Welcome to the Online Public Information Centre #3

Municipal Class Environmental Assessment Study for Merritt Road and Rice Road in Pelham, Thorold and Welland

December 1, 2021

(Live Presentation 6:00 PM)

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Niagara Region

Presentation Outline

- Introductions
- Study Overview
- Municipal Class EA process and Timeline
- Progress on Technical Investigations and Consultation
- Class EA Phase 1: Problem or Opportunity
- Class EