does not impact existing access to and from properties but does not offer any access improvements.<br> |
| Socio-Economic    | Private Property Requirements         | No private property impacts as there is no work being undertaken.<br>                                 | No private property impacts within the study area as there is no work being undertaken, but may be potential impacts on adjacent routes.<br> | Potential for property impacts if additional private property adjacent to areas of improvement is needed.<br> | Potential for property impacts if additional private property adjacent to areas of improvement is needed.<br> | Potential for property impacts if additional private property adjacent to areas of improvement is needed.<br>                                                 | No private property impacts as there is no work being undertaken.<br>                                 |
| Socio-Economic    | Summary                               | Does not support the planning vision in the study area.<br>                                           | Minimal improvements to study area but does not support the planning vision and growth in the study area.<br>                                | Supports the planning vision for this area, though there may be some private property impacts.<br>            | Supports the planning vision for this area, though there may be some private property and access impacts.<br> | Supports the planning vision for this area, though there may be some private property and access impacts.<br>                                                 | Does not support the planning vision in the study area.<br>                                           |

| Criteria Category | Evaluation Criteria | Alternative Solution #1: Do Nothing                                                                                                                            | Alternative Solution #2: Encourage Use of Alternative Routes                                                                                                                                                                                                                                                                        | Alternative Solution #3: Roadway/Intersection Improvements                                                                                                                            | Alternative Solution #4: Implement Active Transportation                                                                                                      | Alternative Solution #5: Roadway/Intersection Improvements and Implement Active Transportation                                                                                                                                           | Alternative Solution #6: Limit Development                                                                                                                       |
|-------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Financial         | Capital costs       | No additional capital costs.<br><br>                                          | No capital costs related to this study area. May be capital costs for alternative routes if improvements required.<br><br>                                                                                                                       | High capital costs.<br><br>                                                                        | High capital costs.<br><br>                                                | Significant capital costs.<br><br>                                                                                                                    | No additional capital costs.<br><br>                                          |
| Financial         | Maintenance costs   | Increased maintenance costs due to continued roadway deterioration.<br><br> | Increased maintenance costs in study area due to continued roadway deterioration. Some increase in maintenance costs on alternative routes due to increased traffic.<br><br>                                                                   | Reduced maintenance costs due to improved condition of roadway.<br><br>                          | Some increase in maintenance costs to maintain improvements.<br><br>     | Improved condition of roadway will reduce maintenance costs, however adding additional infrastructure will then increase maintenance costs.<br><br> | Increased maintenance costs due to continued roadway deterioration.<br><br> |
| Financial         | Summary             | No additional capital costs, however increased maintenance costs.<br><br>   | No additional capital costs in study area however, there may be some capital costs for alternative routes. Also, increase in maintenance costs in study area and potential for some increased maintenance costs on alternative routes.<br><br> | Significant capital costs, though improved roadway results in reduced maintenance costs.<br><br> | Significant capital costs and some additional maintenance costs.<br><br> | Significant capital costs with some reduction in maintenance costs, but offset by increased maintenance costs for new infrastructure.<br><br>       | No additional capital costs, however increased maintenance costs.<br><br>   |

| Criteria Category   | Evaluation Criteria | Alternative Solution #1: Do Nothing                                                                                                                                                                                                                                                                                                                                                | Alternative Solution #2: Encourage Use of Alternative Routes                                                                                                                                                                                                                                                                                      | Alternative Solution #3: Roadway/Intersection Improvements                                                                                                                                                                                                                                                                                                                                                                                                                                    | Alternative Solution #4: Implement Active Transportation                                                                                                                                                                                                        | Alternative Solution #5: Roadway/Intersection Improvements and Implement Active Transportation                                                                                                                                                                                                                                                                                                                                                                                             | Alternative Solution #6: Limit Development                                                                                                                                                                                                                                                                          |
|---------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Natural Environment | Climate Change      | <p>Existing transportation issues remain, resulting in continued degradation of LOS on roadway and at intersections. Slower traffic movement and delays result in an increasing number of vehicles idling within the study area. This will contribute to greater emissions.</p> <p>Further, the aging roadway will be more susceptible to extreme weather conditions.</p> <p>○</p> | <p>Encouraging alternative routes will result in fewer idling vehicles within the study area, however there is a greater risk of the congestion issues being transferred to the alternative routes.</p> <p>Additionally, as no road improvements are made, the aging roadway will be more susceptible to extreme weather conditions.</p> <p>◐</p> | <p>Improves roadway conditions, aiding in reducing vehicle idling. However, this alternative does not encourage a reduction in the number of vehicles travelling within the study area.</p> <p>The reconstructed roadway will be able to withstand more extreme weather without need for frequent maintenance. However, increased impermeable surface area from widened/additional laneways will result in increased stormwater runoff with possible increased risk of flooding.</p> <p>◑</p> | <p>Encourages use of active transportation alternatives, reducing number of vehicles within the study area.</p> <p>However, as no additional road improvements are made, the aging roadway will be more susceptible to extreme weather conditions.</p> <p>◑</p> | <p>Improves roadway conditions, aiding in reducing vehicle idling. Further, encourages use of active transportation alternatives, reducing number of vehicles within the study area.</p> <p>The reconstructed roadway will be able to withstand more extreme weather without need for frequent maintenance. However, increased impermeable surface area from widened/additional laneways will result in increased stormwater runoff with possible increased risk of flooding.</p> <p>◑</p> | <p>Limiting development of adjacent properties within the study area will slow the growth rate of vehicles using the roadway. However, existing transportation issues at current traffic levels will remain.</p> <p>Further, the aging roadway will be more susceptible to extreme weather conditions.</p> <p>◐</p> |

| Criteria Category   | Evaluation Criteria               | Alternative Solution #1: Do Nothing                                | Alternative Solution #2: Encourage Use of Alternative Routes       | Alternative Solution #3: Roadway/Intersection Improvements                                                                                                                                                                                                                                                                                                 | Alternative Solution #4: Implement Active Transportation                                                                                                                                                                                                                                                                                                                                                               | Alternative Solution #5: Roadway/Intersection Improvements and Implement Active Transportation                                                                                                                                                                                                                                                             | Alternative Solution #6: Limit Development                                                                         |
|---------------------|-----------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Natural Environment | Impact to Terrestrial Environment | No impact to terrestrial environment as no changes are being made. | No impact to terrestrial environment as no changes are being made. | Road right-of-way widening in some sections of the study area will result in disturbance of current grassed boulevard areas. However, these existing grass boulevards are not habitat areas and therefore minor to negligible impacts to the terrestrial environment are anticipated. Some existing boulevard trees will be removed, but will be replaced. | Road right-of-way widening in some sections of the study area will result in disturbance of current grassed boulevard areas, however to a lesser extent than a full road reconstruction. However, these existing grass boulevards are not habitat areas and therefore minor to negligible impacts to the terrestrial environment are anticipated. Some existing boulevard trees will be removed, but will be replaced. | Road right-of-way widening in some sections of the study area will result in disturbance of current grassed boulevard areas. However, these existing grass boulevards are not habitat areas and therefore minor to negligible impacts to the terrestrial environment are anticipated. Some existing boulevard trees will be removed, but will be replaced. | No impact to terrestrial environment as no changes are being made and fewer adjacent properties will be disturbed. |
| Natural Environment | Impact to Aquatic Environment     | No impact to aquatic environment as no changes are being made.     | No impact to aquatic environment as no changes are being made.     | Standard mitigation and control methods will be utilized during construction to prevent any potential impact to groundwater or OPG canal.                                                                                                                                                                                                                  | Standard mitigation and control methods will be utilized during construction to prevent any potential impact to groundwater or OPG canal.                                                                                                                                                                                                                                                                              | Standard mitigation and control methods will be utilized during construction to prevent any potential impact to groundwater or OPG canal.                                                                                                                                                                                                                  | No impact to aquatic environment as no changes are being made.                                                     |

| Criteria Category | Evaluation Criteria | Alternative Solution #1: Do Nothing                                                                                                                                                                                                                                                                                                                                                                             | Alternative Solution #2: Encourage Use of Alternative Routes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Alternative Solution #3: Roadway/Intersection Improvements                                                                                                                                                                                                                                                                  | Alternative Solution #4: Implement Active Transportation                                                                                                                                                                                                                                                                                 | Alternative Solution #5: Roadway/Intersection Improvements and Implement Active Transportation                                                                                                                                                                                                                                                                                                                                                          | Alternative Solution #6: Limit Development                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| All Categories    | Overall Rating      | <p>Although the “Do Nothing” alternative avoids impacting the existing study area environments because no changes are made, the transportation issues of the study area, including meeting all user needs, are not addressed. This also negatively impacts the planning vision of the study area for the future.</p> <p></p> | <p>Encouraging the use of alternative routes only has minimal anticipated benefits in the short-term for the study area. Although using alternative routes avoids impacting the existing study area environments because no changes are made, the current and future transportation issues of the study area, including meeting all user needs, are not addressed. This also negatively impacts the planning vision in the study area for the future.</p> <p></p> | <p>Improving vehicular infrastructure addresses the major current issues in the study area. Potential environmental impacts may require more study to mitigate impacts. There will be costs to implement the improvements.</p> <p></p> | <p>Improving pedestrian and cycling infrastructure addresses the major current issues in the study area. Potential environmental impacts may require more study to mitigate impacts. There will be costs to implement the improvements.</p> <p></p> | <p>Improving vehicular, pedestrian and cycling infrastructure addresses the major current issues in the study area in consideration of all road user needs. Potential environmental impacts may require more study to mitigate impacts. There will be costs to implement the improvements.</p> <p>Alternative five is the preferred planning solution.</p> <p></p> | <p>Although limiting development in the study area avoids impacting the existing study area environments because no changes are made, the current transportation issues of the study area, including meeting all road user needs, are not addressed. Further, limiting development is not practical as it does not support the long-term planning vision for the study area.</p> <p></p> |

### 5.3. PREFERRED PLANNING SOLUTION

The evaluation of the alternative planning solutions (summarized in **Table 5-2**) was a combination of assessing how best the alternative solution addressed the Problem/Opportunity Statement as well as consideration of the evaluation criteria presented in **Section 5.2**.

Based on the results of the evaluation of the alternative planning solutions, the preferred planning solution that was identified is **Alternative #5 “Roadway/Intersection Improvements and Implement Active Transportation.”** This approach accommodates future population and employment growth and would address the major transportation issues identified for the existing study area through operational improvements to the roadway, thus improving the safety and effectiveness of the road and related accesses, as well as implementing expanded active transportation infrastructure to better meet all road user needs. Addressing these issues also ensures that the planning policies and objectives outlined for consideration in **Section 2.1.7** are met.

Alternative design concepts to implement this solution were developed and are presented in **Section 6.0**.

## 6.0 PHASE 3: ALTERNATIVE DESIGN CONCEPTS

Several alternative design concepts were identified and evaluated that could be adopted to implement the preferred planning solution (selected at the conclusion of Phase 2 of the Class EA process, as discussed in **Section 5.3**) based on the functionality, impacts to the surrounding environment, feasibility and mitigation measures available for any negative environmental impacts.

The alternative design concepts, including the identified preferred design concept, were presented to interested parties to gather input to confirm the selection of the preferred design concept.

### 6.1. LANE CONFIGURATION ALTERNATIVES

As part of the Transportation Assessment undertaken by Paradigm Transportation Solutions Limited (May 2024), various lane configurations were analyzed under future conditions in addition to the existing 4-lane configuration discussed above, including:

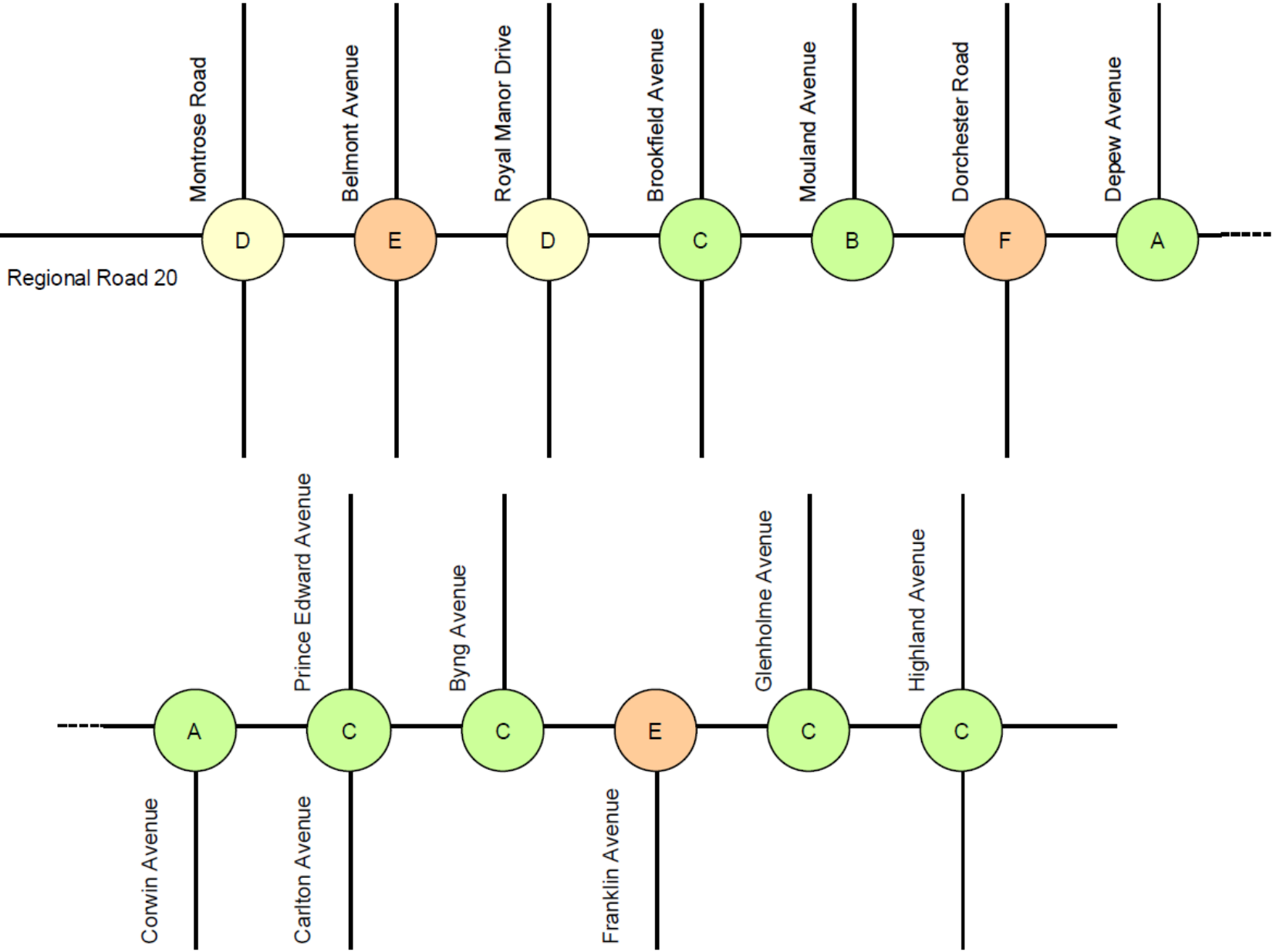
- A 2-lane configuration: One through lane in each direction, including at intersections. Existing dedicated left-turn lanes at signalized intersections would remain;
- A 3-lane configuration: One through lane in each direction and a centre left-turn lane. The centre left-turn lane would transition to a dedicated left-turn lanes at signalized intersections; and,
- A 5-lane configuration: Two through lanes in each direction and a centre left-turn lane. The centre left-turn lane would transition to a dedicated left-turn lanes at signalized intersections.

**Figure 6-1A to 6-3B** below show the LOS at all intersections within the study area for each lane configuration during peak AM and PM hours.

In each of the alternative lane configurations, LOS at Montrose Road and Dorchester Road during the peak PM hour deteriorates. However, when comparing the 2-lane, 3-lane and 4-lane configurations with the 5-lane configuration, the 5-lane configuration maintains good LOS at the remaining intersections, with some improvements from existing conditions (i.e., at Royal Manor Drive). Under the 2-lane and 3-lane configurations, severe deterioration of LOS results at all intersections during the PM peak hour. These anticipated LOS would result in unacceptable delays, with capacity exceeded throughout the entire study area. The 5-lane configuration with the centre left-turn lane provides a safe place for vehicles to queue and access driveways along Lundy's Lane while allowing through traffic to utilize two lanes in each direction.

Therefore, as a result of the analysis completed in the Traffic Assessment, the project team decided that only 5-lane alternatives would be evaluated during Phase 3 of the Class EA, as the 2-lane, 3-lane and 4-lane configurations would not sufficiently address the problem/opportunity statement.

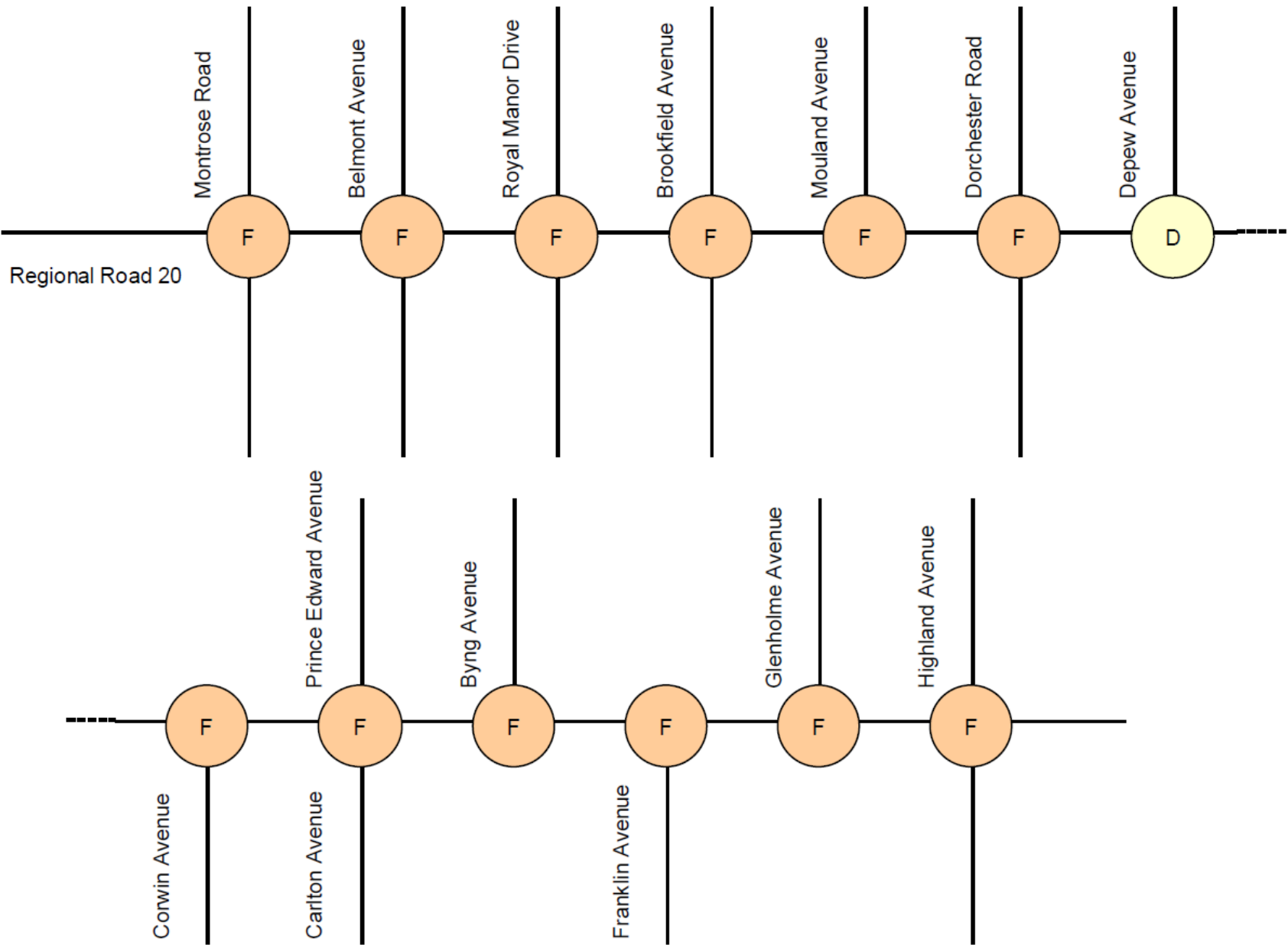
Weekday AM Peak Hour



2041 Traffic Peak Hour LOS Alternative 1  
(Two-Lane) - Weekday AM Peak Hour

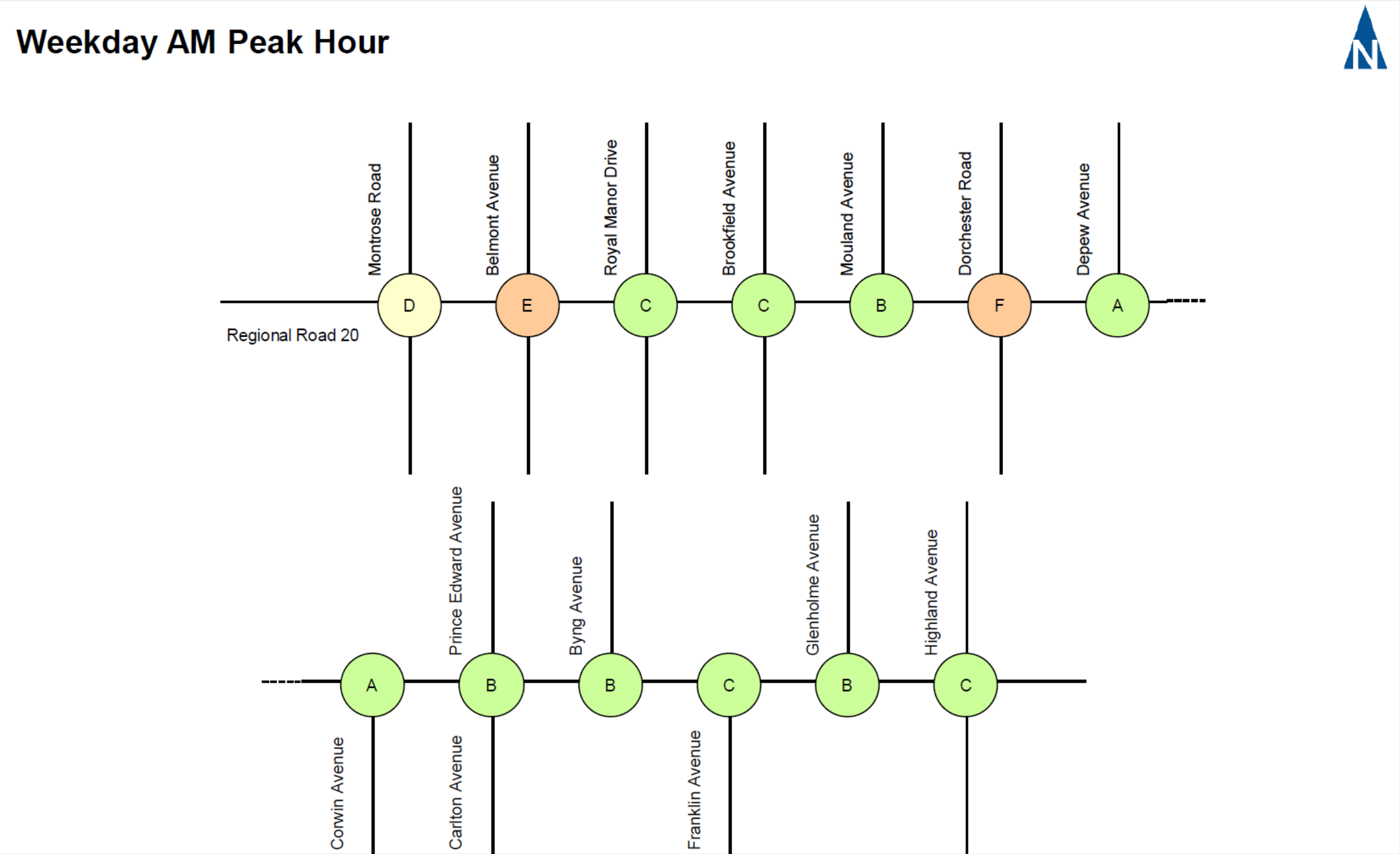
Figure 6-1A: 2041 Traffic LOS During Peak AM Hour (2-Lane Configuration)

Weekday PM Peak Hour



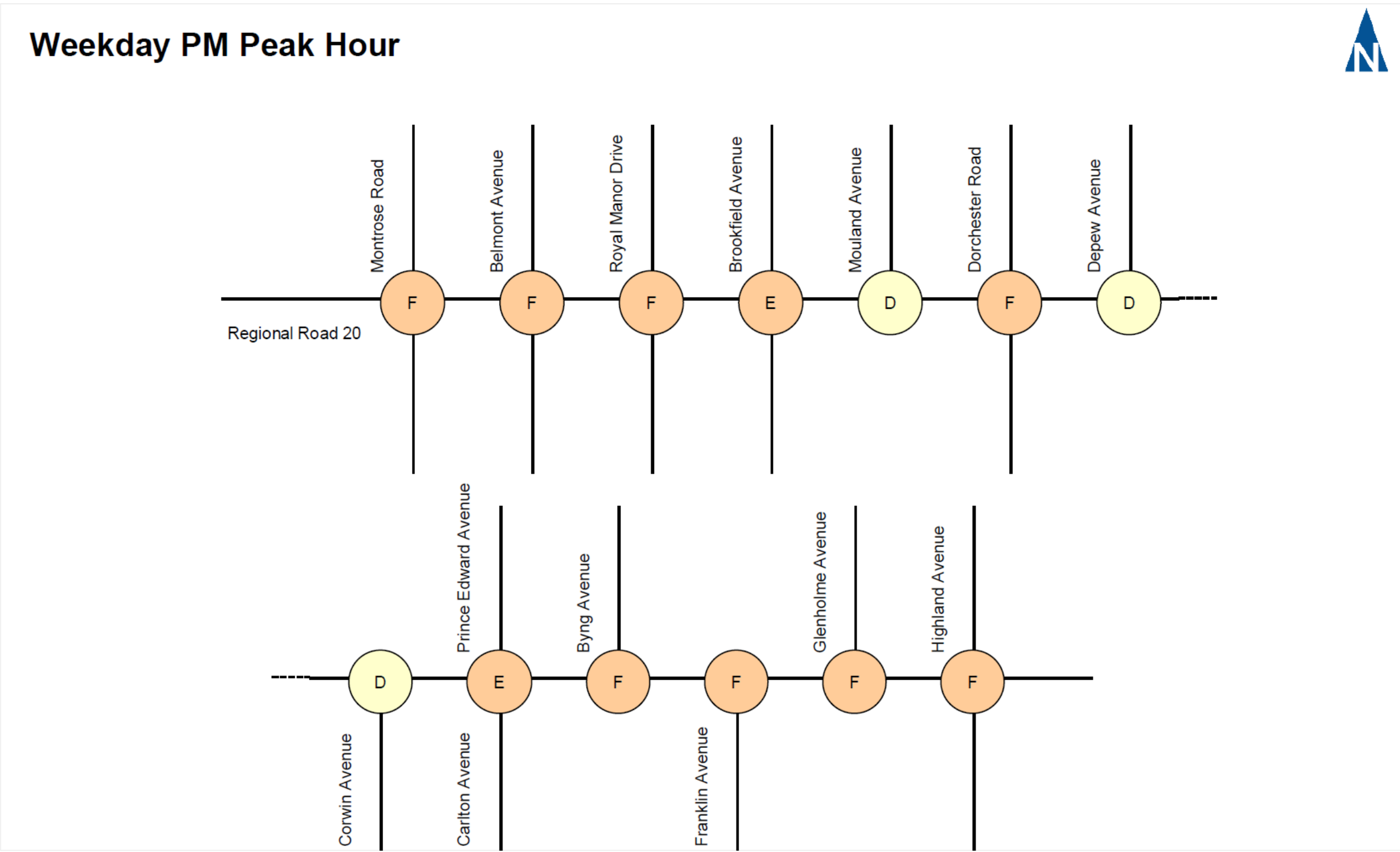
2041 Traffic Peak Hour LOS Alternative 1  
(Two-Lane) - Weekday PM Peak Hour

Figure 6-1B: 2041 Traffic LOS During Peak PM Hour (2-Lane Configuration)



## 2041 Traffic Peak Hour LOS Alternative 2 (Three-Lane) - Weekday AM Peak Hour

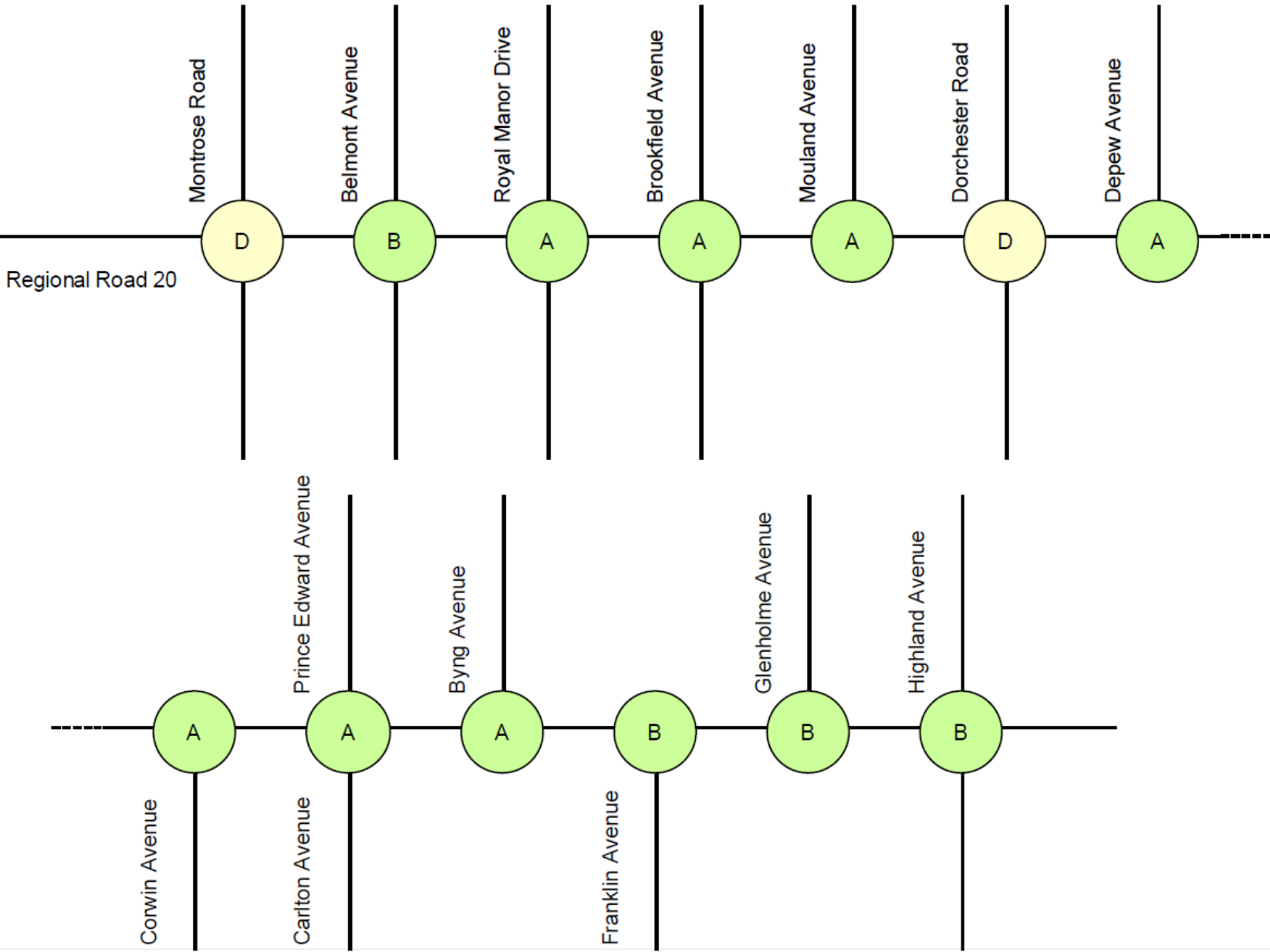
Figure 6-2A: 2041 Traffic LOS During Peak AM Hour (3-Lane Configuration)



## 2041 Traffic Peak Hour LOS Alternative 2 (Three-Lane) - Weekday PM Peak Hour

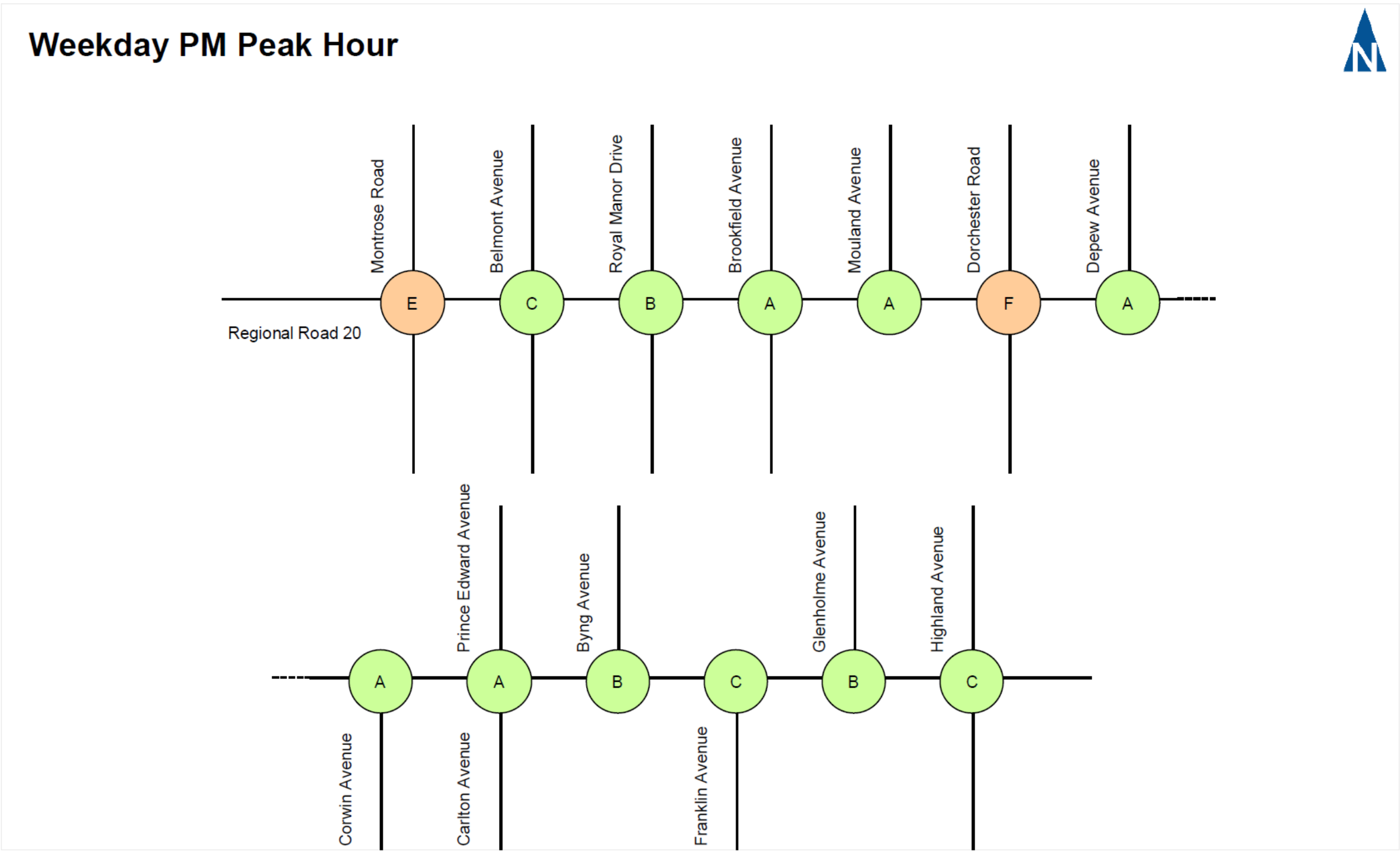
Figure 6-2B: 2041 Traffic LOS During Peak PM Hour (3-Lane Configuration)

Weekday AM Peak Hour



2041 Traffic Peak Hour LOS Alternative 3  
(Five-Lane) - Weekday AM Peak Hour

Figure 6-3A: 2041 Traffic LOS During Peak AM Hour (5-Lane Configuration)



## 2041 Traffic Peak Hour LOS Alternative 3 (Five-Lane) - Weekday PM Peak Hour

Figure 6-3B: 2041 Traffic LOS During Peak PM Hour (5-Lane Configuration)

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## **6.2. ALTERNATIVE DESIGNS CONSIDERED**

Different methods of implementing preferred planning solution #5 (Roadway/Intersection Improvements and Implement Active Transportation) were developed and evaluated based on potential impacts to identify the recommended design concept to be presented to interested parties, members of the public, Indigenous Communities, and government review agencies. Five alternative design concepts were considered, which are described below and shown in **Figures 6-4 to 6-8**.

The implementation of a multi-use path on one side of the corridor was initially screened out, and therefore not considered as one of the potential Alternative Designs. See **Sections 6.4.2** for further discussion of this topic.

1. 30.5m Right-of-Way: The 30.5m ROW alternative features five lanes, a cycle track, 1.8m wide sidewalks and grass boulevards. This alternative was identified as the “Ultimate ROW” that would be required to address all needs defined in the problem/opportunity statement. However, this alternative requires substantial property acquisition and the removal of some existing buildings, with the design exceeding the existing ROWs throughout the majority of the study area. **Figure 6-4** below displays the 30.5m ROW.

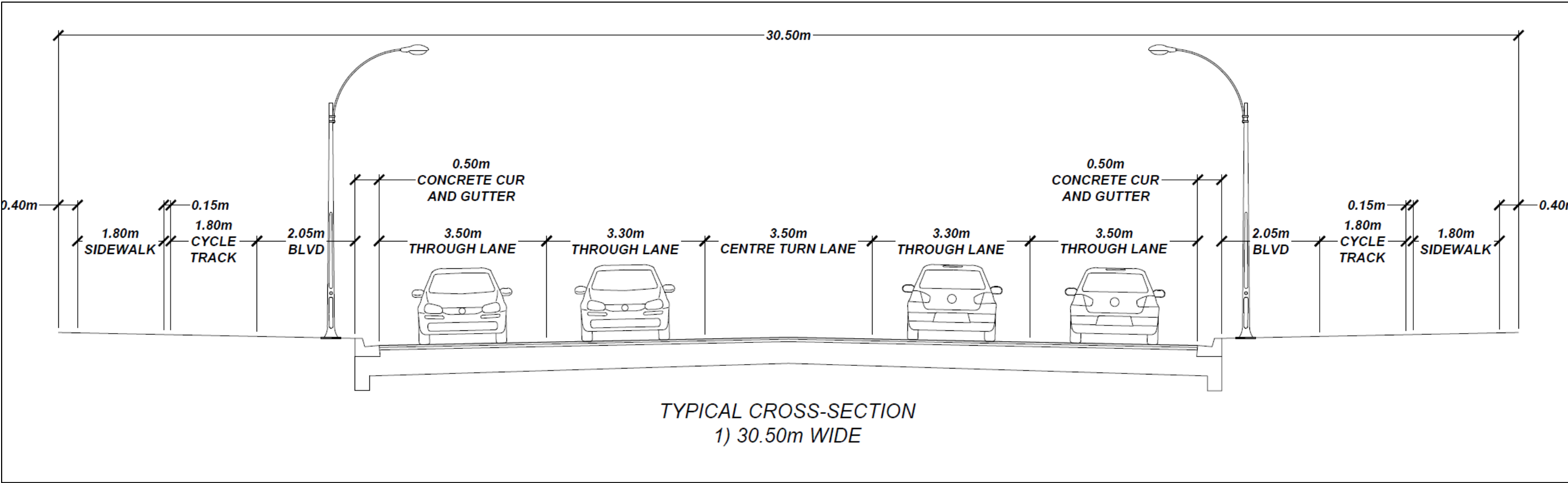


**Figure 6-4:** 30.5m Right-of-Way – Five lanes, cycle track, sidewalk and grass boulevards (Alternative Design #1)

2. 26.2m Right-of-Way: This alternative includes a cycle track and sidewalk within the boulevard, however no grass boulevard is provided, resulting in minimal space for snow storage and boulevard trees. This alternative addresses active transportation and vehicular traffic needs, but does not fully address safety as only a barrier curb separates pedestrians and cyclists from the road. Property acquisition is required throughout most of the study area, however to a lesser extent than the 30.5m ROW alternative. The western extent of the study area at 7398 Lundy's Lane (Ramada Plaza) and 7500 Lundy's Lane (Canada One Mall) has sufficient existing ROW to accommodate the 26.2m ROW alternative. **Figure 6-5** displays alternative design concept #2.

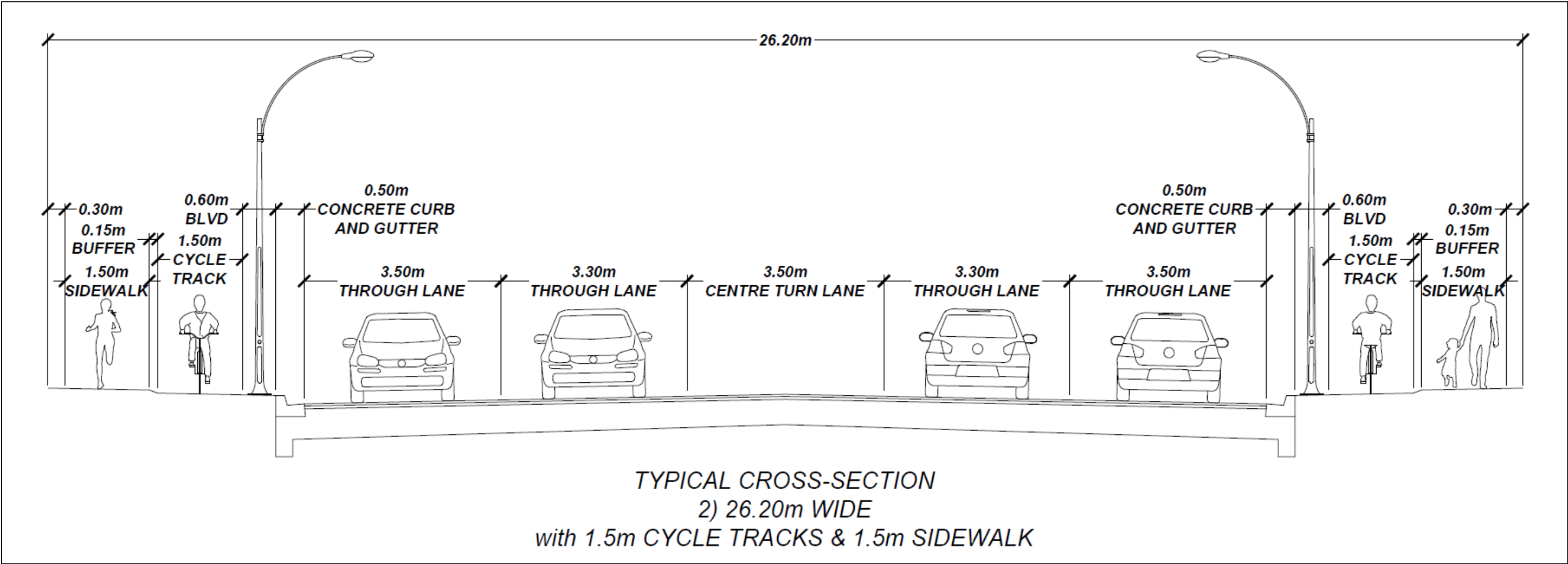


**Figure 6-5:** 26.2m Right-of-Way – Five lanes with several boulevard options, cycle track and sidewalk, no boulevard (Alternative Design #2)

3. This alternative features a 1.8 m wide sidewalk and a 1.95 m wide grass boulevard adjacent to the road. This alternative addresses safety needs by providing improved separation from the road for pedestrians, however does not address all active transportation needs due to the lack of a cycle track. This alternative provides a grass boulevard space for snow storage and tree planting. Property acquisition is required throughout most of the study area, however to a lesser extent than the 30.5m ROW alternative. The western extent of the study area at 7398 Lundy's Lane (Ramada Plaza) and 7500 Lundy's Lane (Canada One Mall) has sufficient existing ROW to accommodate the 26.2m ROW alternative. **Figure 6-6** displays alternative design concept #3.

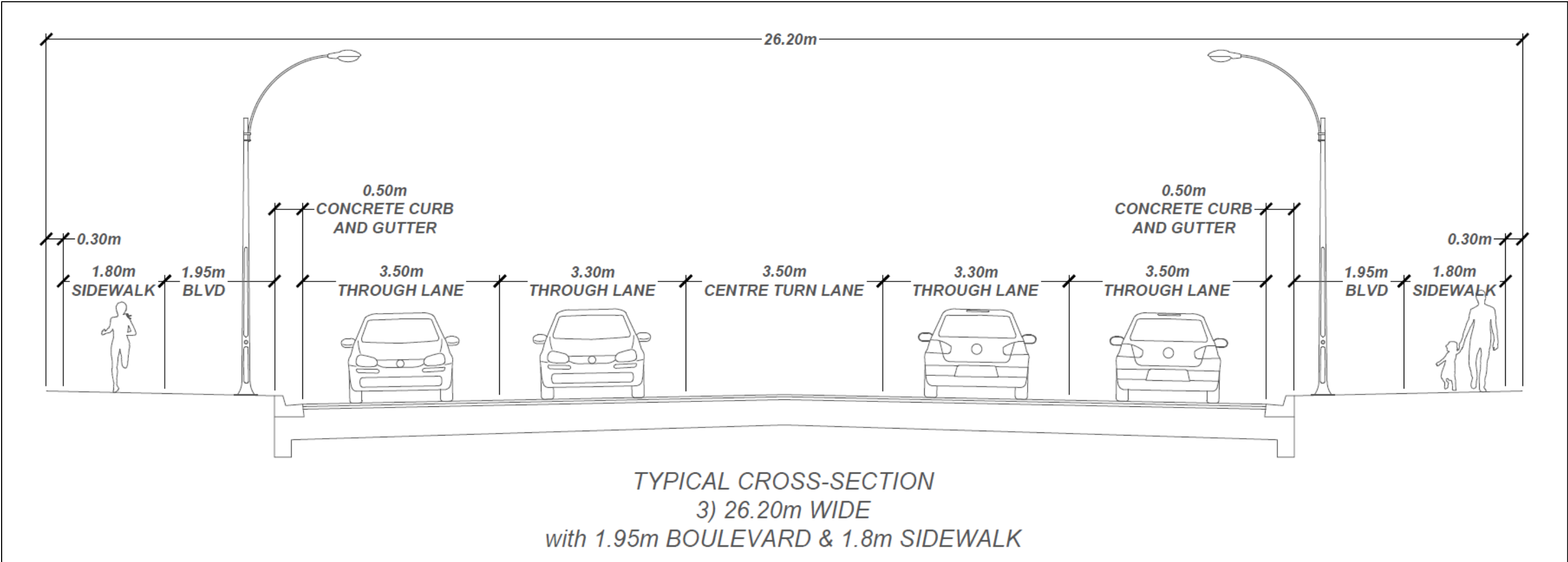


**Figure 6-6:** 26.2m Right-of-Way – Five lanes with several boulevard options, grass boulevard (1.95m) and sidewalk (1.8m) (Alternative Design #3)

4. This alternative includes a 1.8 m wide curb face sidewalk and a 2.25 m wide grass boulevard behind sidewalk. This alternative was developed to achieve a wider grass boulevard, which provides space for tree planting. However, the location of the grass boulevard is not convenient for snow storage compared to a boulevard adjacent to the roadway. Further, this alternative does not fully address safety needs due to featuring a curb face sidewalk. As with alternatives #3 and #5, all active transportation needs are not met due to the lack of a cycle track. Property acquisition is required throughout most of the study area, however to a lesser extent than the 30.5m ROW alternative. The western extent of the study area at 7398 Lundy's Lane (Ramada Plaza) and 7500 Lundy's Lane (Canada One Mall) has sufficient existing ROW to accommodate the 26.2m ROW alternative. **Figure 6-7** displays alternative design concept #4.

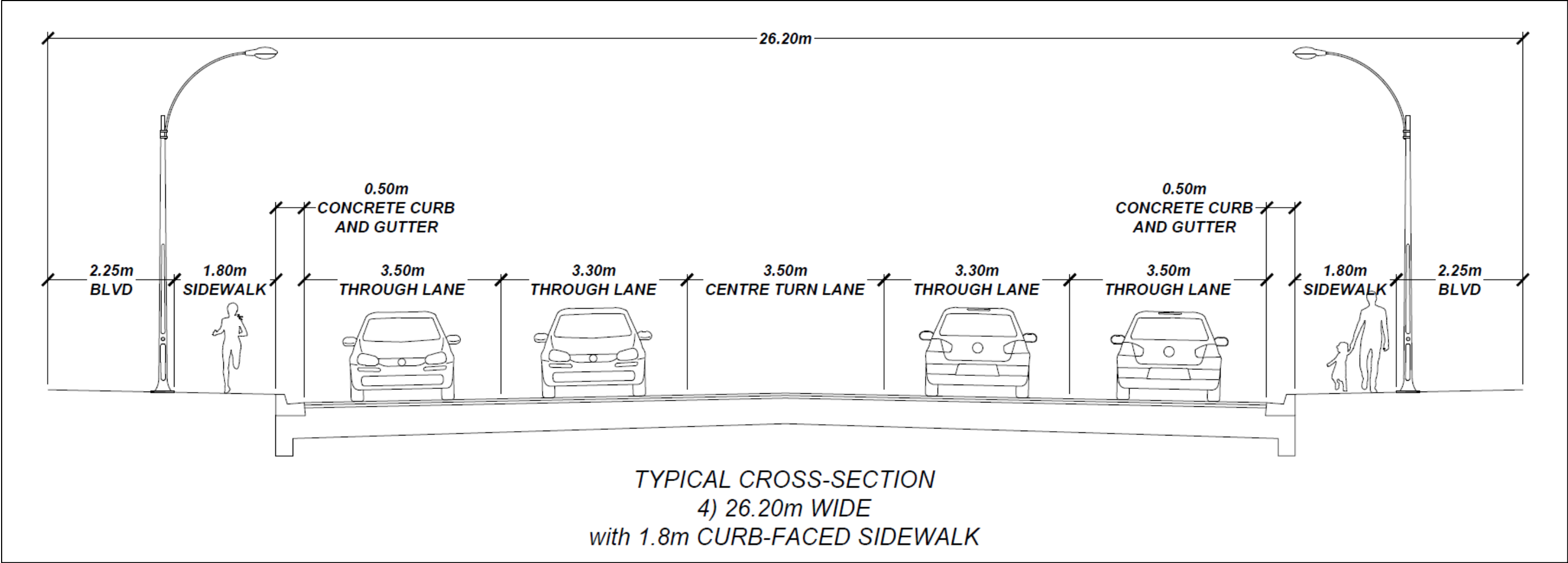


**Figure 6-7:** 26.2m Right-of-Way – Five lanes with several boulevard options, curb face sidewalk (1.8m) and grass boulevard behind sidewalk (2.25m) (Alternative Design #4)

5. This alternative includes a 1.0 m wide concrete boulevard, which provides space for some snow storage, a 1.8 m wide sidewalk and an additional 1.25 m wide grass boulevard behind sidewalk, which provides space for tree planting. The location of the grass boulevard is not convenient for snow storage, but the 1.0 m boulevard adjacent to the roadway provides some snow storage space. This alternative addresses safety needs to a greater extent than alternative #4, however still provides narrower boulevards than alternative #3. As with alternatives #3 and #4, not all active transportation needs are addressed since a cycle track is not included. Property acquisition is required throughout most of the study area, however to a lesser extent than the 30.5m ROW alternative. The western extent of the study area at 7398 Lundy's Lane (Ramada Plaza) and 7500 Lundy's Lane (Canada One Mall) has sufficient existing ROW to accommodate the 26.2m ROW alternative. **Figure 6-8** displays alternative design concept #5.

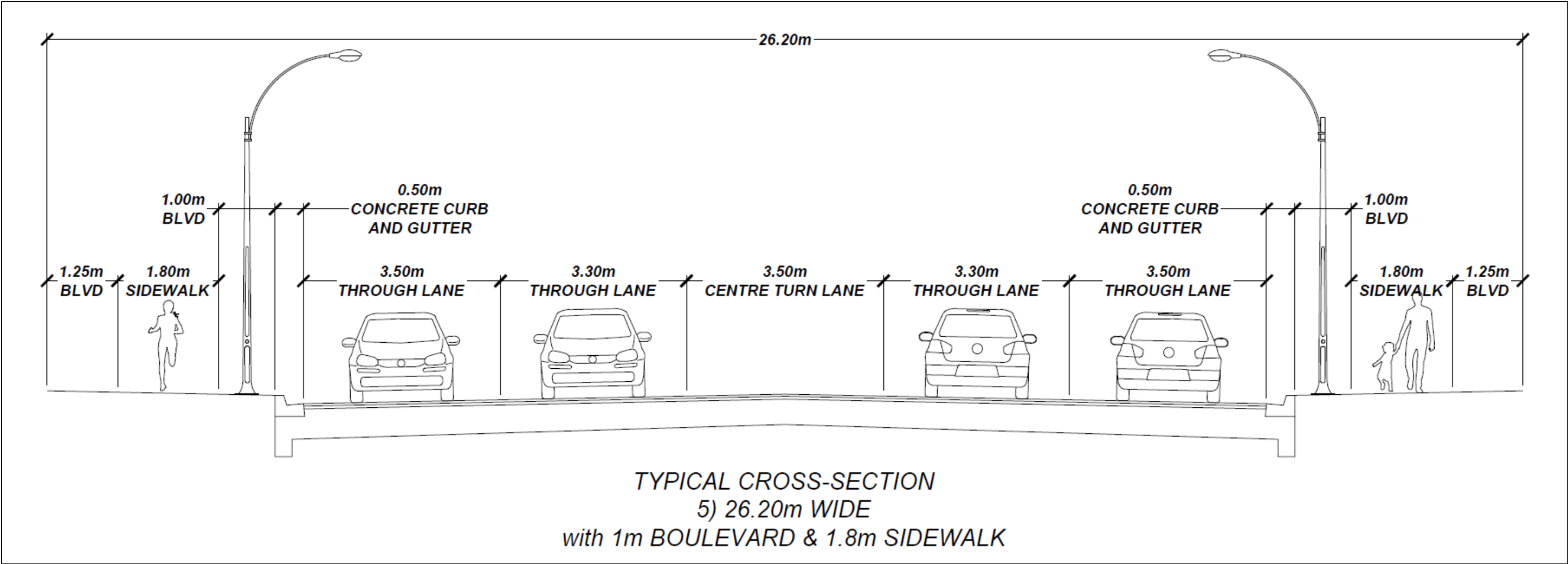


**Figure 6-8:** 26.2m Right-of-Way – Five lanes with several boulevard options, concrete boulevard (1.0m), sidewalk (1.8m) and additional boulevard space behind sidewalk (Alternative Design #5)

### **6.3. COMPARATIVE EVALUATION OF THE ALTERNATIVE DESIGN CONCEPTS**

Cross-sections for each of the alternative design concepts were prepared and the alternatives were evaluated based on similar criteria used for evaluating the alternative planning solutions. The same rating system used for evaluating the alternative planning solutions was utilized to evaluate the alternative design concepts, and the evaluation is detailed in **Table 6-1**. The project team can revise the ratings as determined necessary throughout the duration of the project based on consideration of detailed study results and input received. The preferred design concept was originally presented to interested parties at PIC #3. Following further review of the ratings, and in consideration of input received at and following PIC #3, minor refinements were made. The ratings shown in **Table 6-1** represent the final ratings to be considered as part of this Class EA Study.

Table 6-1: Evaluation of the Design Alternatives

| Criteria Category | Evaluation Criteria      | Design Alternative #1:<br>30.5m Right-of-Way                                                                                                      | Design Alternative #2:<br>26.2m Right-of-Way                                                                                                                | Design Alternative #3:<br>26.2m Right-of-Way                                                                                                                     | Design Alternative #4:<br>26.2m Right-of-Way                                                                                                                     | Design Alternative #5:<br>26.2m Right-of-Way                                                                                                              |
|-------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transportation    | Vehicular Traffic Demand | Addresses traffic demand along the road and at intersections.<br><br>●                                                                            | Addresses traffic demand along the road and at intersections.<br><br>●                                                                                      | Addresses traffic demand along the road and at intersections.<br><br>●                                                                                           | Addresses traffic demand along the road and at intersections.<br><br>●                                                                                           | Addresses traffic demand along the road and at intersections.<br><br>●                                                                                    |
| Transportation    | Safety                   | Greatly improves vehicular, cyclist and pedestrian safety in the study area.<br><br>●                                                             | Improves vehicular, cyclist and pedestrian safety in the study area, however lacks a boulevard.<br><br>⌚                                                    | Greatly improves vehicular and pedestrian safety in the study area.<br><br>⌚                                                                                     | Improves vehicular safety in the study area, however the curb face sidewalk will does not aid in improving pedestrian safety.<br><br>⌚                           | Improves vehicular and pedestrian safety in the study area, however narrow boulevard provides less of a buffer from the road than alternative 3.<br><br>⌚ |
| Transportation    | Active Transportation    | Improves and supports active transportation.<br><br>●                                                                                             | Improves active transportation, however cycle track and sidewalk are narrow.<br><br>⌚                                                                       | Improves active transportation with wide sidewalk, however lacks a cycle track.<br><br>⌚                                                                         | Improves active transportation with wide sidewalk, however lacks a cycle track.<br><br>⌚                                                                         | Improves active transportation with wide sidewalk, however lacks a cycle track.<br><br>⌚                                                                  |
| Transportation    | Transit                  | Supports increased transit use and operations by improving traffic flow and providing space in the boulevard for transit infrastructure.<br><br>● | Supports increased transit use and operations by improving traffic flow, however no space is provided in the boulevard for transit infrastructure.<br><br>⌚ | Supports increased transit use and operations by improving traffic flow and providing sufficient space in the boulevard for all transit infrastructure.<br><br>● | Supports increased transit use and operations by improving traffic flow and providing sufficient space in the boulevard for all transit infrastructure.<br><br>● | Supports increased transit use and operations by improving traffic flow and providing some space in the boulevard for transit infrastructure.<br><br>⌚    |
| Transportation    | Complete Streets         | Addresses all road user needs approach in the study area.<br><br>●                                                                                | Addresses most all road user needs for the study area.<br><br>⌚                                                                                             | Addresses most all road user needs, however does not include a cycle track.<br><br>⌚                                                                             | Addresses some all road user needs, however does not include a cycle track.<br><br>⌚                                                                             | Addresses some all road user needs, however does not include a cycle track.<br><br>⌚                                                                      |

| Criteria Category           | Evaluation Criteria                                             | Design Alternative #1:<br>30.5m Right-of-Way                                                                                                                                                                                                                                                 | Design Alternative #2:<br>26.2m Right-of-Way                                                                                                                                                                                                                                         | Design Alternative #3:<br>26.2m Right-of-Way                                                                                                                                                                                                                                         | Design Alternative #4:<br>26.2m Right-of-Way                                                                                                                                                                                                                                         | Design Alternative #5:<br>26.2m Right-of-Way                                                                                                                                                                                                                                         |
|-----------------------------|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transportation              | Summary                                                         | Addresses transportation needs such as traffic demand, safety, access, transit and active transportation in support of all road user needs in the study area.<br><br>●                                                                                                                       | Addresses transportation needs such as traffic demand, safety, access, active transportation and some road user needs, however transit needs are not met.<br><br>●                                                                                                                   | Addresses transportation needs such as traffic demand, safety, access, transit and active transportation, however does not address all road user needs.<br><br>●                                                                                                                     | Addresses transportation needs such as traffic demand, safety, access, transit and active transportation, however does not address all road user needs.<br><br>●                                                                                                                     | Addresses transportation needs such as traffic demand, safety, access, transit and active transportation, however does not address all road user needs. Narrow boulevard offers less space for all transit facilities.<br><br>●                                                      |
| Cultural Heritage Resources | Impacts to archaeological resources                             | Potential for impacts to archaeological resources. A Stage 2 Archaeological Assessment is required prior to any ground disturbing activities to identify avoidance/mitigative measures.<br><br>●                                                                                             | Potential for impacts to archaeological resources. A Stage 2 Archaeological Assessment is required prior to any ground disturbing activities to identify avoidance/mitigative measures.<br><br>●                                                                                     | Potential for impacts to archaeological resources. A Stage 2 Archaeological Assessment is required prior to any ground disturbing activities to identify avoidance/mitigative measures.<br><br>●                                                                                     | Potential for impacts to archaeological resources. A Stage 2 Archaeological Assessment is required prior to any ground disturbing activities to identify avoidance/mitigative measures.<br><br>●                                                                                     | Potential for impacts to archaeological resources. A Stage 2 Archaeological Assessment is required prior to any ground disturbing activities to identify avoidance/mitigative measures.<br><br>●                                                                                     |
| Cultural Heritage Resources | Impacts to cultural heritage resources/built heritage resources | Greater potential for impacts to cultural heritage resources (i.e., could impact 23 marked graves within the Lundy's Lane Cemetery). Additional studies may be required to determine if cultural heritage resources will be impacted and to identify avoidance/mitigative measures.<br><br>● | Potential for impacts to cultural heritage resources (i.e., could impact 13 marked graves within the Lundy's Lane Cemetery). Additional studies may be required to determine if cultural heritage resources will be impacted and to identify avoidance/mitigative measures.<br><br>● | Potential for impacts to cultural heritage resources (i.e., could impact 13 marked graves within the Lundy's Lane Cemetery). Additional studies may be required to determine if cultural heritage resources will be impacted and to identify avoidance/mitigative measures.<br><br>● | Potential for impacts to cultural heritage resources (i.e., could impact 13 marked graves within the Lundy's Lane Cemetery). Additional studies may be required to determine if cultural heritage resources will be impacted and to identify avoidance/mitigative measures.<br><br>● | Potential for impacts to cultural heritage resources (i.e., could impact 13 marked graves within the Lundy's Lane Cemetery). Additional studies may be required to determine if cultural heritage resources will be impacted and to identify avoidance/mitigative measures.<br><br>● |

| Criteria Category           | Evaluation Criteria                   | Design Alternative #1:<br>30.5m Right-of-Way                                                                                                                                                                                                                                    | Design Alternative #2:<br>26.2m Right-of-Way                                                                                                                                                                                                                                      | Design Alternative #3:<br>26.2m Right-of-Way                                                                                                                                                                                                                                      | Design Alternative #4:<br>26.2m Right-of-Way                                                                                                                                                                                                                                      | Design Alternative #5:<br>26.2m Right-of-Way                                                                                                                                                                                                                                      |
|-----------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cultural Heritage Resources | Summary                               | Potential for impacts to the cultural heritage resources. Additional studies (i.e., Zone of Influence Study) may be required to identify ground vibration impacts and mitigation measures.<br> | Potential for impacts to the cultural heritage resources. Additional studies (i.e., Zone of Influence Study) may be required to identify ground vibration impacts and mitigation measures.<br> | Potential for impacts to the cultural heritage resources. Additional studies (i.e., Zone of Influence Study) may be required to identify ground vibration impacts and mitigation measures.<br> | Potential for impacts to the cultural heritage resources. Additional studies (i.e., Zone of Influence Study) may be required to identify ground vibration impacts and mitigation measures.<br> | Potential for impacts to the cultural heritage resources. Additional studies (i.e., Zone of Influence Study) may be required to identify ground vibration impacts and mitigation measures.<br> |
| Socio-Economic              | Local and Regional Planning Documents | Supported by the TMP, however exceeds Niagara Falls Official Plan (NF OP) Right-of-Way.<br>                                                                                                    | Supported by the TMP/NF OP by addressing vehicular safety, operations, road widening and growth.<br>                                                                                           | Supported by the TMP/NF OP by addressing vehicular safety, operations, road widening and growth. Addresses most Complete Streets policies.<br>                                                 | Supported by the TMP/NF OP by addressing vehicular safety, operations, road widening and growth. Addresses some Complete Streets policies.<br>                                                 | Supported by the TMP/NF OP by addressing vehicular safety, operations, road widening and growth. Addresses some Complete Streets policies.<br>                                                 |
| Socio-Economic              | Supports Local Growth and Development | Supports local growth and development by providing improved vehicular, transit, cyclist and pedestrian infrastructure.<br>                                                                   | Supports local growth and development by providing improved vehicular, cyclist and pedestrian infrastructure.<br>                                                                            | Supports local growth and development by providing improved vehicular, transit and pedestrian infrastructure.<br>                                                                            | Supports local growth and development by providing improved vehicular, transit and pedestrian infrastructure.<br>                                                                            | Supports local growth and development by providing improved vehicular, transit and pedestrian infrastructure.<br>                                                                            |
| Socio-Economic              | Access To and From Properties         | Opportunities to improve and revise access to and from properties as needed.<br>                                                                                                             | Opportunities to improve and revise access to and from properties as needed.<br>                                                                                                             | Opportunities to improve and revise access to and from properties as needed.<br>                                                                                                             | Opportunities to improve and revise access to and from properties as needed.<br>                                                                                                             | Opportunities to improve and revise access to and from properties as needed.<br>                                                                                                             |
| Socio-Economic              | Private Property Requirements         | Significant private property impacts, requiring property acquisition from all properties within the study area and impacting 9 buildings.<br>                                                | Notable private property impacts, property acquisition required from approximately 75% of properties within study area and 2 buildings impacted.<br>                                         | Notable private property impacts, property acquisition required from approximately 75% of properties within study area and 2 buildings impacted.<br>                                         | Notable private property impacts, property acquisition required from approximately 75% of properties within study area and 2 buildings impacted.<br>                                         | Notable private property impacts, property acquisition required from approximately 75% of properties within study area and 2 buildings impacted.<br>                                         |

| Criteria Category | Evaluation Criteria | Design Alternative #1:<br>30.5m Right-of-Way                                                                                                                                                                                       | Design Alternative #2:<br>26.2m Right-of-Way                                                                                                                                                                                         | Design Alternative #3:<br>26.2m Right-of-Way                                                                                                                                                                                         | Design Alternative #4:<br>26.2m Right-of-Way                                                                                                                                                                                         | Design Alternative #5:<br>26.2m Right-of-Way                                                                                                                                                                                         |
|-------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Socio-Economic    | Summary             | Fully supports the planning vision for this area, though there will be significant private property impacts.<br>                                  | Supports the planning vision for this area, though there will be some private property impacts.<br>                                               | Supports the planning vision for this area, and addresses most Complete Streets policies, though there will be some private property impacts.<br> | Supports the planning vision for this area, and addresses some Complete Streets policies, though there will be some private property impacts.<br> | Supports the planning vision for this area, and addresses some Complete Streets policies, though there will be some private property impacts.<br> |
| Financial         | Capital costs       | Significant capital costs due to degree of property acquisition required.<br>                                                                     | High capital costs due to required property acquisition.<br>                                                                                      | High capital costs due to required property acquisition.<br>                                                                                      | High capital costs due to required property acquisition.<br>                                                                                      | High capital costs due to required property acquisition.<br>                                                                                      |
| Financial         | Maintenance costs   | Improved condition of roadway will reduce maintenance costs, however adding additional infrastructure will then increase maintenance costs.<br> | Improved condition of roadway will reduce maintenance costs, however adding additional infrastructure will then increase maintenance costs.<br> | Reduced maintenance costs due to improved condition of roadway.<br>                                                                             | Reduced maintenance costs due to improved condition of roadway.<br>                                                                             | Reduced maintenance costs due to improved condition of roadway.<br>                                                                             |
| Financial         | Summary             | Significant capital costs with some reduction in maintenance costs, but offset by increased maintenance costs for new infrastructure.<br>       | High capital costs with some reduction in maintenance costs, but offset by increased maintenance costs for new infrastructure.<br>              | High capital costs and some additional maintenance costs.<br>                                                                                   | High capital costs and some additional maintenance costs.<br>                                                                                   | High capital costs and some additional maintenance costs.<br>                                                                                   |

| Criteria Category   | Evaluation Criteria               | Design Alternative #1:<br>30.5m Right-of-Way                                                                                                                                                                                                                                                                                                                                                             | Design Alternative #2:<br>26.2m Right-of-Way                                                                                                                                                                                                                                                                                                                                 | Design Alternative #3:<br>26.2m Right-of-Way                                                                                                                                                                                                                                                                                                                                 | Design Alternative #4:<br>26.2m Right-of-Way                                                                                                                                                                                                                                                                                                                                                                                                 | Design Alternative #5:<br>26.2m Right-of-Way                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Natural Environment | Climate Change                    | <p>Improves vehicle flow, reducing idling times. The inclusion of a wider sidewalk and cycle track also encourages active transportation alternatives, reducing total vehicles within the study area.</p> <p>The grass boulevard adjacent to the roadway provides space for snow storage and trees.</p> <p>⬇</p>                                                                                         | <p>Improves vehicle flow, reducing idling times. The inclusion of a wider sidewalk and cycle track also encourages active transportation alternatives, reducing total vehicles within the study area.</p> <p>However, the 0.6 m wide boulevard provides little to no space for snow storage and tree planting.</p> <p>⬇</p>                                                  | <p>Improves vehicle flow, reducing idling times. However, without all active transportation options (i.e., exclusion of a cycle track), this alternative does not fully encourage a reduction in the number of vehicles travelling within the study area.</p> <p>The grass boulevard adjacent to the roadway provides space for snow storage and trees.</p> <p>⬇</p>         | <p>Improves vehicle flow, reducing idling times. However, without all active transportation options (i.e., exclusion of a cycle track), this alternative does not fully encourage a reduction in the number of vehicles travelling within the study area.</p> <p>The grass boulevard provides space for snow storage and trees, however its location behind the sidewalk may result in conflicts for snow clearing and storage.</p> <p>⬇</p> | <p>Improves vehicle flow, reducing idling times. However, without all active transportation options (i.e., exclusion of a cycle track), this alternative does not fully encourage a reduction in the number of vehicles travelling within the study area.</p> <p>The grass boulevard provides space for snow storage and trees, however its location behind the sidewalk may result in conflicts for snow clearing and storage.</p> <p>⬇</p> |
| Natural Environment | Impact to Terrestrial Environment | <p>This alternative results in the widest 30.5m right-of-way within study area, resulting in the greatest disturbance of current grassed areas. However, these existing grass boulevards are not habitat areas and therefore minor to negligible impacts to the terrestrial environment are anticipated. Additionally, some existing boulevard trees will be removed, but will be replaced.</p> <p>⬇</p> | <p>This alternative features a narrower 26.2m right-of-way, resulting in less disturbance of current grassed areas. However, these existing grass boulevards are not habitat areas and therefore minor to negligible impacts to the terrestrial environment are anticipated. Additionally, some existing boulevard trees will be removed, but will be replaced.</p> <p>⬇</p> | <p>This alternative features a narrower 26.2m right-of-way, resulting in less disturbance of current grassed areas. However, these existing grass boulevards are not habitat areas and therefore minor to negligible impacts to the terrestrial environment are anticipated. Additionally, some existing boulevard trees will be removed, but will be replaced.</p> <p>⬇</p> | <p>This alternative features a narrower 26.2m right-of-way, resulting in less disturbance of current grassed areas. However, these existing grass boulevards are not habitat areas and therefore minor to negligible impacts to the terrestrial environment are anticipated. Additionally, some existing boulevard trees will be removed, but will be replaced.</p> <p>⬇</p>                                                                 | <p>This alternative features a narrower 26.2m right-of-way, resulting in less disturbance of current grassed areas. However, these existing grass boulevards are not habitat areas and therefore minor to negligible impacts to the terrestrial environment are anticipated. Additionally, some existing boulevard trees will be removed, but will be replaced.</p> <p>⬇</p>                                                                 |

| Criteria Category   | Evaluation Criteria           | Design Alternative #1:<br>30.5m Right-of-Way                                                                                                                                                                                                                                                                                                   | Design Alternative #2:<br>26.2m Right-of-Way                                                                                                                                                                                                                                                                                                                      | Design Alternative #3:<br>26.2m Right-of-Way                                                                                                                                                                                                                                                                                                   | Design Alternative #4:<br>26.2m Right-of-Way                                                                                                                                                                                                                                                                                                          | Design Alternative #5:<br>26.2m Right-of-Way                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Natural Environment | Impact to Aquatic Environment | Standard mitigation and control methods will be utilized during construction to prevent any potential impact to groundwater or OPG canal.<br><br>A wider right-of-way, with the most impermeable surface, will result in greater stormwater runoff to be managed.<br><br>1                                                                     | Standard mitigation and control methods will be utilized during construction to prevent any potential impact to groundwater or OPG canal.<br><br>A lack of grass boulevard will result in a slightly greater amount of stormwater runoff to be managed.<br><br>1                                                                                                  | Standard mitigation and control methods will be utilized during construction to prevent any potential impact to groundwater or OPG canal.<br><br>2                                                                                                                                                                                             | Standard mitigation and control methods will be utilized during construction to prevent any potential impact to groundwater or OPG canal.<br><br>2                                                                                                                                                                                                    | Standard mitigation and control methods will be utilized during construction to prevent any potential impact to groundwater or OPG canal.<br><br>2                                                                                                                                                                                                                                                                                      |
| All Categories      | Overall Rating                | Improving vehicular, transit, pedestrian and cycling infrastructure addresses the major current issues in the study area in consideration of all road user needs. However, exceeds maximum right-of-way established in the Niagara Falls Official Plan and has significant private property and cost requirements for implementation.<br><br>1 | Improving vehicular, pedestrian and cycling infrastructure addresses the major current issues in the study area in consideration of all road user needs. However, no space for a boulevard means that transit infrastructure and utility requirements cannot be met. There will be private property and cost requirements to implement the improvements.<br><br>1 | Improving vehicular, transit and pedestrian infrastructure addresses the major current issues in the study area, however not including a cycle track does not meet all road user needs. There will be private property and cost requirements to implement the improvements.<br><br>Alternative three is the preferred design concept.<br><br>2 | Improving vehicular, transit and pedestrian infrastructure addresses the major current issues in the study area, however not including a cycle track does not meet all all user needs. Further, a curb face sidewalk does not improve pedestrian safety. There will be private property and cost requirements to implement the improvements.<br><br>1 | Improving vehicular, transit and pedestrian infrastructure addresses the major current issues in the study area, however not including a cycle track does not meet all road user needs. The narrow boulevard offers less space for all transit facilities and results in pedestrians being closer to the road than alternative 3. Further, There will be private property and cost requirements to implement the improvements.<br><br>1 |

Based on the results of this evaluation, **Alternative Design Concept #3** was chosen as the preferred design concept, as it can be implemented within the 26.2m ROW defined for Lundy's Lane in the Niagara Falls Official Plan, addresses existing traffic issues, provides wider sidewalks and includes a grass boulevard adjacent to the roadway that will provide a buffer from the road for pedestrians and provides space for tree planting and snow storage.

## 6.4. DESCRIPTION OF THE PREFERRED DESIGN CONCEPT

The preferred design concept was presented to the public and interested parties at PIC #3 on May 17, 2023. Specific advantages provided by design alternative #3 include:

- Provides sufficient traffic capacity for the planning horizon (to the year 2041), which will improve traffic flow throughout the Regional Road 20 (Lundy's Lane) corridor;
- Improves the efficiency of the road and safety for motorists waiting to turn into and out of commercial properties and side streets through the inclusion of a centre turn lane;
- Ability to remain within the 26.2m ROW defined in the Niagara Falls Official Plan, and in some portions within the existing ROW, which results in less property acquisition requirements and less impact to the surrounding overall environment than the wider ROW of design alternative #2 and doesn't require an Official Plan amendment;
- The grass boulevard provides a safety buffer from the road for pedestrians, provides space for tree planting and snow storage, provides space for transit and utility infrastructure; and, provides connectivity for pedestrian facilities with wider sidewalks on both sides of the road.

While Alternative Design #3, as shown in **Figure 6-6** above, was chosen as a result of the evaluation process, technical review and feedback from interested parties resulted in further refinements to the design of the ROW following PIC #3. It was decided that the sidewalks should be widened from 1.8m to 2.0m where there is sufficient space and, to accommodate this, the width of the grass boulevard should be narrowed from 1.95m to 1.75m.

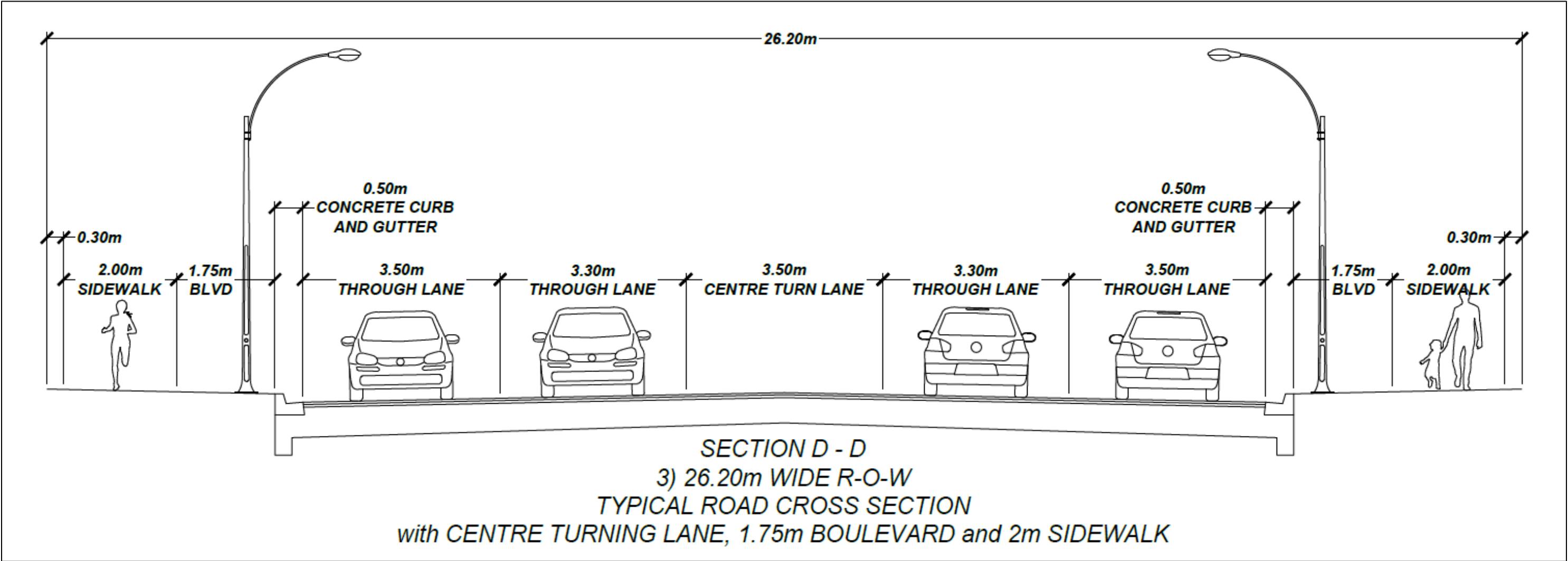


Figure 6-9: 26.2m Right-of-Way – Five lanes including a centre turn lane, grass boulevard (1.75m) and sidewalk (2.0m) (Refined Alternative Design #3)

Though the majority of the study area features the cross-section shown in **Figure 6-9**, with two lanes in each direction and a centre left-turn lane, several key locations instead include a centre median. The addition of the median results in some slight variations on boulevard location and width in the areas that feature a centre median. The locations with a centre median include:

- The typical signalized intersection on Lundy's Lane;
- The intersection of Lundy's Lane and Montrose Road;  
The segment of Lundy's Lane between Montrose Road and the Canada One Outlet Mall; and,
- The OPG Hydro Canal overpass.

**Figures 6-10 to 6-17** display the variations in the cross-section and design drawings at each of these key locations.

The preliminary preferred design plan drawings are provided in **Appendix F.1**. Input received from the interested party consultation program and how it was considered in finalizing the preferred alternative design concept are presented in **Section 7.0**.

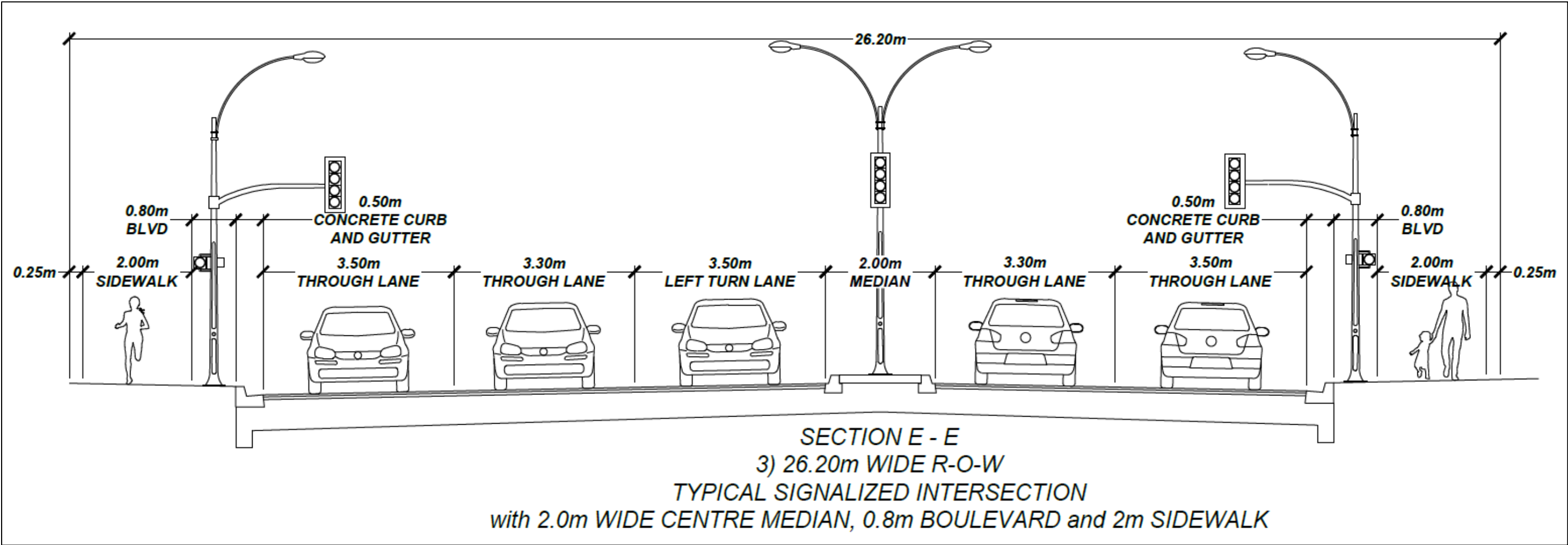


**Figure 6-10:** 26.2m Right-of-Way – Four lanes with a median and sidewalk (2.0m) and boulevards of varying widths (Refined Alternative Design #3 for a typical signalized intersection)

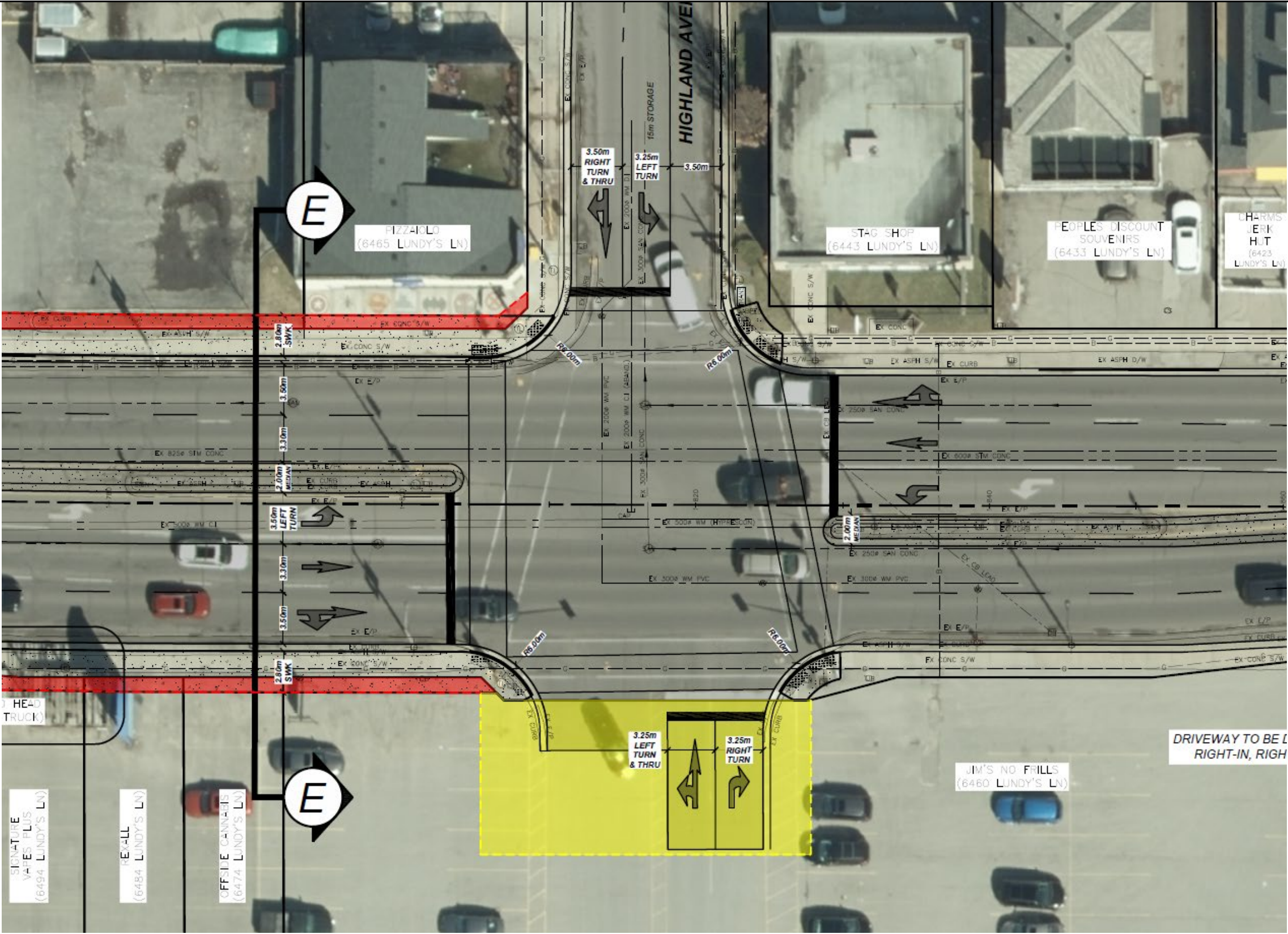


Figure 6-11: Design Drawing Details for Lundy's Lane at Highland Avenue

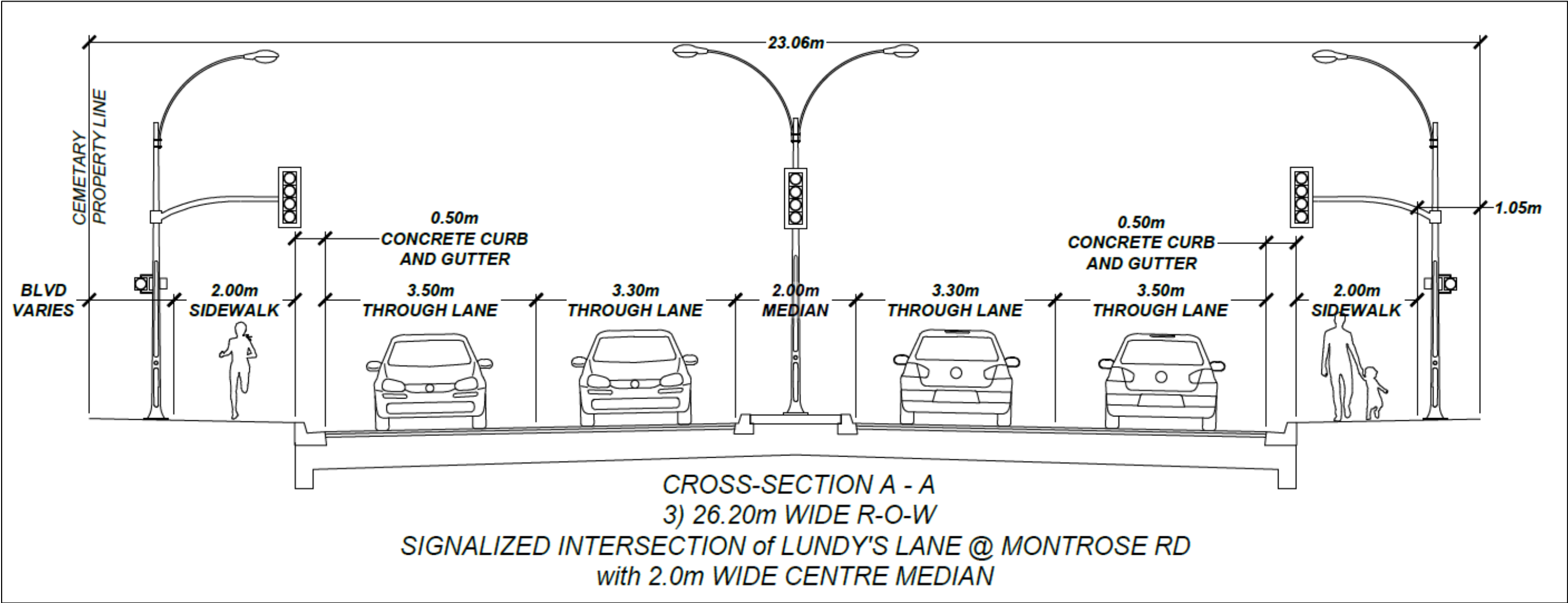


**Figure 6-12:** 26.2m Right-of-Way – Four lanes with a median and sidewalk (2.0m) and boulevards of varying widths (Refined Alternative Design #3 for Lundy's Lane and Montrose Road intersection)

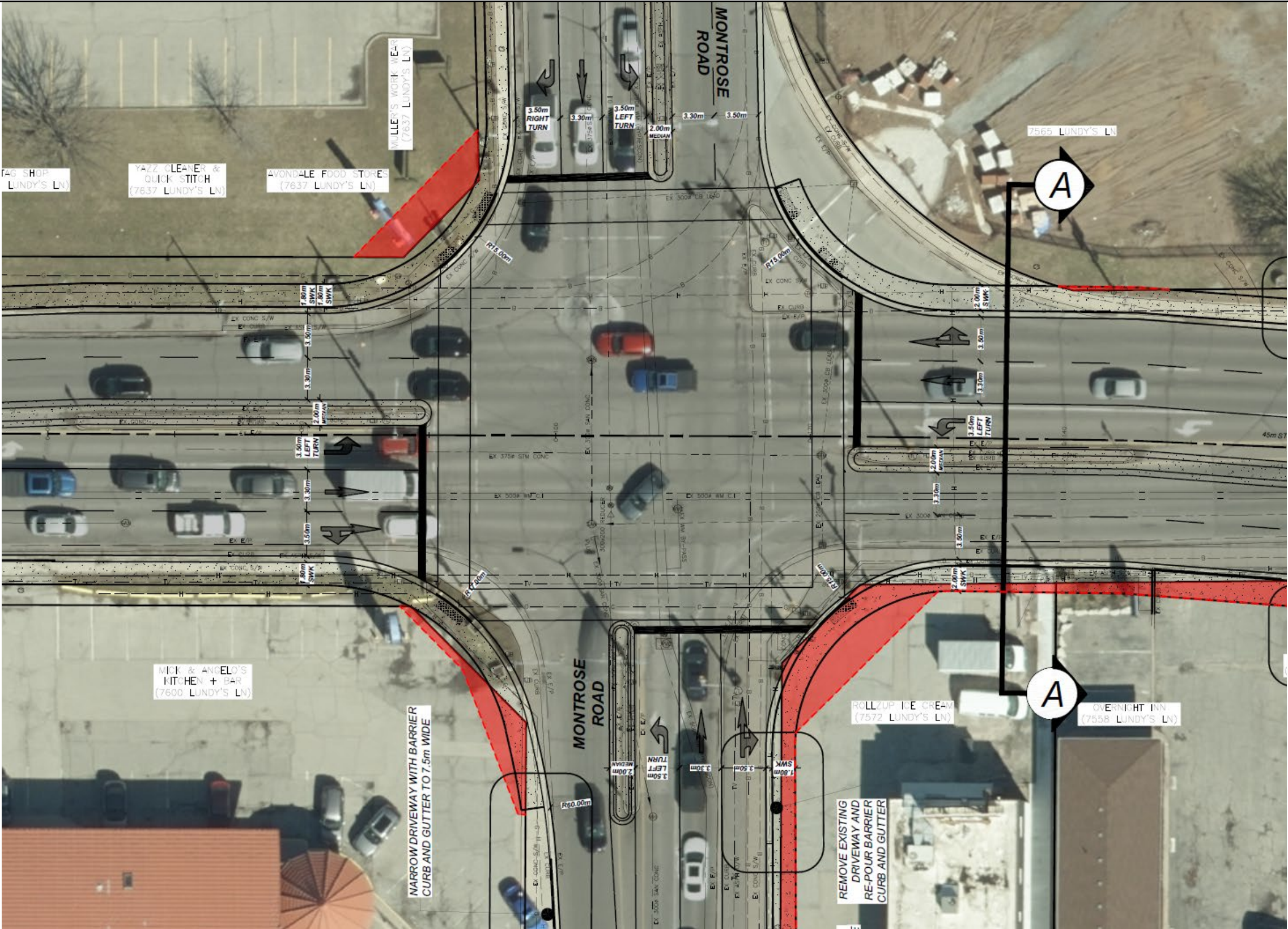


Figure 6-13: Design Drawing Details for Lundy's Lane at Montrose Road

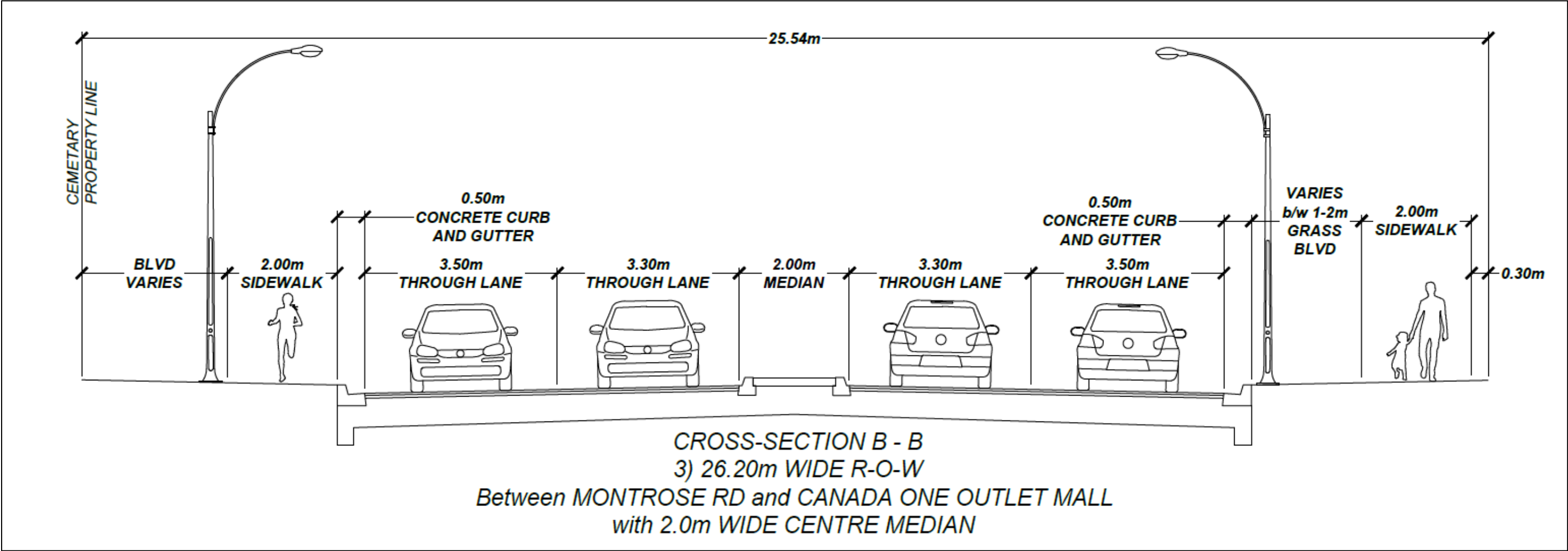


**Figure 6-14:** 26.2m Right-of-Way – Four lanes with sidewalks (2.0m) on both sides, a grass boulevard (1-2m) on the south side, and a boulevard of varying widths on the north side (Refined Alternative Design #3 for Lundy's Lane between Montrose Road and the Canada One Outlet Mall)

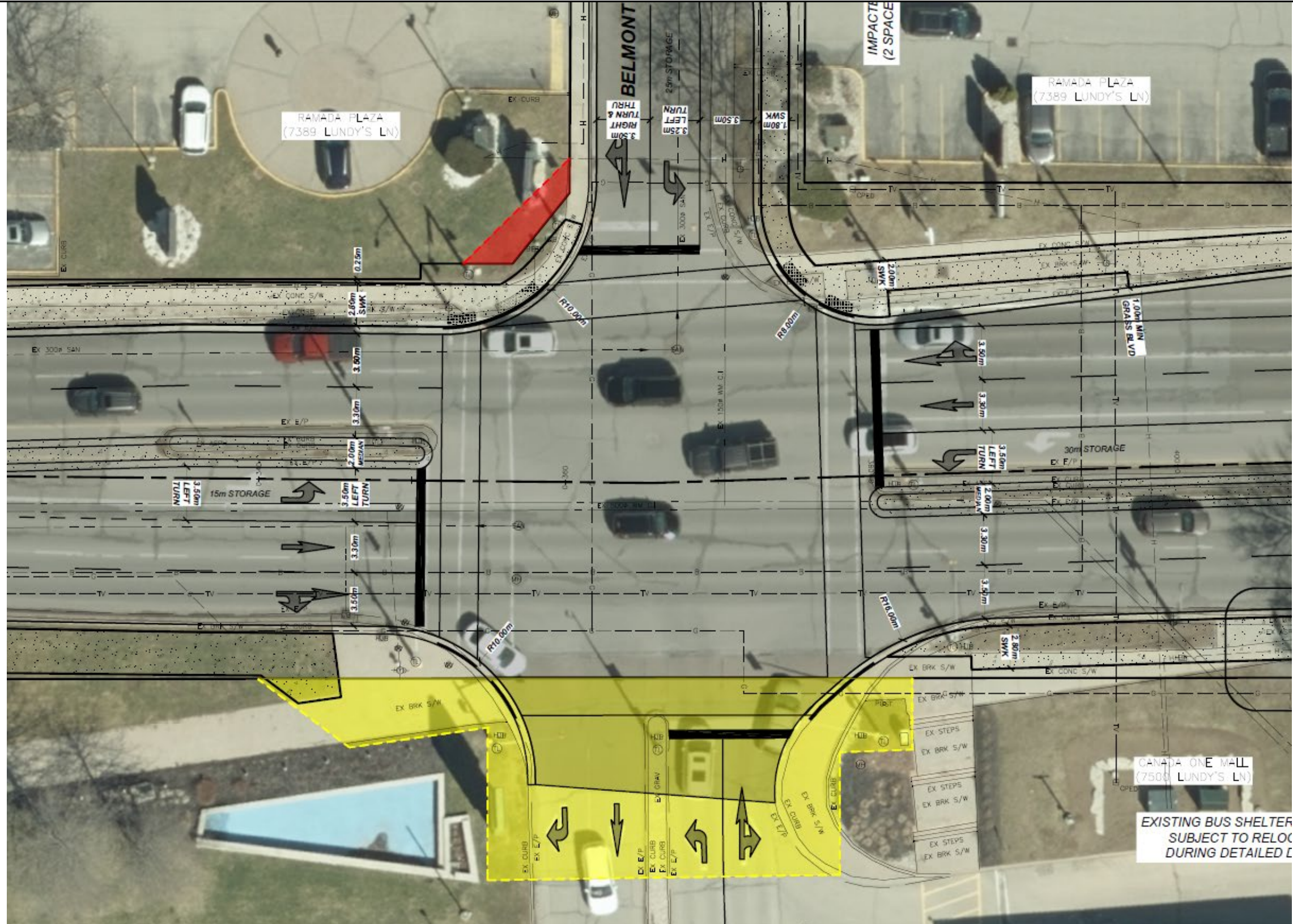


**Figure 6-15:** Design Drawing Details for Lundy's Lane at Canada One Outlet Mall

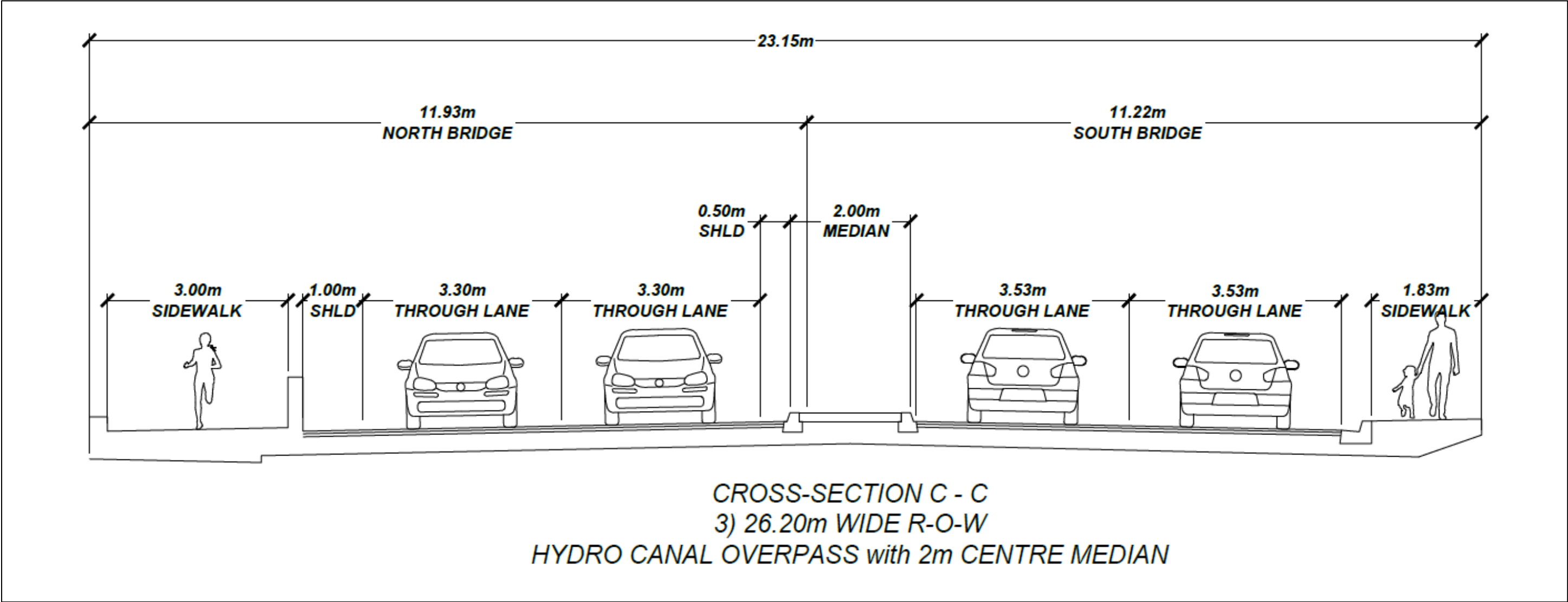


**Figure 6-16:** 26.2m Right-of-Way – Four lanes with a median, road shoulders, sidewalks (3.0m and 1.83m) and no boulevards (Refined Alternative Design #3 for Lundy's Lane overpass over the OPG Hydro Canal)

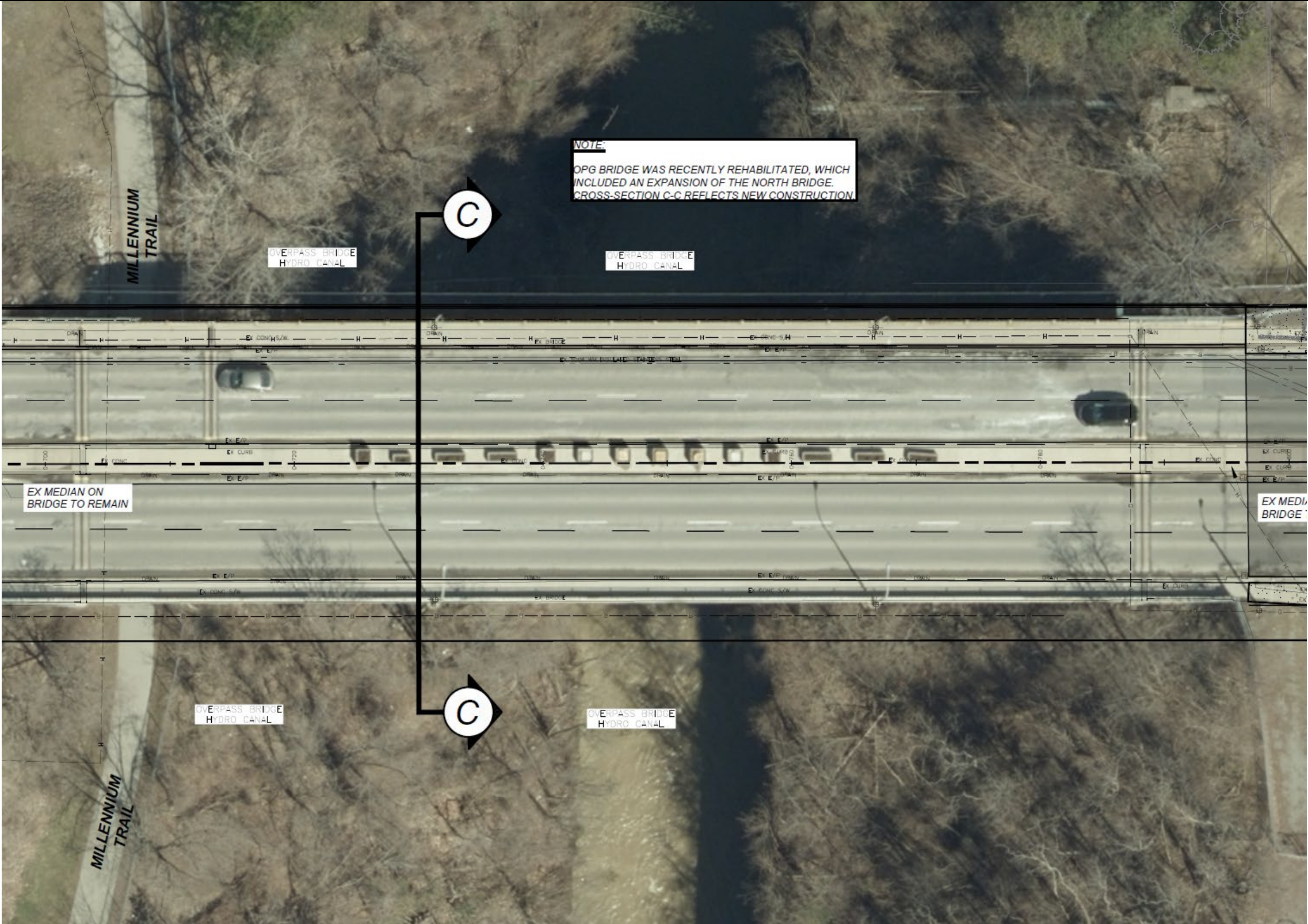


Figure 6-17: Design Drawing Details for Lundy's Lane Across the OPG Hydro Canal Bridge

#### 6.4.1. DESIGN CRITERIA

Various design criteria were utilized in the development of the preferred design concept and preferred preliminary design plan drawings (**Appendix F.1**). A full list of the design criteria utilized is included in **Table 6-2** below.

**Table 6-2: Design Criteria**

| Design Criteria                        | Reference                                                        | Standard                                                                           |
|----------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Road ROW Width (m)                     | Niagara Falls Official Plan                                      | 26.2m                                                                              |
| Posted Speed (km/h)                    | Existing                                                         | 50 km/h                                                                            |
| Minimum Radii (m)                      | Niagara Region Design Standards + Niagara Falls Design Standards | 6.0m (unless otherwise directed by Niagara Region Transportation Department Staff) |
| Minimum Daylighting Triangle Size      | Niagara Region                                                   | 6m x 6m                                                                            |
| Lane Width (m) – Through Lanes         | TAC                                                              | 3.3m                                                                               |
| Lane Width (m) – Centre Left-Turn Lane | TAC                                                              | 3.5m                                                                               |
| Lane Width (m) – Left-Turn Lane        | TAC                                                              | 3.5m                                                                               |
| Lane Width (m) – Right-Turn Lane       | TAC                                                              | 3.5m                                                                               |
| Curb and Gutter Width (m)              | Ontario Provincial Standards                                     | OPSD 600.040                                                                       |
| Sidewalk Width (m)                     | Niagara Falls Design Standards                                   | Varies between 1.5m and 2.5m                                                       |
| Median Width (m)                       | Niagara Region Transportation Department                         | 2.0m                                                                               |
| Cycle Track Width (m)                  | Niagara Falls Design Standards + TAC                             | 1.5m                                                                               |

#### 6.4.2. ACTIVE TRANSPORTATION

One key element not included in the preferred alternative design concept is a cycle track. While developing the alternative design concepts, it was identified that it was not possible to include all the desired elements (cycle tracks, wide sidewalks, grass boulevard, four through lanes and a centre left-turn lane) within a 26.2m ROW. Therefore, several 26.2m ROW alternatives were evaluated with differing elements and boulevard options. Through evaluation of the alternative design concepts, alternative design concept #3 was determined to be the preferred alternative, despite the lack of a cycle track. This was due to alternative #3 best meeting traffic, pedestrian, transit, safety and operational needs. This was further supported by the Transportation Assessment (Paradigm Transportation Solutions Limited, May 2024) (**Appendix A**) in which transit user numbers and cyclist

counts were analyzed and it was found that the number of transit users is much higher than cyclist numbers at present.

During the Class EA Study evaluation process, the project team gave initial consideration to a 3-metre wide multi-use path (MUP) along the north side of Lundy's Lane. This option was not carried forward as a Phase 3 design alternative due to anticipated property requirements and more limited benefits associated with providing cycling infrastructure on only one-side of the corridor.

Upon further review, it has been determined that a north-side MUP may prove feasible for specific sections of the corridor where property constraints are less restrictive. Consequently, the project team will revisit this feasibility during the detailed design phase as the design advances and as property impacts are refined.

Priority consideration will be given to establishing a MUP connection between the Millennium Trail and the future bike lanes planned for Dorchester Road as part of the City's Active Transportation Plan.

Should detailed design reveal that an MUP is feasible for significant sections of the corridor, the project team will determine if an Addendum to the Class EA is required. If necessary, this process would include public notification and a formal update to the study's findings.

Alternative Design Concept #3 remains the preferred preliminary design, with the understanding that active transportation refinements will be integrated as the design progresses.

#### 6.4.3. PRELIMINARY CONSTRUCTION COST ESTIMATE

The preliminary estimated construction cost is approximately **\$36.94 million**, inclusive of contingency and allowances, as shown in **Table 6-3** below. However, this cost estimate does not include utility relocation, engineering, or HST. A more detailed breakdown of the construction cost estimate is included in **Appendix F.2**.

**Table 6-3: Lundy's Lane Construction Preliminary Cost Estimate**

| Item                                | Cost Estimate (million) |
|-------------------------------------|-------------------------|
| General Items                       | \$3.08                  |
| Contingency and Allowances          | \$4.82                  |
| Property Acquisition                | \$5.35                  |
| Roads                               | \$9.91                  |
| Storm Sewers                        | \$2.15                  |
| Sanitary Sewers                     | \$1.98                  |
| Watermain                           | \$3.96                  |
| Traffic Signals                     | \$4.08                  |
| Interconnect                        | \$0.20                  |
| Illumination                        | \$0.95                  |
| Landscaping and Public Realm Spaces | \$0.46                  |
| <b>TOTAL</b>                        | <b>\$36.94</b>          |

#### **6.4.4. DETAILED DESIGN CONSIDERATIONS**

Although the preliminary preferred design plan drawings address important considerations such as ROW widths, the number of lanes, sidewalks, and boulevards, the following elements will be addressed in the detailed design phase of the EA:

- Notwithstanding the preferred design concept selected during the planning phase of this EA does not include cycling facility, it should be noted that more investigation will be conducted during the detailed design phase for the feasibility of a cycling facility along this corridor. The current preferred design concept shows a 2.0m wide sidewalk on each side of the road. This can potentially be converted to a 3.0m Multi-Use Path (MUP) on one side of the road and keeping a 1.8m sidewalk on the other side. This might require narrowing the grass boulevard 1.75m to 1.50m or less if needed. Any revision to the preferred design concept will require detailed review along the entire corridor to ensure that adding a cycling facility is feasible based on available ROW especially near the intersections.
- The diameter and material of new watermain, storm and sanitary sewers within the re-constructed roadway.
- Specific details regarding sewer separation and new watermain will be coordinated with the City of Niagara Falls.
- The configuration of the sidewalk in front of Canada One Outlets, on the south side of Lundy's Lane, west of the QEW overpass.
- Urban Design details including:
  - Enhanced bus stops/informal transit hubs with bicycle parking racks at or near the Lundy's Lane and Montrose Road intersection and the intersection with Lundy's Lane and either Highland Avenue or Drummond Road.
  - Architectural elements, lighting, and landscaping plans where space permits.

#### **6.4.5. ACCESS MANAGEMENT**

As part of the Lundy's Lane Schedule C Class EA, evaluation of all driveway entrance/exits within the study area was undertaken. The purpose of the evaluation was to determine if there were opportunities to improve road safety by identifying potential conflict areas and reducing the overall number of driveway entrances/exits onto Lundy's Lane through a process of access consolidation.

A two-step methodology was undertaken. The first step was to identify, through the Transportation Assessment, whether property access was a factor in historic mid-block and intersection collisions. The Transportation Assessment recommended changes to accesses within 4 main areas. The second step was to review all properties within the study area to identify opportunities for driveway entrance/exit consolidation. Various factors were considered including available and number of accesses to Lundy's Lane, impacts to use of existing property, and meeting TAC guidelines for distance between accesses and proximity to intersections. At Step #2, eight properties were identified for driveway consolidation, shown below in **Figures 6-18 to 6-25**. In addition, 17 properties were identified where the driveway width could potentially be narrowed to meet municipal

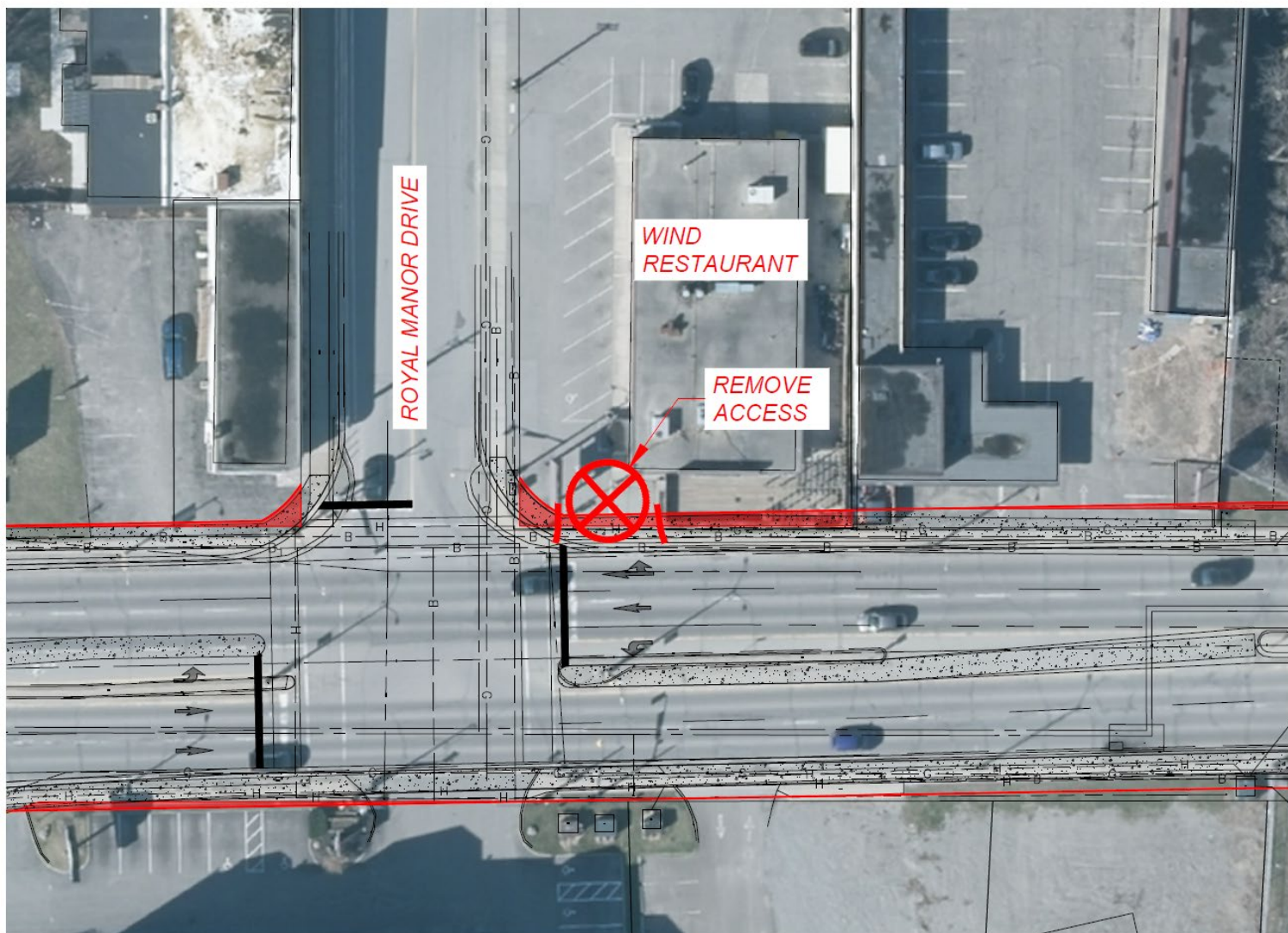
standards. The results of the driveway consolidation analysis are included in **Appendix G**.

It is noted that following the driveway consolidation analysis, affected property owners were contacted to schedule meetings to discuss the proposed consolidation. These meetings are further discussed in **Section 7.6** below. As a result of the meetings with property owners, not all driveway consolidation recommendations were carried forward. The preliminary preferred design plan drawings included in **Appendix F.1** show the locations of recommended driveway consolidation following the meetings. Driveway consolidation may be further refined during detailed design.



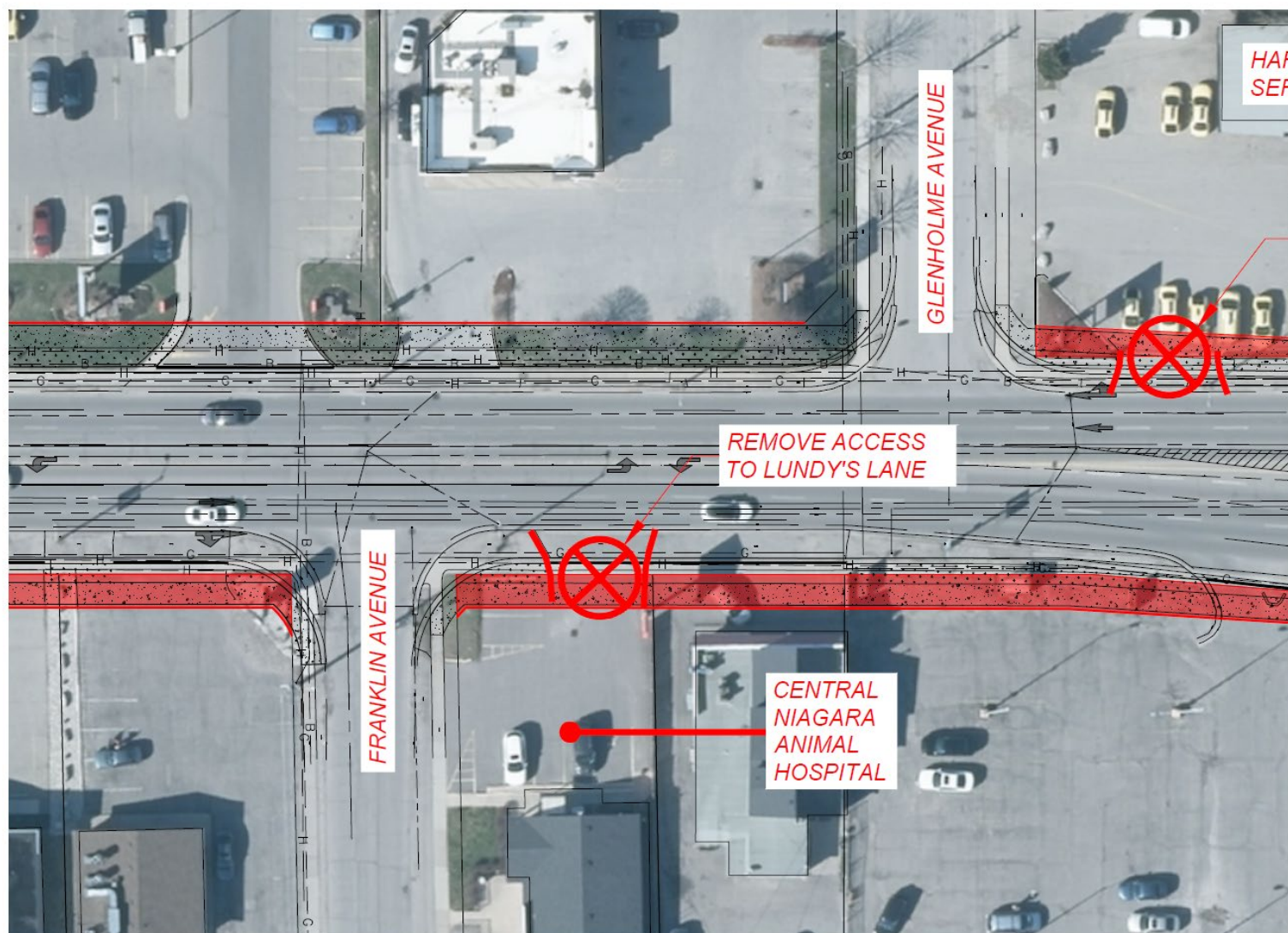
7429 / 7389 LUNDY'S LANE - RAMADA INN PLAZA & RESTAURANT

**Figure 6-18:** Proposed Access Management at Ramada Inn Plaza & Restaurant



7241 LUNDY'S LANE - WIND RESTAURANT

**Figure 6-19: Proposed Access Management at Wind Restaurant**



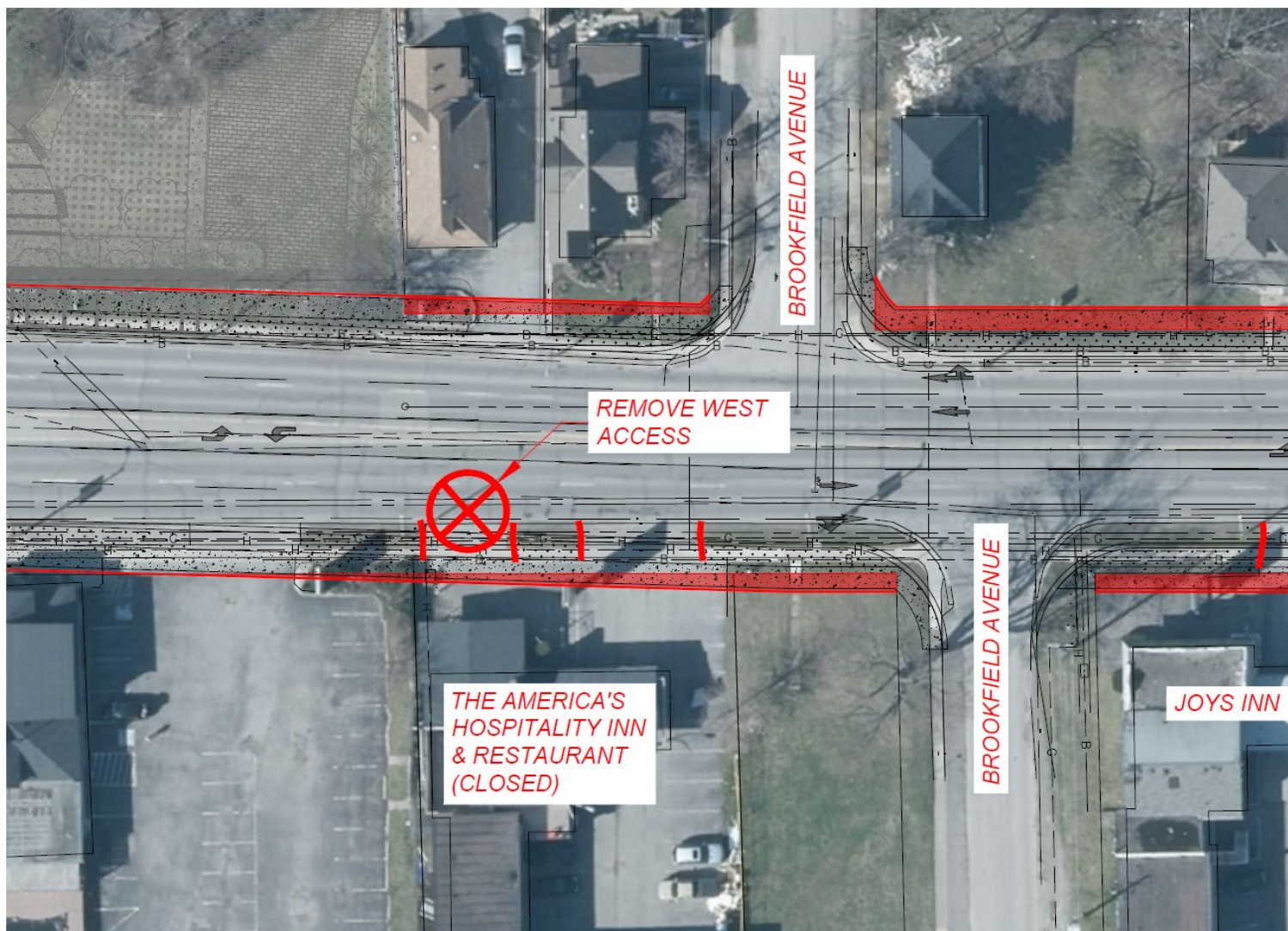
6544 LUNDY'S LANE - CENTRAL NIAGARA ANIMAL HOSPITAL

**Figure 6-20:** Proposed Access Management at Central Niagara Animal Hospital



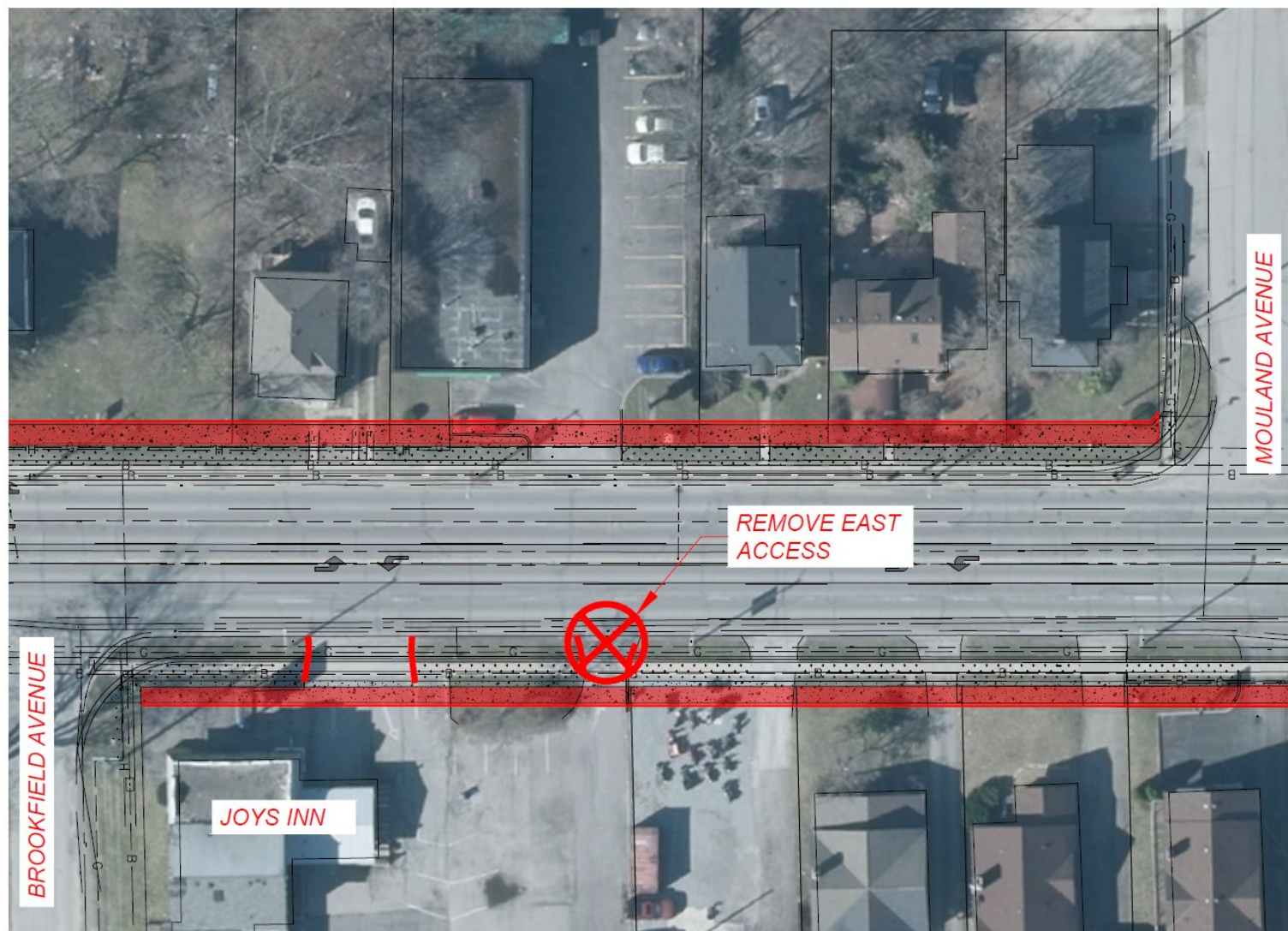
6499 LUNDY'S LANE - HARRIGAN'S AUTO SERVICE

**Figure 6-21: Proposed Access Management at Harrigan's Auto Service**



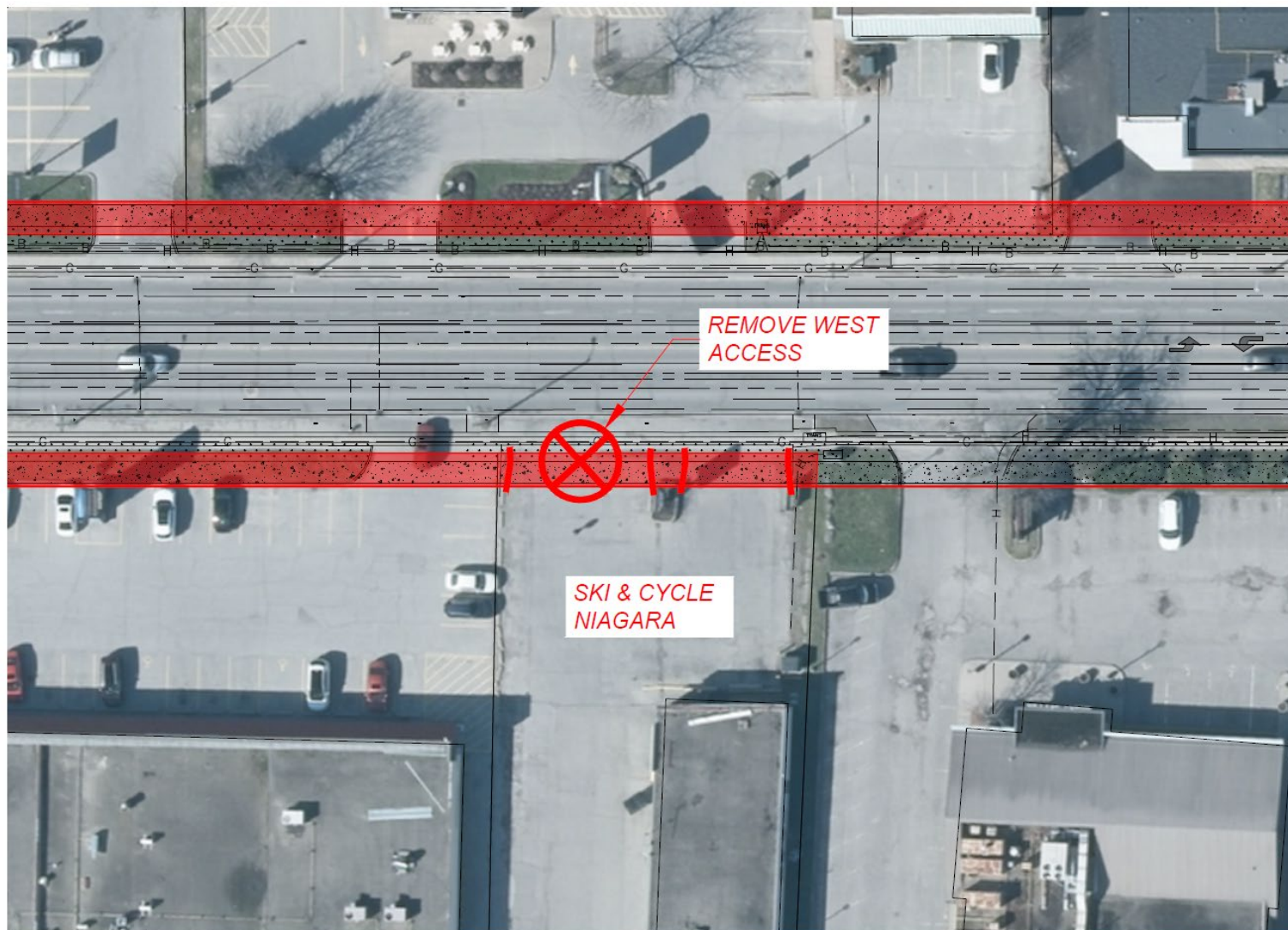
7070 LUNDY'S LANE - THE AMERICA'S HOSPITALITY, INN & RESTAURANT

**Figure 6-22:** Proposed Access Management at The America's Hospitality Inn & Restaurant



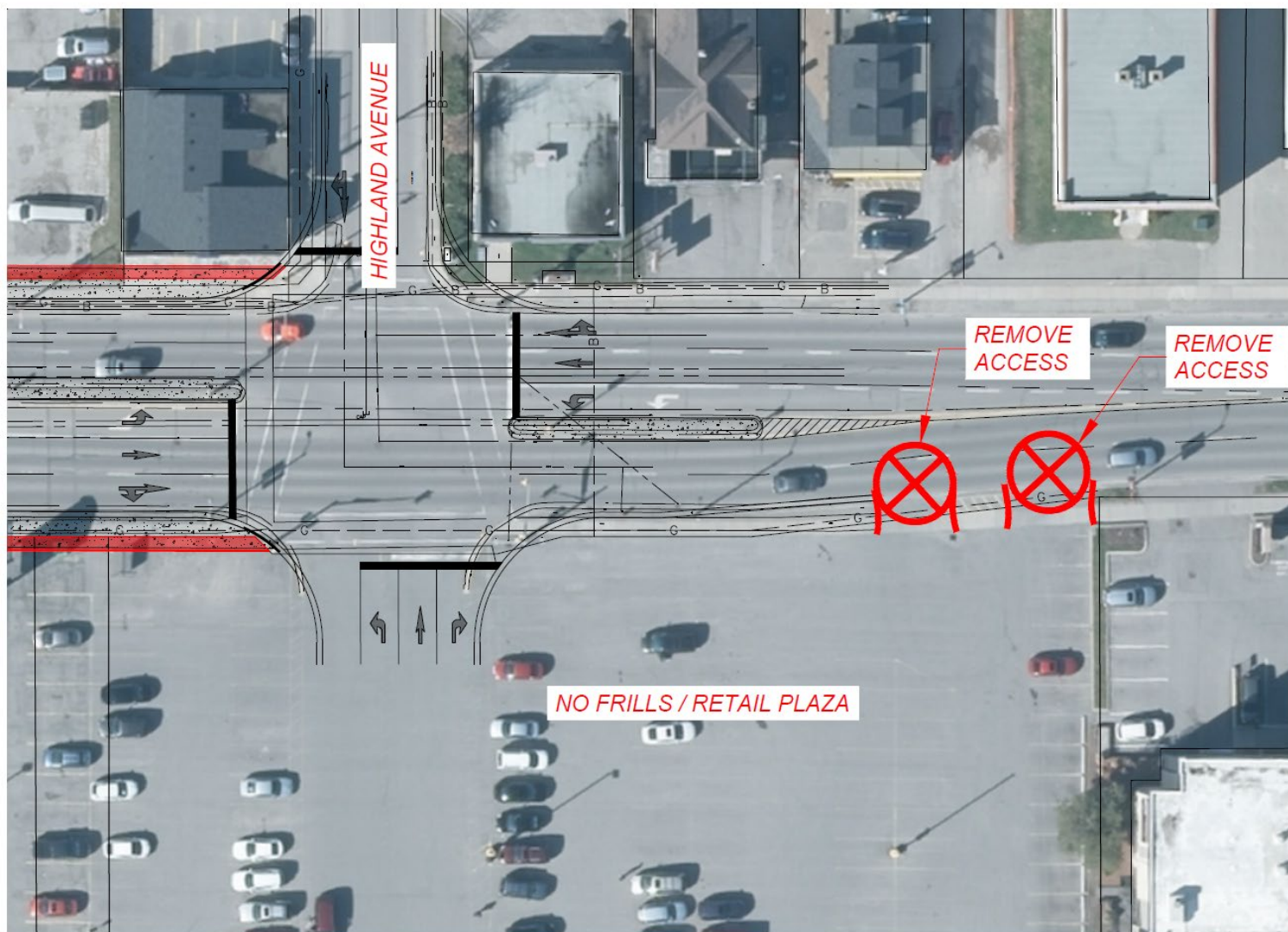
7034 LUNDY'S LANE - JOYS INN

**Figure 6-23:** Proposed Access Management at Joys Inn



6710 LUNDY'S LANE - SKI & CYCLE NIAGARA

**Figure 6-24:** Proposed Access Management at Ski & Cycle Niagara



6510 - 6460 LUNDY'S LANE - NO FRILLS / RETAIL PLAZA

**Figure 6-25:** Proposed Access Management at No Frills/Retail Plaza

Notices, with an invitation to meet, were sent to the eight property owners where driveway consolidation was proposed. Of these, meetings were held with five property owners. The meetings resulted in some changes to the proposed driveway consolidation which are reflected in the preferred alternatives preliminary design drawings. More detailed information regarding correspondence with property owners is included in **Section 7.6** of the report.

## 6.5. ROAD SAFETY AUDIT

As part of the Class EA process, a preliminary design stage road safety audit (RSA) was completed (CIMA+, November 2024). The RSA was an independent review of the preferred design concept and provided 44 recommendations. The recommendations of the audit are summarized in **Table 6-4**.

**Table 6-4: Road Safety Audit Recommendations**

| Issue Number | Safety Issue                                                                                                                                               | Recommendation                                                                                            |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| 1            | Little to no tactile strips present at crosswalks within study area.                                                                                       | Ensure detailed design includes drop curbs and tactile strips.                                            |
| 2            | Bus stops should be located as close to controlled intersections as possible.                                                                              | During detailed design, review bus stop locations in the context of nearby controlled crossing locations. |
| 3            | Existing signs and vegetation may create sightline issues.                                                                                                 | Ensure that existing signs and vegetation do not present sightline issues in the detailed design.         |
| 4            | Existing signs and fixed objects may be within expanded clear zone due to road widening.                                                                   | Review existing signs and fixed objects in the context of the expanded clear zone.                        |
| 5            | Several unsignalized intersections have been increased to a 10.0 metre curb radius, increasing potential for conflict with nearby accesses.                | Revisit the need for 10.0 metre curb radii at unsignalized intersections.                                 |
| 6            | Hatched area at west approaches for Dorchester Road and Highland Avenue intersections suggests left-turns are prohibited, but does not fully prevent them. | Extend medians at these locations to prevent left-turns.                                                  |
| 7            | No information provided on drawings related to signage for off-road cycling facilities.                                                                    | Ensure detailed design includes signs for off-road cycling facilities and directions to alternate routes. |
| 8            | Unclear how crosswalk facilities will be provided at the Montrose Road intersection.                                                                       | Tighten turning radius on southwest, southeast and northeast corners to accommodate crosswalks.           |

| Issue Number | Safety Issue                                                                                                                                            | Recommendation                                                                                                                       |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 9            | Southbound departing lane at Montrose Road intersection narrowed as a result of median shift.                                                           | Verify that commercial vehicles can make a westbound left turn onto Montrose Road.                                                   |
| 10           | Access to 7600 Lundy's Lane from Montrose Road is excessively wide.                                                                                     | Introduce curb cut to prevent vehicles from making turning movements so close to the Montrose Road intersection.                     |
| 11           | Access to 7572 Lundy's Lane from Montrose Road is excessively wide.                                                                                     | Place driveway entrance as far from intersection as possible.                                                                        |
| 12           | Sidewalk on east side of Montrose Road ends approximately 10.0 metres north of the Montrose Road intersection.                                          | Review feasibility of extending the sidewalk on east side of Montrose Road.                                                          |
| 13           | Access to 7572 Lundy's Lane from Lundy's Lane will remain.                                                                                              | Consider closing this access.                                                                                                        |
| 14           | The median on Lundy's Lane at the east approach to Montrose Road displays a visible kink, which may encourage vehicles to encroach into adjacent lanes. | Provide a more gradual change in alignment.                                                                                          |
| 15 & 16      | The drawings feature curb face sidewalks in some areas.                                                                                                 | Consider shifting sidewalks and introducing boulevards.                                                                              |
| 17           | The one-way access to 7500 Lundy's Lane features a large curb radius.                                                                                   | Consider further narrowing the access.                                                                                               |
| 18           | Crosswalk markings are not shown for the brick crosswalk at the south leg of the intersection with 7500 Lundy's Lane.                                   | Show intended crosswalk location at this location. Sidewalk approach may need to be shifted if maintaining existing brick crosswalk. |
| 19           | A truck apron is currently provided at the southeast corner of the intersection with 7500 Lundy's Lane. The drawings show a raised curb instead.        | If providing a raised curb, ensure that truck movements at this location can be accommodated.                                        |
| 20 & 21      | Lanes across the QEW are being narrowed, which will help control speeds, but there is an opportunity to widen the sidewalks.                            | Consider widening the sidewalks across the QEW bridge.                                                                               |
| 22           | Drawings indicate that two driveway accesses at 7280 Lundy's Lane are being consolidated.                                                               | From a safety perspective, best to close driveway access closest to Royal Manor Drive intersection.                                  |
| 23           | Curb face sidewalk indicated at Royal Manor Drive intersection.                                                                                         | Consider shifting sidewalk and providing boulevard.                                                                                  |

| Issue Number | Safety Issue                                                                                                                                               | Recommendation                                                                                                                                               |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 24           | Curb radius at north leg of Royal Manor Drive intersection has been increased to 12.0 metres.                                                              | Consider maintaining existing layout and curb radius. Additionally, consider extending the curb on the east side of Royal Manor Drive from the intersection. |
| 25           | The crosswalk on the east leg of the Royal Manor Drive intersection does not line up with the pedestrian waiting area on the southeast corner.             | Consider extending the curb on the southeast corner of the intersection to provide a better waiting area with proper alignment.                              |
| 26           | Vacant land parcels at 7230, 7220 and 7218 Lundy's Lane have curb cuts for separate accesses.                                                              | As a condition of development, have these properties utilize the signalized Royal Manor Drive intersection through an agreement with 7280 Lundy's Lane.      |
| 27           | There are two existing accesses to 7070 Lundy's Lane.                                                                                                      | Consider closing the west driveway for safety reasons.                                                                                                       |
| 28           | Vacant parcel at 7060 Lundy's Lane has no existing curb cuts for an access.                                                                                | As a condition of development, require access to be on Brookfield Avenue as far from Lundy's Lane as possible.                                               |
| 29           | Curb cut at 7225 Lundy's Lane extends across entire frontage.                                                                                              | Narrow access and place as far from Royal Manor Drive as possible.                                                                                           |
| 30           | Existing curb cuts at 7241 Lundy's Lane allow access from Lundy's Lane directly adjacent to signalized intersection.                                       | Close access to Lundy's Lane at this location.                                                                                                               |
| 31           | Parking area in front of properties at 6941, 6933 and 6925 Lundy's Lane will be significantly reduced due to road widening.                                | Restrict parking to rear yards.                                                                                                                              |
| 32           | The eastbound-westbound left-turn lanes have been shifted at the Dorchester intersection to improve sightlines, however sightlines continue to be limited. | Consider further increasing the offset between the eastbound-westbound left turn lanes.                                                                      |
| 33           | Two existing accesses to 5900 Dorchester Road, which do not meet minimum corner clearance standards.                                                       | Consider closing north access at this location.                                                                                                              |

| Issue Number | Safety Issue                                                                                                                                                                  | Recommendation                                                                                                                                                                                |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 34           | Curb radius at all four legs of the Dorchester Road intersection have been increased to 14.0 metres, increasing pedestrian exposure to traffic and increasing turning speeds. | Review the need for 14.0 metre curb radius.                                                                                                                                                   |
| 35           | The raised curb at the northeast corner of the Dorchester Road intersection does not continue along the frontage of 6889 Lundy's Lane.                                        | Continue the raised curb in this location.                                                                                                                                                    |
| 36           | The pedestrian display at the east leg of the Dorchester Road intersection does not line up with the crosswalk.                                                               | Review placement of the pedestrian display.                                                                                                                                                   |
| 37           | Drawings do not indicate how the shifted sidewalk on the north side of Lundy's Lane will connect to the sidewalk on the west side of Dorchester Road.                         | Review the need for 14.0 metre curb radius. If to be implemented, ensure sidewalk on the north side of Lundy's Lane continues to connect to the sidewalk on the west side of Dorchester Road. |
| 38           | There is no dedicated crosswalk facility between Dorchester Road and Highland Avenue.                                                                                         | Review the feasibility of installing a mid-block signalized pedestrian crosswalk.                                                                                                             |
| 39           | Parking area in front of 6863 Lundy's Lane to be greatly reduced by road widening.                                                                                            | Eliminate parking and/or pick-up/drop-off in front of this business.                                                                                                                          |
| 40           | Parking area in front of 6801 and 6791 Lundy's Lane to be greatly reduced by road widening.                                                                                   | Remove impacted parking stalls at these locations.                                                                                                                                            |
| 41           | Parking area in front of 6530 Lundy's Lane to be greatly reduced by road widening.                                                                                            | Remove parking in front of this property.                                                                                                                                                     |
| 42           | Curb radius at the Highland Avenue intersection has been increased to 12.0 metres at the northwest, southwest and southeast corners and 6.5 metres at the northeast corner.   | Reconsider the need for a larger curb radius at this intersection.                                                                                                                            |

| Issue Number | Safety Issue                                                                                                                                                                                                                                                                                                      | Recommendation                                                                                                                                            |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 43           | The drawings show an added right-turn lane at the south leg of the Highland Avenue intersection, however the traffic report does not indicate a need for this. Further, the recommended 45 m queuing length for the left-turn is not indicated and no control is provided (i.e. raised curbs along the approach). | Eliminate the right-turn lane, introduce raised curbs along the south approach to the intersection and indicate the queuing length of the left-turn lane. |
| 44           | Two existing accesses to the No Frills property are located just east of the Highland Avenue intersection.                                                                                                                                                                                                        | Consider closing these accesses.                                                                                                                          |

Of the 44 recommendations, most changes were reviewed and implemented where practical as part of the Class EA, however, some recommendations will be implemented as part of the detailed design. The results of the RSA are included in **Appendix H** and more detailed information regarding related property impacts and correspondence with property owners can be found in **Section 7.6** of the report.

## 6.6. SIGHT LINE ANALYSIS

As a follow up to the road safety audit, a sight line analysis was undertaken to determine if there were sightline issues resulting from the proposed widening of Lundy's Lane to implement the preferred design concept. Field measurements and photos were taken to confirm any sightline issues within the study corridor.

The analysis identified eleven sightline concerns at nine locations within the study area, which are summarized below in **Table 6-5**. Nine sightline concerns were classified as minor, resulting from objects such as signs, trees or vegetation that can be removed or relocated. The remaining two sightline concerns were determined to be major concerns, which require building removal to address. The report summarizing the sightline analysis is found in **Appendix I**.

**Table 6-5: Sightline Concerns within the Lundy's Lane Study Area**

| Address           | Sightline Concern |       | Recommendation                                                                                                                                                                                                                                            |
|-------------------|-------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | Minor             | Major |                                                                                                                                                                                                                                                           |
| 6925 Lundy's Lane | X                 |       | <ul style="list-style-type: none"> <li>Parked vehicles in front of property create sightline issue.</li> </ul>                                                                                                                                            |
| 6629 Lundy's Lane | X                 | X     | <ul style="list-style-type: none"> <li>"Empire Dental" sign for adjacent property creates minor sightline issue, recommended to be relocated.</li> <li>"Home Lighting" building creates major sightline issue, recommended to remove building.</li> </ul> |

| Address           | Sightline Concern |       | Recommendation                                                                                                                                                                                                                                                  |
|-------------------|-------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | Minor             | Major |                                                                                                                                                                                                                                                                 |
| 7600 Lundy's Lane | X                 |       | <ul style="list-style-type: none"> <li>Parked vehicles along north property line create minor sightline issue.</li> </ul>                                                                                                                                       |
| 7514 Lundy's Lane | X                 | X     | <ul style="list-style-type: none"> <li>Existing shrubs create minor sightline issue, recommended to remove or relocate shrubs.</li> <li>Existing building "The Jerk Spot" creates major sightline issue, recommended to remove or relocate building.</li> </ul> |
| 7114 Lundy's Lane | X                 |       | <ul style="list-style-type: none"> <li>"Falls Manor Inn &amp; Restaurant" sign creates minor sightline issue, recommended to relocate sign.</li> </ul>                                                                                                          |
| 7070 Lundy's Lane | X                 |       | <ul style="list-style-type: none"> <li>"Falls Manor Inn &amp; Restaurant" sign on adjacent property creates minor sightline issue, recommended to relocate sign.</li> </ul>                                                                                     |
| 6840 Lundy's Lane | X                 |       | <ul style="list-style-type: none"> <li>Existing shrubs create minor sightline issue, recommended to remove or relocate shrubs.</li> <li>Existing transformer results in partial visibility. Transformer may require relocation.</li> </ul>                      |
| 6812 Lundy's Lane | X                 |       | <ul style="list-style-type: none"> <li>Existing transformer on adjacent property results in partial visibility. Transformer may require relocation.</li> </ul>                                                                                                  |
| 6768 Lundy's Lane | X                 |       | <ul style="list-style-type: none"> <li>Existing shrubs create minor sightline issue, recommended to remove or relocate shrubs.</li> <li>"Flying Saucer Restaurant" sign creates minor sightline issue, recommended to relocate sign.</li> </ul>                 |

## 7.0 PUBLIC AND AGENCY CONSULTATION

### 7.1. CONSULTATION PROGRAM DETAILS

Public and agency consultation is a key feature of the Municipal Class EA planning and design process. Through an effective public consultation program, the proponent can generate meaningful dialogue between project proponents, the public and review agencies, allowing an exchange of ideas and the broadening of the information base, leading to a better public engagement and decision-making process. One of the principal goals of consultation is to strive for resolution of conflicting viewpoints to reduce or avoid controversy and minimize potential for a Section 16 Order request(s). Another goal of the consultation program is to ensure that the project is compliant with all public policy and regulatory requirements.

#### 7.1.1. CONSULTATION WITH EXTERNAL AGENCIES

A contact list of potentially interested or affected external participants comprising technical agencies, governmental review agencies, and utilities was compiled during the project initiation phase of this Class EA Study. **Table 7-1** provides a summary of the external agencies that were contacted during the consultation program. This list was updated throughout the study to ensure that the contact information remained current.

**Table 7-1: External Agencies and Utilities Contacted During the Class EA Study**

| <b>Federal Ministries/Agencies</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Environment and Climate Change Canada</li> <li>• Department of Fisheries and Oceans</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Provincial Ministries/Agencies</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>• Ministry of the Environment, Conservation and Parks</li> <li>• Ministry of Tourism, Culture and Gaming (formerly Ministry of Heritage, Sport, Tourism and Culture Industries)</li> <li>• Infrastructure Ontario</li> <li>• Ministry of Transportation</li> <li>• Niagara Parks Commission</li> <li>• Niagara Escarpment Commission</li> <li>• Ministry of Agriculture, Food and Agribusiness (formerly the Ministry of Agriculture, Food, and Rural Affairs)</li> <li>• Ministry of Natural Resources (formerly the Ministry of Natural Resources and Forestry)</li> <li>• Ministry of Citizenship and Multiculturalism</li> <li>• Ministry of Municipal Affairs and Housing</li> <li>• Ontario Power Generation</li> </ul> |

| <b>Regional &amp; Municipal Agencies/Committees</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Regional Municipality of Niagara</li> <li>• District School Board of Niagara</li> <li>• Niagara Catholic District School Board</li> <li>• City of Niagara Falls</li> <li>• Niagara Peninsula Conservation Authority</li> <li>• Greater Niagara Chamber of Commerce</li> <li>• Lundy's Lane Business Improvement Area</li> <li>• Niagara Regional Police Service</li> <li>• Niagara Region Transit (formerly Niagara Falls Transit)</li> </ul> |
| <b>Utilities/Other Agencies</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• Hydro One Networks Inc.</li> <li>• Bell Canada</li> <li>• Cogeco Inc.</li> <li>• Niagara Peninsula Conservation Authority</li> <li>• Enbridge Gas Distribution Inc.</li> <li>• Niagara Region Broadband Network</li> <li>• Niagara Peninsula Energy Inc.</li> </ul>                                                                                                                                                                           |

When the Notice of Study Commencement was circulated via email, a request for comment was solicited by the Project Team from the agency contacts. Only one agency responded, requesting a meeting with the project team, which was the Lundy's Lane Business Improvement Area (BIA).

A final draft of the ESR was circulated to external agencies for review and comment on January 14, 2026, prior to the Notice of Study Completion being issued and formal 30-day review period. A summary of responses and comments are included in **Table 7-2** below.

**Table 7-2: Summary of Agency Comments on Final ESR Draft and Consultant Responses**

| <b>Agency</b>                         | <b>Comments</b>       | <b>Actions Taken During Class EA</b> |
|---------------------------------------|-----------------------|--------------------------------------|
| Environment and Climate Change Canada | No response received. | No action taken.                     |

| Agency                                                      | Comments                                                                                                                                                                                                                                                                                          | Actions Taken During Class EA                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Department of Fisheries and Oceans                          | DFO provided response via email on February 17, 2026, indicating that they are unable to provide comment unless a Request for Review form is submitted, which is done if planned works are anticipated to cause effects prohibited under the <i>Fisheries Act</i> or <i>Species at Risk Act</i> . | Project team provided response on February 18, 2026, indicating that no prohibited effects are anticipated at the Class EA stage. If any prohibited effects become anticipated at a later stage, the appropriate Request for Review form will be completed and submitted to DFO. |
| Ministry of Agriculture, Food and Agribusiness              | No response received.                                                                                                                                                                                                                                                                             | No action taken.                                                                                                                                                                                                                                                                 |
| Ministry of Municipal Affairs and Housing                   | Indicated during a phone call on February 2, 2026, that MMAH is not required to be circulated transportation-related Class EA documents.                                                                                                                                                          | No further circulation to MMAH.                                                                                                                                                                                                                                                  |
| Ministry of Transportation                                  | No response received.                                                                                                                                                                                                                                                                             | No action taken.                                                                                                                                                                                                                                                                 |
| Ministry of the Environment, Conservation and Parks         | MECP comments letter provided via email on February 20, 2026.                                                                                                                                                                                                                                     | Applicable revisions were made to the ESR document and response letter provided on April 10, 2026.                                                                                                                                                                               |
| Ministry of Heritage, Sport, Tourism and Culture Industries | No response received.                                                                                                                                                                                                                                                                             | No action taken.                                                                                                                                                                                                                                                                 |
| Ministry of Natural Resources                               | Indicated via email on February 5, 2026, that MNR has no comments on the draft ESR.                                                                                                                                                                                                               | No action taken.                                                                                                                                                                                                                                                                 |
| Ministry of Citizenship and Multiculturalism                | MCM comments letter provided via email on February 20, 2026. Further clarification and a revised comments letter were provided on February 23, 2026.                                                                                                                                              | Applicable revisions were made to the ESR document and Cultural Heritage Report and response letter provided on April 10, 2026.                                                                                                                                                  |

| Agency                                   | Comments                                                                                                                              | Actions Taken During Class EA                                                                                                  |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Ontario Power Generation                 | OPG indicated via email on February 17 and confirmed on February 19, 2026, that there are no concerns with the Class EA.              | No action taken.                                                                                                               |
| Infrastructure Ontario                   | No response received.                                                                                                                 | No action taken.                                                                                                               |
| Niagara Parks Commission                 | Indicated via email on January 15, 2026, that NPC has no comments on the Class EA.                                                    | No action taken.                                                                                                               |
| Niagara Escarpment Commission            | No response received.                                                                                                                 | No action taken.                                                                                                               |
| Niagara Peninsula Conservation Authority | Indicated via email on January 14, 2026, that NPCA has no objections to the Class EA.                                                 | No action taken.                                                                                                               |
| Hydro One Networks Inc.                  | No response received.                                                                                                                 | No action taken.                                                                                                               |
| Enbridge Gas Distributions Inc.          | No response received.                                                                                                                 | No action taken.                                                                                                               |
| Niagara Peninsula Energy Inc.            | No response received.                                                                                                                 | No action taken.                                                                                                               |
| Bell Canada                              | No response received.                                                                                                                 | No action taken.                                                                                                               |
| Cogeco Inc.                              | Provided comments via email on January 15, 2026, regarding clarification on wording regarding Cogeco infrastructure in the draft ESR. | Reviewed Cogeco utility infrastructure to ensure that no conflicts exist. Revised <b>Section 2.4.1.6.</b> of the ESR document. |
| Niagara Regional Broadband Network       | No response received.                                                                                                                 | No action taken.                                                                                                               |

Consultation records with external agencies are included in **Appendix J.2.**

## 7.2. NOTIFICATIONS

In accordance with the *Municipal Engineers Association Municipal Class Environmental Assessment Document (October 2000, as amended in 2004, 2007, 2011, 2015, 2023, and 2024)*, Notices were issued at each key milestone over the course of the project. Notices were sent to residents within and adjacent to the study area, as well as other interested parties. Details of the Notices issued and the delivery methods used are included in **Table 7-3** below.

**Table 7-3: Project Notices and Delivery**

| Notice                                       | Purpose of Notice                                                                                                                                                            | Delivery Methods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notice of Study Commencement                 | <ul style="list-style-type: none"> <li>To provide interested parties with an overview of the project at study commencement and solicit comments.</li> </ul>                  | <ul style="list-style-type: none"> <li>Published on the Region's website on October 15, 2021</li> <li>Advertised in <i>Niagara This Week</i> on October 22, 2021</li> <li>Distributed to Indigenous Communities via email on November 3, 2021 by Niagara Region staff.</li> <li>A combined Notice of Study Commencement and Notice of PIC #1 was hand-delivered to area residents and businesses on March 25, 2022 and emailed to interested parties on April 1, 2022.</li> <li>Provided to MECP (EAAB department) via email on April 1, 2022.</li> </ul> |
| Notice of Public Information Centre (PIC) #1 | <ul style="list-style-type: none"> <li>To inform interested parties of the status of the project and provide information on the first PIC.</li> </ul>                        | <ul style="list-style-type: none"> <li>Notice of PIC #1 was hand-delivered to study area residents and businesses on March 25, 2025.</li> <li>Notice of PIC #1 was emailed to interested parties on April 1, 2022.</li> </ul>                                                                                                                                                                                                                                                                                                                             |
| Notice of Public Information Centre (PIC) #2 | <ul style="list-style-type: none"> <li>To inform interested parties of the status of the project and provide information on the second PIC.</li> </ul>                       | <ul style="list-style-type: none"> <li>Notice of PIC #2 was hand-delivered to study area residents and businesses on May 25, 2022.</li> <li>Notice of PIC #2 was emailed to interested parties on May 27, 2022.</li> </ul>                                                                                                                                                                                                                                                                                                                                |
| Notice of Public Information Centre (PIC) #3 | <ul style="list-style-type: none"> <li>To inform interested parties of the status of the project and provide information on the third PIC.</li> </ul>                        | <ul style="list-style-type: none"> <li>Notice of PIC #3 was delivered to study area residents and businesses on April 20, 2023.</li> <li>Notice of PIC #3 was emailed to interested parties on April 14, 2023.</li> </ul>                                                                                                                                                                                                                                                                                                                                 |
| Notice of Study Completion                   | <ul style="list-style-type: none"> <li>To inform interested parties of the study reaching completion and solicit comments during the 30-day public review period.</li> </ul> | <ul style="list-style-type: none"> <li>Published on the week of October 12, 2026.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

### 7.3. STUDY COMMENCEMENT

As detailed in **Section 7.1.1**, a Notice of Study Commencement was issued to interested parties at the beginning of the project. Following issue of the Notice, a single comment was received regarding existing backlogs on the northbound through/right-turn lane of Montrose Road approaching Lundy's Lane and whether additional lanes were being added to improve traffic operations. The project team responded by outlining future steps in the Class EA process and inviting the member of the public to receive ongoing updates. All correspondence received from interested parties following the distribution of the Notice of Study Commencement is included in **Appendix J.1**.

### 7.4. MEETING WITH THE LUNDY'S LANE BUSINESS IMPROVEMENT AREA

On January 27, 2022, a virtual meeting was held between the Lundy's Lane BIA and members of the Lundy's Lane EA project team, which was followed up by a formal letter from the BIA summarizing the organization's positions and questions regarding the project. Both the minutes from the meeting and the letter from the Lundy's Lane BIA are found in **Appendix J.2**.

During the meeting, an overview of the project and Class EA process was provided, the current status of the project, and the problem/opportunity statement that the study is designed to address (see Section 3.0 of this report). The following topics were discussed during the meeting:

- The need to find compromise between competing interests and objectives.
- Property acquisition, parking, and business needs.
- Driveway access management.
- ROW widths, sidewalk reconstruction, underground services and utility relocations.
- Project timelines, forecast lane closures, and the impact of other adjacent roadwork projects.
- Next steps in the public consultation program.

On January 27, 2025, a second meeting (in-person) was held between the Lundy's Lane BIA and member of the Lundy's Lane EA project team where the following topics were discussed.

- EA summary of activities to-date.
- EA next steps, timelines, and key remaining decision points. The preferred configuration for the Lundy's Lane and Dorchester Road intersection.
- Construction timeline and phasing.
- How and when the Streetscaping Master Plan will be implemented.
- The vision for Lundy's Lane.
- Updates on other Lundy's Lane projects including bridge and trailhead improvements, the roadway between Montrose Street and Kalar Road, and safety reviews.

## 7.5. PUBLIC INFORMATION CENTRES

### 7.5.1. PUBLIC INFORMATION CENTRE #1

Due to the Covid-19 pandemic (at the time of PIC #1), the PIC was hosted online in a webinar format on April 20, 2022 from 6:00 pm to 7:30 pm. The focus of the PIC was to introduce the study, problem/opportunity statement, study process, review preliminary findings from technical studies, and solicit input from attendees on issues/concerns. The following information was presented and discussed with the public:

- Purpose of PIC #1
- Study background
- Problem/Opportunity Statement
- Progress on Technical Studies
- Input Received to Date
- Next steps in the process

Copies of the presentation boards are provided in **Appendix J.3**.

A total of 15 people participated in the first PIC (see list in **Appendix J.4**). Attendees were provided with the opportunity to provide comments or ask questions following the PIC presentation. Alternatively, anyone was welcome to submit written comments through email from April 6, 2022, to May 4, 2022. The Project Team received written comments from the Lundy's Lane BIA, City of Niagara Falls staff and a member of the public prior to PIC #1, several comments during the PIC and one written comment from a member of the public following PIC #1. Copies of all written comments received, and Project Team responses, are provided in **Appendix J.4**. All of the submitted written comments were reviewed and responded to by the Project Team in all cases where contact information was provided.

A summary of the issues and concerns identified in written submissions and their consideration in this Class EA is presented in **Table 7-4**.

Table 7-4: Comments Received Prior to, During and Following PIC #1 and their Consideration

| Date Comment Received & Method of Delivery                            | Summary of Issues/Concerns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Project Team Response                                             | Action Taken During Class EA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| January 31, 2022<br>Email with attached letter dated January 27, 2022 | <ul style="list-style-type: none"><li>• Acknowledges Lundy's Lane is a transitioning area and intensification corridor that will be subject to growth and development in the near future.</li><li>• Acknowledges Lundy's Lane is transitioning into a more mixed-use type of growth, per the Lundy's Lane Urban Design Guidelines.</li><li>• Supports traffic calming both on Lundy's Lane and on connecting side streets.</li><li>• Supports improved pedestrian facilities along the road and at intersections.</li><li>• Supports improved public transit facilities.</li><li>• Supports implementation of dedicated cycling facilities or a multi-use path.</li><li>• Supports landscaping along centre medians and boulevards.</li><li>• Supports improved street lighting.</li><li>• Supports new public art installations and consideration for patio and marketing zones.</li></ul> | <ul style="list-style-type: none"><li>• Comments noted.</li></ul> | <ul style="list-style-type: none"><li>• Traffic calming measures were analyzed in the Transportation Assessment.</li><li>• Improved pedestrian and public transit facilities were considered in the evaluation of the alternative design concepts.</li><li>• Implementation of cycling facilities was considered in both the alternative planning solutions and alternative design concepts.</li><li>• Landscaping, street lighting and areas for public art installation will be considered further during detailed design.</li></ul> |
| March 31, 2022<br>Email                                               | <ul style="list-style-type: none"><li>• Supports roadway configuration improvements (third lane going north/south at) to facilitate easier traffic flow at the intersections with Montrose Road and Dorchester Road.</li><li>• Supports improved pedestrian facilities (i.e. improved pedestrian signals at crosswalks, wider sidewalks).</li><li>• Supports inclusion of a boulevard with landscaping along Lundy's Lane.</li><li>• Supports traffic calming on Lundy's Lane and adjacent side streets.</li><li>• Supports a bike lane over the OPG canal and Highway QEW.</li></ul>                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"><li>• Comments noted.</li></ul> | <ul style="list-style-type: none"><li>• Improved pedestrian facilities and various boulevard configurations were considered in the alternative design concepts.</li><li>• Traffic calming measures were analyzed in the Transportation Assessment. Implementation of cycling facilities was considered in both the alternative planning solutions and alternative design concepts.</li></ul>                                                                                                                                           |
| April 8, 2022<br>Email                                                | <ul style="list-style-type: none"><li>• Suggests revisions to the Problem/Opportunity Statement.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"><li>• Comments noted.</li></ul> | <ul style="list-style-type: none"><li>• These comments were taken into account when revising the Problem/Opportunity Statement.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                              |

| Date Comment Received & Method of Delivery | Summary of Issues/Concerns                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Project Team Response                                                                                                                                                                                                                                                                                                                  | Action Taken During Class EA                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| April 8, 2022<br>Email                     | <ul style="list-style-type: none"><li>Indicated City of Niagara Falls' plans for intensification along Lundy's Lane, which may include height increases up to 10-12 storeys and support for light rail transit in the long term.</li><li>Emphasizes that Lundy's Lane is planned to be a mixed-use corridor featuring both commercial and residential developments in the long term.</li></ul>                                                                                       | <ul style="list-style-type: none"><li>Comments noted.</li></ul>                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"><li>Implementation of Light Rail Transit discussed in development of alternative planning solutions.</li></ul>                                                                                                                                                                                                                               |
| April 20, 2022<br>Spoken during PIC        | <ul style="list-style-type: none"><li>Encourages consideration of increased traffic resulting from new developments on Lundy's Lane near Kalar Road (west of study area).</li><li>Interested in how this project will influence Dorchester Road.</li></ul>                                                                                                                                                                                                                           | <ul style="list-style-type: none"><li>Comments noted.</li></ul>                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"><li>Anticipated traffic levels were analyzed in the Transportation Assessment.</li></ul>                                                                                                                                                                                                                                                     |
| April 20, 2022<br>Spoken during PIC        | <ul style="list-style-type: none"><li>Emphasizes that Lundy's Lane is a narrow road that includes multiple facilities and utilities.</li></ul>                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"><li>Comments noted.</li></ul>                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"><li>Utility design and placement within the ROW will be considered further during detailed design.</li></ul>                                                                                                                                                                                                                                 |
| April 20, 2022<br>Spoken during PIC        | <ul style="list-style-type: none"><li>Supports traffic calming along Lundy's Lane.</li><li>Supports improved pedestrian facilities.</li><li>Supports implementation of cycling facilities.</li></ul>                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"><li>Comments noted.</li></ul>                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"><li>Traffic calming measures were analyzed in the Transportation Assessment.</li><li>Improved pedestrian facilities were considered in the alternative design concepts.</li><li>Implementation of cycling facilities was considered in both the alternative planning solutions and alternative design concepts.</li></ul>                    |
| May 9, 2022<br>Email                       | <ul style="list-style-type: none"><li>Supports improved pedestrian facilities (i.e. improved crosswalks, wider sidewalks).</li><li>Supports implementation of cycling facilities through the use of exclusive, protected lanes.</li><li>Encourages traffic calming to slow vehicles, improve safety and lower traffic noise levels.</li><li>Supports roadway configuration improvements to reduce points of conflict.</li><li>Supports improved public transit facilities.</li></ul> | <ul style="list-style-type: none"><li>Comments noted.</li><li>Informed resident that these comments were taken into account during the preparation and evaluation of the alternative design concepts.</li><li>Provided an expected date for the 2<sup>nd</sup> Public Information Centre should the resident wish to attend.</li></ul> | <ul style="list-style-type: none"><li>Improved pedestrian and public transit facilities were considered in the alternative design concepts.</li><li>Implementation of cycling facilities was considered in both the alternative planning solutions and alternative design concepts.</li><li>Traffic calming measures were analyzed in the Transportation Assessment.</li></ul> |

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### 7.5.2. PUBLIC INFORMATION CENTRE #2

The PIC was hosted online in a webinar format on June 22, 2022 from 6:00 pm to 7:30 pm. The focus of the PIC was to revisit the status of the technical studies, review input received to date, introduce and present the results of the evaluation of the Alternative Planning Solutions, identify a proposed preferred planning solution and solicit input from attendees on issues/concerns. The following information was presented and discussed with the public:

- Purpose of PIC #2
- Study Background
- Summary of PIC #1
- Progress on Technical Studies
- Alternative Solutions and Evaluation Process
- Evaluations of Alternative Solutions
- Identification of Proposed Preferred Planning Solution
- Input Received to Date
- Next Steps in the Process

Copies of the presentation boards for PIC #2 are included in **Appendix J.5**.

Ten people participated in the second PIC (see list in **Appendix J.6**). Attendees were provided with the opportunity to provide comments or ask questions following the PIC presentation. Alternatively, anyone was welcome to submit written comments through email from June 8, 2022 to July 6, 2022. The Project Team received one written comment from a member of the public prior to PIC #2. Copies of all written comments received, and Project Team responses, are provided in **Appendix J.6**. All of the submitted written comments were reviewed and responded to by the Project Team in all cases where contact information was provided.

A summary of the issues and concerns identified in written submissions and their consideration in this Class EA is presented in **Table 7-5**.

**Table 7-5: Comments Received Prior to, During and Following PIC #2 and their Consideration**

| <b>Date Comment Received &amp; Method of Delivery</b> | <b>Summary of Issues/Concerns</b>                                                                                                                                        | <b>Project Team Response</b>                                                                                                                                                                                | <b>Action Taken During Class EA</b>                                                                                                                                                                                                    |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| June 21, 2022<br>Email                                | <ul style="list-style-type: none"> <li>Inquiry about how this project will impact their property.</li> </ul>                                                             | <ul style="list-style-type: none"> <li>Comments noted.</li> <li>Niagara Region staff addressed the inquiry through a phone call. Additional comments were addressed during and following PIC #2.</li> </ul> | <ul style="list-style-type: none"> <li>Property was examined to determine potential impacts.</li> </ul>                                                                                                                                |
| June 22, 2022<br>Spoken during PIC                    | <ul style="list-style-type: none"> <li>Questions about if this project will influence heritage designations and if a new Secondary Plan Area will be created.</li> </ul> | <ul style="list-style-type: none"> <li>Comments noted.</li> <li>UEM and Niagara Region staff addressed the verbally during the PIC.</li> </ul>                                                              | <ul style="list-style-type: none"> <li>Heritage resources within the Lundy's Lane study area were identified in the Built and Cultural Heritage Assessment. Mitigation measures were developed and included in this report.</li> </ul> |

### 7.5.3. PUBLIC INFORMATION CENTRE #3

The PIC was held in-person at the Stamford Collegiate Secondary School Library, located at 5775 Drummond Road, Niagara Falls, ON L2G 4L2, from 6:30 pm to 8:00 pm on May 17, 2023. The focus of the PIC was to update the status of the technical studies, review input received to date, introduce and present the results of the evaluation of the Alternative Design Concepts, identify a proposed Preferred Design Concept and solicit input from attendees on issues/concerns. The following information was presented and discussed with the public:

- Purpose of PIC #3
- Progress on Technical Studies
- Introduce Alternative Design Concepts and Evaluation Process
- Evaluate Alternative Design Concepts

- 
- Identify Proposed Preferred Design Concept
  - Input Received to Date
  - Next steps in the process

Copies of the presentation boards are provided in **Appendix J.7**.

In addition to UEM project team and Niagara Region staff, thirteen (13) people attended PIC#3, which included City of Niagara Falls staff (3), Lundy's Lane BIA members (2), and members of the public (8) (see **Appendix J.8** for sign-in sheets). The PIC was held in a drop-in format and attendees were welcome to review the display material and ask questions/provide comments to the project team members present. Comment sheets were also available for attendees to provide written comments, which could be provided during and following the PIC until May 31, 2023. Alternatively, anyone was welcome to submit written comments through email from May 3, 2023 to May 31, 2023.

The Project Team received two written comments during PIC #3, as well as seven written comments submitted through email following PIC #3. Additionally, City of Niagara Falls staff provided a letter on June 8, 2023, summarizing their comments. Copies of all comments received, and Project Team responses, are provided in **Appendix J.8**. All of the submitted written comments were reviewed and responded to by the Project Team in all cases where contact information was provided.

A summary of the issues and concerns identified in written submissions and their consideration in this Class EA is presented in **Table 7-6**.

Table 7-6: Comments Received Prior to, During and Following PIC #3 and their Consideration

| Date Comment Received & Method of Delivery | Summary of Issues/Concerns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Project Team Response                                                                                                                                                                 | Action Taken During Class EA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| May 17, 2023<br>Verbal and Comment Sheet   | <ul style="list-style-type: none"><li>A business owner on Lundy's Lane felt the concepts were good.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"><li>Comments noted.</li></ul>                                                                                                                       | <ul style="list-style-type: none"><li>No action required.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| May 17, 2023<br>Comment Sheet              | <ul style="list-style-type: none"><li>A local resident, who lives on an adjacent street to Lundy's Lane and is a daily user, expressed concern about the unsafe walking conditions on the south side of the OPG Hydro Canal bridge, which provides the only access to the Hendershot Trail and the Millennium Trail. They feel that the widening of the sidewalk on the north side is illogical as people will still use the south side more frequently to access the trails and that the south sidewalk should be widened and a guard rail installed.</li></ul> | <ul style="list-style-type: none"><li>Comments noted.</li></ul>                                                                                                                       | <ul style="list-style-type: none"><li>Discussed possibility to widen south sidewalk with OPG. Ultimately not possible and maintained the proposed widening of the north sidewalk.</li></ul>                                                                                                                                                                                                                                                                                                                            |
| May 26, 2023<br>Email                      | <ul style="list-style-type: none"><li>A local resident expressed concern about the safety of Lundy's Lane for pedestrians and cyclists and feels the proposed design should be rethought to include bicycle lanes.</li></ul>                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"><li>Comments noted.</li><li>Comment was addressed in a response letter prepared and sent to all who submitted comments on March 13, 2024.</li></ul> | <ul style="list-style-type: none"><li>Implementation of cycling facilities was considered in both the alternative planning solutions and alternative design concepts.</li></ul>                                                                                                                                                                                                                                                                                                                                        |
| May 31, 2023<br>Email                      | <ul style="list-style-type: none"><li>A local business owner expressed concern about the lack of active transportation facilities and asked that the exclusion of bicycle lanes be reconsidered. They also commented on pedestrian and cyclist safety along Lundy's Lane and believes it should be improved.</li></ul>                                                                                                                                                                                                                                           | <ul style="list-style-type: none"><li>Comments noted.</li><li>Comment was addressed in a response letter prepared and sent to all who submitted comments on March 13, 2024.</li></ul> | <ul style="list-style-type: none"><li>Implementation of cycling facilities was considered in both the alternative planning solutions and alternative design concepts.</li><li>The preferred design concept was revised following PIC #3 to include wider sidewalks.</li></ul>                                                                                                                                                                                                                                          |
| May 31, 2023<br>Email                      | <ul style="list-style-type: none"><li>A local resident commented on how Lundy's Lane is a pedestrian heavy roadway and that safety should be improved. They suggested the addition of bicycle lanes and additional crosswalks, as well as reducing the road to one lane in each direction.</li></ul>                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"><li>Comments noted.</li><li>Comment was addressed in a response letter prepared and sent to all who submitted comments on March 13, 2024.</li></ul> | <ul style="list-style-type: none"><li>Implementation of cycling facilities was considered in both the alternative planning solutions and alternative design concepts.</li><li>The preferred design concept was revised following PIC #3 to include wider sidewalks.</li><li>The implementation of Pedestrian Crosswalks was considered following PIC #3.</li><li>A 3-lane alternative was analyzed in the Transportation Assessment and considered in the development of the alternative planning solutions.</li></ul> |

| Date Comment Received & Method of Delivery | Summary of Issues/Concerns                                                                                                                                                                                                                                        | Project Team Response                                                                                                                                                                 | Action Taken During Class EA                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| May 31, 2023<br>Email                      | <ul style="list-style-type: none"><li>A local resident expressed concern about Lundy's Lane being too dangerous for both vehicular and pedestrian use. They suggest more traffic lights and a bicycle lane.</li></ul>                                             | <ul style="list-style-type: none"><li>Comments noted.</li><li>Comment was addressed in a response letter prepared and sent to all who submitted comments on March 13, 2024.</li></ul> | <ul style="list-style-type: none"><li>Implementation of cycling facilities was considered in both the alternative planning solutions and alternative design concepts.</li><li>The preferred design concept was revised following PIC #3 to include wider sidewalks.</li><li>The implementation of Pedestrian Crosswalks was considered following PIC #3.</li></ul> |
| May 31, 2023<br>Email                      | <ul style="list-style-type: none"><li>A local resident asked that Lundy's Lane be made more pedestrian and cyclist friendly through the addition of bicycle lanes, wider sidewalks than what was presented at PIC #3, as well as additional crosswalks.</li></ul> | <ul style="list-style-type: none"><li>Comments noted.</li><li>Comment was addressed in a response letter prepared and sent to all who submitted comments on March 13, 2024.</li></ul> | <ul style="list-style-type: none"><li>Implementation of cycling facilities was considered in both the alternative planning solutions and alternative design concepts.</li><li>The preferred design concept was revised following PIC #3 to include wider sidewalks.</li><li>The implementation of Pedestrian Crosswalks was considered following PIC #3.</li></ul> |
| June 1, 2023<br>Email                      | <ul style="list-style-type: none"><li>A local resident expressed concern about the exclusion of bicycle lanes in the proposed design and asked that they be added.</li></ul>                                                                                      | <ul style="list-style-type: none"><li>Comments noted.</li><li>Comment was addressed in a response letter prepared and sent to all who submitted comments on March 13, 2024.</li></ul> | <ul style="list-style-type: none"><li>Implementation of cycling facilities was considered in both the alternative planning solutions and alternative design concepts.</li></ul>                                                                                                                                                                                    |

| Date Comment Received & Method of Delivery | Summary of Issues/Concerns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Project Team Response                                                                                          | Action Taken During Class EA                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| June 7, 2023<br>Email                      | <ul style="list-style-type: none"><li>A local resident provided comments about the streetlighting and suggests it be upgraded to match Clifton Hill. Further, they expressed concern about general traffic flow along Lundy's Lane being hindered by too many turning vehicles, as well as the location of a bus stop in front of Mick &amp; Angelo's Restaurant causing traffic congestion. They asked if relocation of the bus stop is an option.</li></ul>                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"><li>Comments noted and addressed in a letter dated March 13, 2024.</li></ul> | <ul style="list-style-type: none"><li>Streetlighting will be considered further during detailed design.</li><li>Traffic levels were analyzed in the Transportation Assessment.</li><li>Discussed public transit locations with Niagara Transit following PIC #3.</li><li>Reviewed daylighting requirements following PIC #3.</li></ul>                                                                                                                                               |
| June 8, 2023<br>Letter provided over email | <ul style="list-style-type: none"><li>City of Niagara Falls detailed additional requirements they have for the study area, such as further sidewalk widening, inclusion of bicycle racks at informal hubs on the east and west ends of the study area, review of Intersection Pedestrian Signal crossings, review of potential auxiliary lanes, inclusion of bicycle facilities crossing Lundy's Lane identified in the City and Niagara Region Transportation Master Plans, review the City's Official Plan and give recommendation on a wider cross-section, review collisions at intersections, provide pedestrian element in street light design and include addition of trees and architectural elements from new Lundy's Lane streetscape features.</li></ul> | <ul style="list-style-type: none"><li>Comments noted and addressed in a letter dated March 13, 2024.</li></ul> | <ul style="list-style-type: none"><li>Implementation of cycling facilities was considered in both the alternative planning solutions and alternative design concepts.</li><li>The preferred design concept was revised following PIC #3 to include wider sidewalks.</li><li>The implementation of Pedestrian Crosswalks was considered following PIC #3.</li><li>Streetlighting, landscaping and architectural elements will be further considered during detailed design.</li></ul> |

| Date Comment Received & Method of Delivery | Summary of Issues/Concerns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Project Team Response                                                                                          | Action Taken During Class EA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| July 21, 2023                              | <ul style="list-style-type: none"><li>The Lundy's Lane BIA was disappointed that chosen design concept remains traffic-centric, catering to high-speed vehicular movement and unsafe for pedestrians.</li><li>Requesting bike lane/active transportation path between Brookfield Avenue to Highland Avenue / Drummond Road on Lundy's Lane or at least a parallel bike lane on Barker Street with a connection to Lundy's Lane using Brookfield Avenue or the Hendershot Trail.</li><li>Requesting an east-west bike lane/active transportation path westbound from the OPG canal.</li><li>Requested Intersection Pedestrian Signals (IPS) be installed for cyclists and pedestrians to safely cross around the OPG canal, thereby connecting the Millennial and Gary Hendershot Memorial trails.</li><li>Requested Intersection Pedestrian Signals (IPS) be installed for cyclists and pedestrians to safely cross around Prince Edward Avenue, thereby allowance cyclists and pedestrians to safely cross between Highland Avenue and Dorchester Road. An irrigated east-west centre median at this location was also requested.</li><li>Streetscaping requested at the intersections with Montrose Road and Dorchester Road, similar to the intersection of Lundy's Lane and Kalar Road.</li><li>Requested irrigated east/west centre medians at the intersections with Highland Avenue and Royal Manor Drive.</li><li>Requested traffic calming measures, improved lighting, wider sidewalks, patio and marketing zones, public art installations, and buffer plantings (in the edge zone).</li></ul> | <ul style="list-style-type: none"><li>Comments noted and addressed in a letter dated March 13, 2024.</li></ul> | <ul style="list-style-type: none"><li>Implementation of cycling facilities was considered in both the alternative planning solutions and alternative design concepts.</li><li>The preferred design concept was revised following PIC #3 to include wider sidewalks.</li><li>The implementation of Pedestrian Crosswalks was considered following PIC #3.</li><li>Streetlighting, landscaping and public art installations will be further considered during detailed design.</li><li>Traffic calming measures were analyzed in the Transportation Assessment.</li></ul> |

## **7.6. PROPERTY OWNER MEETINGS**

During the Class EA Study process, two rounds of meetings were held with impacted property owners within the Lundy's Lane EA study area to discuss various design elements that would impact their properties (i.e. proposed driveway consolidation, property acquisition and parking space loss).

In March 2024, as a result of the Transportation Assessment and the Driveway Consolidation Report that were completed, several properties were identified for potential driveway consolidation. Notices were sent to 8 property owners within the study area on March 21, 2024, notifying them of the Region's desire to pursue driveway consolidation on their properties. Meetings were held with 4 of the property owners, at their requests, between April 15-26, 2024, to discuss the proposed changes. No responses were received from the other 4 property owners. For each property owner contacted, follow-up letters were issued on May 13, 2024. Both the initial outreach letters and follow-up letters are included in **Appendix J.9** summarizing the final decision on driveway consolidation for each of the properties listed below:

- 6460 Lundy's Lane (No Frills)
- 6499 Lundy's Lane (Harrigan's Auto Clinic)
- 6544 Lundy's Lane (Niagara Central Animal Hospital)
- 6710 Lundy's Lane (Ski & Cycle Niagara)
- 7034 Lundy's Lane (Joy's Inn)
- 7070 Lundy's Lane (The America's Hospitality Inn)
- 7241 Lundy's Lane (Wind Restaurant)
- 7429/7389 Lundy's Lane (Ramada Inn)

Furthermore, a Road Safety Audit was completed in November 2024 that recommended several design changes that would impact properties, including extension of curbs, further driveway consolidation and removal of front yard parking. Based on the recommendations of the Road Safety Audit, letters were sent to 13 property owners within the study area on May 21, 2025 notifying them of the impacts on their property as a result of the Region's required road widening and the resulting loss of parking spaces. Meetings were held with 5 of the property owners between June 2, 2025 and June 6, 2025 to discuss the proposed changes. No responses were received from the remaining 8 property owners and follow-up letters were issued on July 4, 2025. Two property owners who had initially provided no response reached out after the initial contact period had ended. Additional meetings were scheduled with these owners and held on July 10 and July 22, 2025. A follow-up letter was then sent to both property owners on July 24, 2025. For each property owner contacted, the initial outreach letters and follow-up letters are included in **Appendix J.10**. The follow-up letters summarize the final decisions regarding property acquisition and related impacts for each of the properties listed below:

- 6530 Lundy's Lane (The Fry Restaurant)
- 6544 Lundy's Lane (Niagara Central Animal Hospital)
- 6661 Lundy's Lane (East Izakaya Restaurant)
- 6689 Lundy's Lane (Commercial Plaza)

- 6734 Lundy's Lane (Commercial Plaza)
- 6769 Lundy's Lane (Commercial Plaza)
- 6791 Lundy's Lane (Residential Property)
- 6801 Lundy's Lane (Lundy's Lane Animal Hospital)
- 5900 Dorchester Road (TD Bank Plaza)
- 7009 Lundy's Lane (Active Green & Ross)
- 7241 Lundy's Lane (Wind Restaurant)
- 7280 Lundy's Lane (Niagara Falls Inn)
- 7600 Lundy's Lane (Mick & Angelo's Restaurant)

## **7.7. CONSULTATION WITH INDIGENOUS COMMUNITIES**

Engagement with Indigenous Communities is a key component of the Class EA process. Various Indigenous Communities were notified of the study, to identify any potential issues or concerns regarding possible impacts to Aboriginal and Treaty Rights, or any other interests or questions that the community may have regarding this study. Study notification letters with copies of the Notice of Study Commencement were sent to the following Indigenous Communities by Regional staff on November 3, 2021:

- Haudenosaunee Development Institute (HDI)
- Mississaugas of the Credit First Nation (MCFN)
- Six Nations of the Grand River First Nation (Six Nations)

No feedback was received from Indigenous Communities in response to the Notice of Study Commencement.

Additionally, notices were sent to the above Indigenous Communities on March 23, 2022 for PIC #1, on May 20, 2022 for PIC #2 and on April 14, 2023 for PIC #3.

On March 23, 2022, UEM received an email from Six Nations in response to the Notice of PIC #1 expressing interest in obtaining PIC information. Six Nations, in addition to all who registered for PIC #1, were provided a link to the virtual PIC via Microsoft Teams on April 14, 2022. A separate Six Nations member reached out to the Niagara Region on March 28, 2022, acknowledging receipt of the PIC #1 Notice and indicated that they could not provide comment at that time due to no detailed environmental information being provided. Niagara Region provided a response on March 29, 2022, detailing the Class EA process, where to obtain further information on the project website and indicated that all interested parties were encouraged to attend the PIC's and discuss/provide input on the project. Niagara Region further stated that they would continue to contact and consult with Indigenous Communities as the project progressed. No further feedback or communication was received from Six Nations.

No feedback was received from HDI or MCFN in response to the PIC #1, PIC #2 or PIC #3 notices.

A final draft copy of the ESR was provided to Indigenous Communities for review and comment on January 14, 2026, prior to the Notice of Study Completion being issued and formal 30-day review period.

On January 15, 2026, a representative of HDI responded to the draft ESR circulation, requesting to engage in further discussion regarding capacity funding for review of the ESR and Stage 1 Archaeological Assessment. The Niagara Region Project Manager provided a response on January 19, 2026, indicating that no framework or agreement had been established with HDI regarding review funding, but that the Niagara Region was committed to continued discussion. No further response was received from HDI.

On January 20, 2026, a representative of Six Nations indicated that they had no comments on the draft ESR document provided. Further discussion took place regarding funding for the review of the ESR undertaken, as the Niagara Region Project Manager indicated in an email dated January 21, 2026, that no framework or agreement had yet been established with Six Nations for review funding. The representative from Six Nations responded on January 21, 2026, indicating that they would proceed with establishing the appropriate agreement. No further response was received from Six Nations.

On September 8, 2026, a representative of MCFN provided a comment letter in response to the draft ESR circulation. UEM staff confirmed receipt of the letter and provided it to the Niagara Region Project Manager. No further response was received from MCFN.

The Notice of Study Completion was sent to all Indigenous Communities contacts during the week of October 12, 2026.

All communication and consultation with Indigenous Communities is documented in **Appendix J.12**.

## **7.8. PROJECT WEBPAGE**

In addition to the formal consultation detailed in **Sections 7.1 to 7.7**, all project materials were made available on the Niagara Region's project webpage. Materials were uploaded to the webpage as they became available, including all Notices, PIC presentations and display boards, and any relevant reports or other documentation. The project webpage is accessible at the following link:

<https://niagararegion.ca/projects/lundys-lane/default.aspx>.

## **7.9. STUDY COMPLETION**

The Environmental Study Report was made available for public review and comment on October 20, 2026, which marks the beginning of the mandatory 30-day review period. During the 30-day review period, any comments or additional input received will be considered and addressed. At the end of the 30-day review period, following successful resolution of any outstanding concerns, the Niagara Region may proceed to implement the preferred design concept. The Notice of Study Completion is provided in **Appendix J.13**.

## 8.0 PROJECT IMPLEMENTATION CONSIDERATIONS

### 8.1. TIMING OF CONSTRUCTION

Project construction is within the Region's 10-year capital forecast in 2028, following detailed design and property acquisition, subject to budget approvals.

### 8.2. ENVIRONMENTAL FACTORS

#### 8.2.1. CULTURAL ENVIRONMENT

##### 8.2.1.1. ARCHAEOLOGICAL POTENTIAL WITHIN THE STUDY AREA

The Stage 1 Archaeological Assessment determined that 95% of the study area was previously disturbed and is considered to have no archaeological potential as a result, thereby it is assumed there will be no impact on the proposed improvements in the Lundy's Lane road ROW in these areas. These previously disturbed areas will be mapped and photo documented as per Section 2.1, Standard 6 and Section 7.8.6, Standard 1b of the *Standards of Guidelines* (Government of Ontario 2011) during the detailed design phase of the project.

Approximately 4.8% of the study area is manicured green spaces where it was determined that moderate to high potential for the recovery of pre-contact Aboriginal, post-contact Aboriginal, and Euro-Canadian archeological resources was present and therefore additional assessment was warranted. During the detailed design phase of the project, these areas will be subject to stage 2 test pit assessments at 5-metre intervals. Stage 3 test pit assessments will be performed where justified by Stage 2 tests and, if Stage 2 findings are found to be insufficient, survey coverage will be intensified around the positive test pits using either Option A or Option B of Section 2.1.3, Standard 2 of the *Standards of Guidelines* (Government of Ontario 2011).

Approximately 0.2% of the study area is green space adjacent to Lundy's Lane Cemetery. A burial was discovered in the 1980s and the proposed road widening was reduced by two feet to permit the grave to remain in place. Within 50 metres of the cemetery, it is strongly recommended that a Cemetery Investigation Authorization from the Bereavement Authority of Ontario (BAO) be acquired prior to any stage 2 assessment.

More detail regarding the proposed Stage 2 archaeological assessment methods can be found in the Recommendations section of the Stage 1 Archaeological Assessment (Detritus, March 2022) (see **Appendix B**).

No ground disturbance shall occur until receipt of MCM's written confirmation that the archaeological assessment reports have been entered into the Ontario Public Register of Archaeological Reports, and that the reports recommend no further archaeological investigation.

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8.2.1.2. **BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPES**

The Cultural Heritage Report (ARA Ltd., January 2022, Revised June 2026) identified that three (3) Cultural Heritage Landscapes (CHLs) and twelve (12) Built Heritage Resources (BHRs) are present within the Regional Road 20 (Lundy's Lane) study area. **Figures 8-1 to 8-3** display CHLs and BHRs within the study area.

The Cultural Heritage Report was revised in June 2026 to assess the preferred alternative design for preliminary potential project-specific impacts and recommend measures to avoid or mitigate potential negative impacts. The following potential impacts to Cultural Heritage Resources (CHRs) were identified:

- CHR-1: The preferred design alternative will have a direct impact to the William Lundy Homestead plaque, as its removal will be required during construction.
- CHR-2: There is potential for indirect impacts to the Lundy's Lane Cemetery due to vibrations during construction.
- CHR-5 to CHR-14: No direct impacts are anticipated to the built features on the properties, however portion of the front yards are required to be taken through property acquisition to accommodate the pedestrian sidewalk. There are potential indirect impacts due to vibrations during construction.

No direct or indirect impacts were identified for CHR-3, CHR-4 and CHR-15.

Several mitigation measures were recommended to avoid any adverse effects to the CHRs within the study area, which are detailed in **Section 9.0** below.

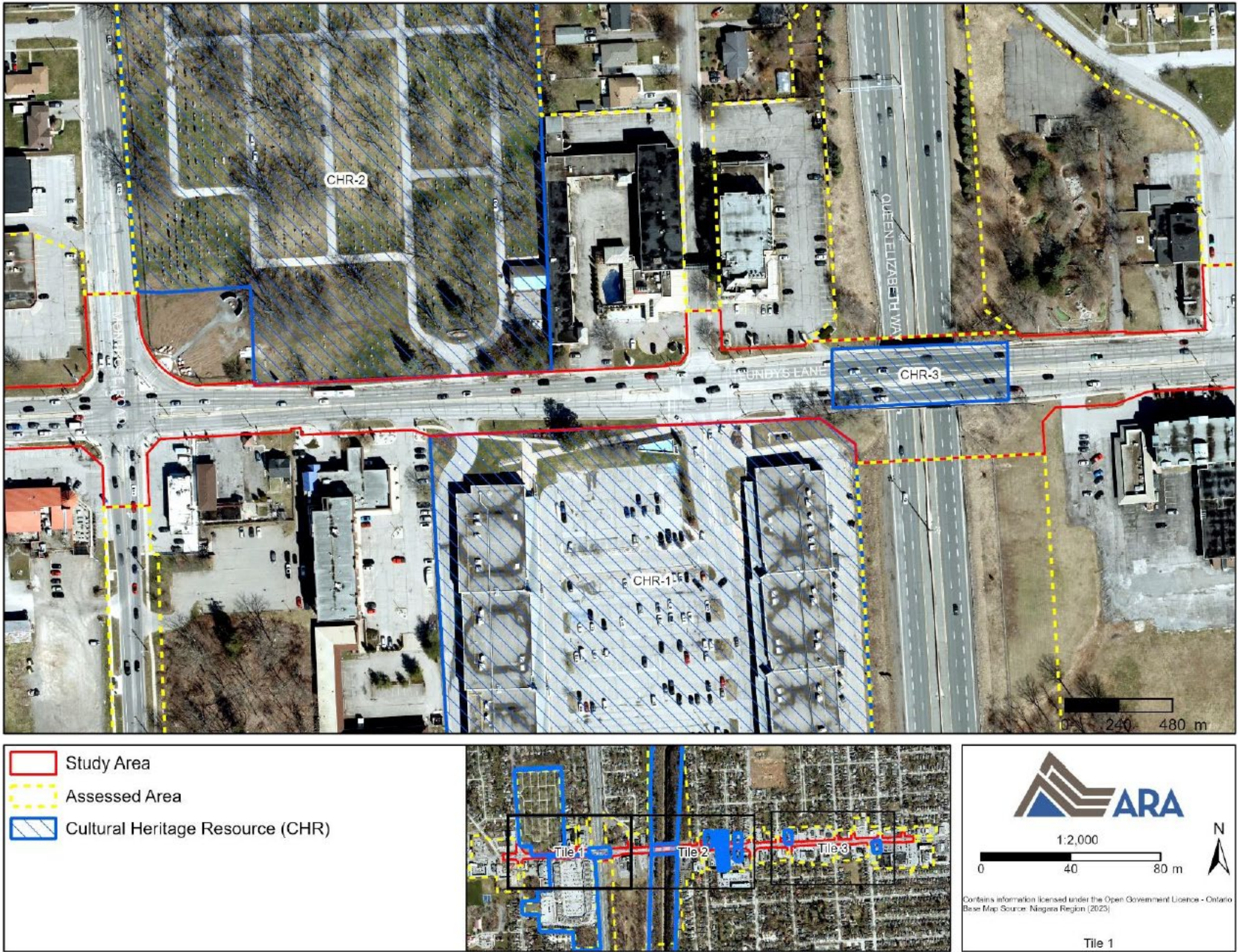


Figure 8-1: Cultural Heritage Landscapes and Built Heritage Resources from Montrose Road to Royal Manor Drive

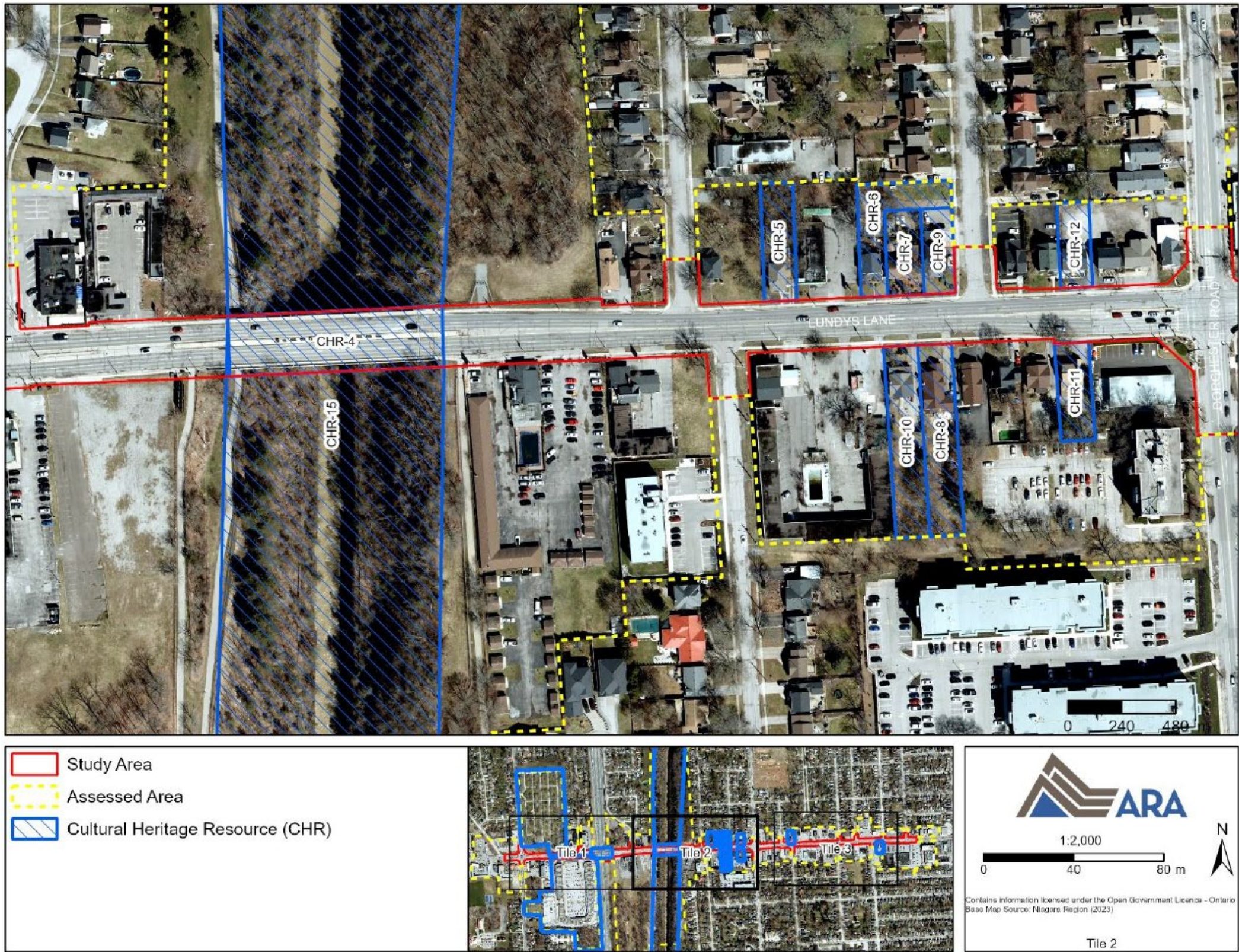


Figure 8-2: Built Heritage Resources from the Royal Manor Drive to Dorchester Road



Figure 8-3: Built Heritage Resources from Depew Avenue to Highland Avenue

### 8.3. CLIMATE CHANGE

Climate change is an ongoing challenge faced when planning for new or expanded development and municipalities are striving to reduce carbon emissions that may result from these projects. As part of the Class EA process, climate change must be taken into consideration when designing and evaluating alternatives. Specifically, both the impact of the project on climate change, as well as the impact on the project by climate change must be analyzed. This is critical to ensure that any potential impacts are properly designed for and reduced or mitigated wherever possible.

#### 8.3.1. *IMPACTS BY THE PROJECT ON CLIMATE CHANGE*

A development can have numerous impacts on climate change during the lifecycle of a project through the generation of greenhouse gases or removal of existing trees, affecting the study area's carbon storage capacity and ability to remove carbon dioxide from the atmosphere. Upfront (embodied) carbon impacts can occur based on the extraction process for raw materials, transportation to processing facilities/factories, manufacture of a product or material, transportation to the project site and the construction process for the building, road or other infrastructure. Following the construction, the resulting development/project can impact climate change (positive or negative) based on the changes made from the existing situation.

For this project, it was determined that the impact on climate change is relatively minor. This is due to the majority of the project being within an existing, paved road ROW. While the proposed road widening will result in a slight increase in paved surface, grass boulevards are also being introduced in areas along the Lundy's Lane corridor where they currently do not exist. Further, any boulevard trees that are required to be removed will be replaced as per Niagara Region standards. There will be a temporary increase in greenhouse gas emissions during construction due to the use of construction vehicles. It is recommended to mitigate this by limiting vehicle idling and proficiently implementing contract administration, which will ensure work can proceed efficiently and that any issues are addressed in a timely manner. Additional green initiatives can be implemented during construction to reduce the overall impact on climate change, including the following:

- The use of low carbon concrete, which can reduce carbon dioxide emissions by 30% to 50%. This concrete meets all applicable standards, but has a reduced carbon footprint.
- The use of warm mix asphalt where appropriate. Warm mix asphalt is a more eco-friendly alternative to hot mix asphalt and can reduce temperatures by 30 to 50 degrees Celsius. This results in lower plant emissions, airborne asphalt particulates, better compaction and less degradation on equipment.
- The use of native backfill where possible. This involves storing excavated material on-site and reusing it during construction, reducing emissions from the process of producing new aggregate material and generated by vehicles used to transport existing material off-site and new material to the site.

### 8.3.2. CLIMATE CHANGE IMPACTS ON THE PROJECT

A detail that is often overlooked in the design process is the impact that climate change can have on a project. Due to the changing climate, increases in extreme weather conditions are being experienced. This may take the form of heavier rainfall events, prolonged drought conditions during summer, more frequent high winds, and sequential freezing and melting events during the winter. It is recommended to account for these during detailed design, which can be done by ensuring the appropriate design of stormwater infrastructure to Niagara Region standards. Further mitigation measures can be implemented post-construction, such as regular inspection and maintenance of the road surface to identify cracks or potholes formed due to freeze/thaw events.

### 8.4. PROPERTY IMPACTS

The existing road ROW within the study area for Lundy's Lane varies significantly, with some sections being as narrow as 19.0 m and other sections as wide as 36.0 m.

As part of the evaluation process of both the alternative planning solutions and alternative design concepts, it was determined that the preferred design concept must fit within a 26.2 m ROW, which is the width identified in the Niagara Falls Official Plan for this section of Lundy's Lane. As a result, property acquisition will be required for approximately 75% of the study area. The property acquisition mainly includes portions of front yards and parking lots, though it does also impact several structures/buildings, including:

- A bus shelter and pad on the northeast corner of Lundy's Lane and Montrose Road, which will require relocation during detailed design.
- "The Jerk Spot" restaurant, located in the ROW at 7542 Lundy's Lane.
- Freestanding signage for the "Overnight Inn" motel, located in the ROW at 7558 Lundy's Lane.
- Patio furniture, fencing, and freestanding signage for Wind Japanese & Thai Restaurant located on the northeast corner of Lundy's Lane and Royal Manor Drive.
- On the northeast corner of Lundy's Lane and Dorchester Road, the bus shelter and pad will require relocation during detailed design and the patio at Johnny Rocco's will need to be reduced.
- Freestanding signage in front of the "Flying Saucer" restaurant at 6768 Lundy's Lane.
- Patio furniture and fencing for Micah's Bistro on the northeast corner of Lundy's Lane and Depew Avenue.
- A bus shelter and pad on the southwest corner of Lundy's Lane and Corwin Avenue, which will require relocation during detailed design.

Letters were sent to potentially impacted property owners and meetings held in June and July, 2025 with seven property owners who responded and requested to meet to discuss impacts to parking and other features that would potentially occur due to road widening requirements.

Although the preferred design concept involves a 26.2m ROW to meet current needs under this Class EA, future plans could result in an ultimate build-out to a 30.5m ROW to meet the needs of all users within the study area. This would require revisions or updates to the City of Niagara Falls Official Plan to address the ROW of 26.2m identified in the Official Plan and additional private property acquisition for individual parcels as land is redeveloped within the study area. Should this occur and a 30.5m ROW be accommodated, property impacts would increase substantially within the Lundy's Lane study area.

## **8.5. UNDERGROUND SERVICES (WATERMAIN, SANITARY SEWERS AND STORM SEWERS)**

### **8.5.1. STORM SEWERS**

Storm sewers within the Class EA Study Area are Regionally owned. No new storm sewer work is planned for Regional Road 20 (Lundy's Lane) within the study area at this time, but modifications to the infrastructure could be made during the detailed design phase of the project when the condition of the sewers is assessed for the need to upgrade or replace. A Stormwater Management Report should be prepared during detailed design to ensure pre-construction stormwater flows are maintained under post-construction conditions.

### **8.5.2. SANITARY SEWERS**

Sanitary sewers within the Class EA Study area are City owned only. The age of the sanitary sewers within the study area ranges between 67 to 94 years. As a result, the City is recommending that as part of the project they be replaced or to have their condition assessed, performing repairs/replacements as required. Further modifications to proposed sewer infrastructure are subject to the results of the detailed design phase for the project.

### **8.5.3. WATERMAINS**

The Niagara Region intends to decommission the elevated water tank on the east side of the Regional Road 20 (Lundy's Lane) study area and abandon the Regional trunk watermain that extends west from the tank to Montrose Road. A new watermain, owned by the City, is to be constructed on Lundy's Lane and will be ready for operation for when the Niagara Region decommissions the elevated tank. The proposed watermain will service all properties on Lundy's Lane in the study area and connect to existing Region-owned watermains at the limits of the new main. Further modifications to proposed watermain infrastructure are subject to the results of the detailed design phase for the project.

## **8.6. UTILITIES (HYDRO, NATURAL GAS, COMMUNICATION SERVICES)**

### **8.6.1. NATURAL GAS**

The majority of the existing gas mains on Regional Road 20 (Lundy's Lane) are located on both sides of the roadway. The gas mains are currently located in the sidewalk/boulevard portion of the ROW. With the proposed widening of the road under the preferred design concept, the natural gas mains currently within the sidewalk/boulevard portion of the ROW will require relocation. Greater detail regarding the proposed relocation will be developed in the detailed design phase of the project.

### **8.6.2. HYDRO SERVICES**

The hydro lines on Regional Road 20 (Lundy's Lane), currently buried and located in the boulevard on the south side of the roadway, will require relocation as a result of the proposed widening of the road under the preferred design concept. Greater detail regarding the proposed relocation will be developed in the detailed design phase of the project.

### **8.6.3. COMMUNICATION SERVICES**

The Bell services cables on Regional Road 20 (Lundy's Lane), currently buried along both sides of the street in the sidewalk/boulevard portion of the ROW, will require relocation as a result of the proposed widening of the road under the preferred design concept. Further detail regarding the proposed relocation will be prepared in the detailed design phase of the project.

## **8.7. GEOTECHNICAL INVESTIGATION**

Due to the thickness of the existing asphalt and granular base observed in the Lundy's Lane study area, a partial depth reconstruction of the road could be considered, though a full depth reconstruction would result in the longest lifespan and lower maintenance costs over the long-term. It is recommended in areas that partial depth reconstruction is to take place that a minimum granular base depth of 600 mm is provided. Full depth reconstruction is recommended in areas where the existing granular base is lowest, between 200 mm and 400 mm, as well as in areas that exhibit signs of subgrade failure or distress. Any existing or new granular base should be compacted to 100 percent of its standard Proctor maximum dry density.

The new asphalt layer should conform to Niagara Region standards, which consists of a minimum of 50 mm of SP12.5 surface course asphalt and 100 mm of SP19.0 binder course, placed in two, 50 mm thick lifts.

Excavations are expected to extend from 2 to 5 metres below existing ground surface for the installation of underground services. The anticipated excavated soils, consisting of granular materials from the pavement structures, fill and native sandy silt/silty sand soils, are generally considered suitable for use as service trench backfill as long as no organics or construction debris is present and moisture content can be controlled within 3 percent of the material's standard Proctor optimum value.

Sixteen (16) of the 18 boreholes tested for corrosivity returned with AWWA soil corrosive values above 10. Therefore, it is recommended that corrosion protection on below grade steel pipes and appurtenances is used. Additionally, an Assessment of Past Uses dated June 7, 2022 discovered potentially contaminating activities that were identified in the Lundy's Lane study area that are considered likely to cause an area of potential environmental concern. As such, Soil-Mat Engineers & Consultants Ltd. recommended that a sampling and analysis plan be developed during the detailed design phase.

## **8.8. SIDEWALK REPLACEMENT**

The preferred preliminary design includes continuous 2.0 metre wide sidewalks on both sides of Regional Road 20 (Lundy's Lane) within the study area boundaries where there is a centre turn lane. Multiple designs are proposed where a centre median exists, depending on the surrounding context and the constraints presented. The existing sidewalks will be replaced and new sidewalks that meet current AODA standards will be constructed.

## 9.0 RECOMMENDED MITIGATIVE MEASURES

Based on the evaluation of potential effects, the road improvements proposed for Regional Road 20 (Lundy's Lane) are not expected to result in any significant environmental impacts. Impacts related to construction will be short term and minor. By incorporating proper best management practices/construction management techniques and controls, these impacts can be minimized.

Anticipated construction related impacts are summarized below in **Table 9-1** along with the associated mitigating measures. It is recommended that these mitigating measures be employed to reduce the potential impacts during the construction of the proposed works.

**Table 9-1: Summary of Recommended Mitigation Measures**

| Potential Impacts        | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Archaeological Resources | <ul style="list-style-type: none"> <li>Due to the proximity of some manicured grass areas to the Lundy's Lane Cemetery, it is strongly recommended to acquire a Cemetery Investigation Authorization from the Bereavement Authority of Ontario prior to any stage 2 archaeological assessment within 50 metres of the cemetery during the detailed design phase.</li> <li>A Stage 2 Archaeological Assessment and any further recommended assessment (e.g., Stage 3 and 4) will be completed during detailed design and well in advance of ground disturbing activities.</li> <li>If any archaeological resources are discovered during the performance of construction work, the performance of the work in the area of the discovery is to halt. The Ministry of Citizenship and Multiculturalism is to be notified for an assessment of the discovery. Work in the area of the discovery should not resume until cleared to do so by the Ministry.</li> <li>If human remains are discovered during construction, all site alteration must cease immediately and the police or coroner must be notified.</li> </ul> |
| Sampling and Analysis    | <ul style="list-style-type: none"> <li>Due to the 14 potentially contaminating activities that were identified in the Assessment of Past Uses completed by Soil-Mat Engineers and Consultants Ltd., a sampling and analysis plan is recommended to be conducted during construction.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Soil Corrosivity         | <ul style="list-style-type: none"> <li>Corrosion protection should be used on below grade steel pipes and appurtenances during construction due to the high percentage of boreholes exhibiting soil corrosivity from the geotechnical investigation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Potential Impacts                                                           | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cultural Heritage Landscapes and Built Heritage Resources (Detailed Design) | <ul style="list-style-type: none"> <li>• The preferred design should continue to avoid any impacts to the identified heritage resources, where possible.</li> <li>• In coordination with the owner of Canada One Outlets, the plaque within CHR-1 should be removed and safely stored prior to construction initiation. Following construction, the plaque should be reinstated to pre-construction conditions.</li> <li>• The following mitigation measures are recommended for CHR-2 and CHR-5 to CHR-14: <ul style="list-style-type: none"> <li>○ Storage and construction staging area should avoid the identified CHR.</li> <li>○ Buffer zones in the form of construction fencing should be erected along the property/monument to ensure they are not damaged by any construction machinery or vehicles.</li> <li>○ Given the adjacency of the identified CHRs to the project works, the project may result in minor indirect vibration impacts. The following recommendations should be considered during detailed design: <ul style="list-style-type: none"> <li>▪ Consult a qualified Engineer: As the CHRs are or contain components within the ROW and are well within the limit of the recommended buffer suggested for vibration monitoring (i.e., 60m from the proposed works; Carmen et al. 2012:31), consult a qualified Engineer to determine if a Zone of Influence (ZOI) Study is required.</li> </ul> </li> <li>○ If required, complete a ZOI Study (conducted by a qualified Engineer) to determine if ground vibrations from the proposed work may damage the monuments or graves located along the southern edge of the Lundy's Lane Cemetery property.</li> <li>○ If the ZOI Study determines the proposed works have the potential to damage the components of the property, the study should recommend: <ul style="list-style-type: none"> <li>▪ Ground vibration limits to avoid potential damage to the monuments or graves within the property;</li> <li>▪ Construction vibration monitoring processes and procedures be implemented to avoid vibration limit exceedances; and,</li> <li>▪ If necessary, provide mitigation measures to assist in maintaining the vibrations within the proposed limits.</li> </ul> </li> </ul> </li> </ul> |

| Potential Impacts                                                           | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cultural Heritage Landscapes and Built Heritage Resources (Detailed Design) | <ul style="list-style-type: none"> <li>• The following considerations and recommendations should also be undertaken: <ul style="list-style-type: none"> <li>○ That the above mitigation measures be implemented and considered in subsequent planning and design phases.</li> <li>○ If the preferred option changes, the new design should be reviewed against the findings in the Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (ARA Ltd., January 2022, Revised June 2026) and an update provided in an Impact Memo. Specifically, the memo should review all identified heritage resources and evaluate any impact of the design (or alternative design concepts), as well as outline avoidance/mitigation measures to minimize the impact. Depending on the nature of the impact (i.e., demolition, significant modification, or alteration), the review may result in additional studies being recommended (i.e., a Cultural Heritage Evaluation Report, Heritage Impact Assessment, Conservation Plan, etc.). The review should be undertaken by a qualified heritage professional.</li> </ul> </li> <li>• That the Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (ARA Ltd., January 2022, Revised June 2026) should be provided to staff/planners at the municipal and regional level as needed.</li> </ul> |
| Climate Change                                                              | <ul style="list-style-type: none"> <li>• Low Impact Development (LID) alternatives should be considered during detailed design.</li> <li>• During construction, mitigation measures should be implemented where possible, including: <ul style="list-style-type: none"> <li>○ Limit idling of construction vehicles;</li> <li>○ Consider the use of low carbon concrete;</li> <li>○ Consider the use of warm mix asphalt; and,</li> <li>○ Use native backfill where possible.</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Short Term Construction Related Impacts                                     | <ul style="list-style-type: none"> <li>• During construction, traffic will be temporarily disrupted. The following measures should be employed to ensure that impacts are eliminated or minimized: <ul style="list-style-type: none"> <li>○ Develop and implement a Construction Traffic Management Plan that includes advanced notification signage</li> <li>○ Access to properties will be maintained at all times unless notified</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Potential Impacts                       | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Short Term Construction Related Impacts | <ul style="list-style-type: none"> <li>○ In addition to notices in the local newspaper, affected property owners will be individually notified in advance as to construction schedule/duration</li> <li>• An Erosion and Sediment Control Plan will be developed to manage soil and sediment runoff during construction.</li> <li>• A Spill Management Plan will be developed to mitigate risks in the event of a spill.</li> </ul>                                                                                                                                                                                                                                                                                                                                            |
| Noise, Vibration, Dust                  | <ul style="list-style-type: none"> <li>• A Noise Study should be undertaken at detailed design that identified further mitigative measures.</li> <li>• Preconstruction survey of each building and driveway prior to construction commencing.</li> <li>• Construction operations will be restricted to the day shift (wherever possible). In addition, the contractor will be required to adhere to local noise by-laws.</li> <li>• Dust control through one or more of the following: <ul style="list-style-type: none"> <li>○ Spraying water (sparingly to avoid pooling on the street)</li> <li>○ Street sweeping</li> <li>○ Applying non-chloride dust suppressants</li> </ul> </li> <li>• Vibration from heavy equipment to be kept at a minimum, as possible.</li> </ul> |

## 10.0 CONCLUSION

This Environmental Study Report documents the process required to ensure that the Lundy's Lane (Regional Road 20) reconstruction from Highland Avenue to Montrose Road (Regional Road 98) meets the requirements of the *Environmental Assessment Act*. The Class EA planning process requires an initial screening for a project of this type, and it was determined that the project meets the criteria for a Schedule C Class Environmental Assessment. The initial screening did not identify any significant environmental concerns that cannot be addressed by incorporating established mitigative measures during construction.

The preferred design concept for the reconstruction of Lundy's Lane within the study area generally includes a 26.2m ROW with a 1.75m wide grass boulevard and 2.0m wide sidewalk. Key locations feature a centre median instead of a centre turn lane, with slight variations in boulevard width and location, including at signalized intersections and across the QEW and OPG Canal.

The above-described design will accomplish the following goals:

- Make Lundy's Lane a safer and more effective route;
- Improve the operational conditions of the ROW to provide safe and efficient movement of traffic and access management;
- Implement the recommendations of the Niagara Region Transportation Master Plan for complete streets to the maximum degree permissible;
- Improve active transportation infrastructure; and,
- Enhance the overall appearance of the ROW with streetscaping.

During the Class EA Study evaluation process, the project team gave initial consideration to a 3-metre-wide multi-use path (MUP) along the north side of Lundy's Lane. This option was not carried forward as a Phase 3 design alternative due to anticipated property requirements and more limited benefits associated with providing cycling infrastructure on only one-side of the corridor.

Upon further review, it has been determined that a north-side MUP may prove feasible for specific sections of the corridor where property constraints are less restrictive. Consequently, the project team will revisit this feasibility during the detailed design phase as the design advances and as property impacts are refined. Priority consideration will be given to establishing a MUP connection between the Millennium Trail and the future bike lanes planned for Dorchester Road as part of the City's Active Transportation Plan.

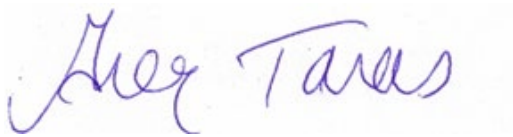
Should detailed design reveal that an MUP is feasible for significant sections of the corridor, the project team will determine if an Addendum to the Environmental Assessment (EA) is required. If necessary, this process would include public notification and a formal update to the study's findings.

Alternative Design Concept #3 remains the preferred preliminary design, with the understanding that active transportation refinements will be integrated as the design progresses.

A 30.5m wide ROW was determined to be able to fully address the needs identified in the Problem/Opportunity statement, which is considered as part of this Class EA Study as the "Ultimate Built Out" to address future needs. It is recommended that, as land within the study area are presented for development through new planning applications, that the Niagara Region request the land required be dedicated for a wider ROW.

## **Urban & Environmental Management Inc.**

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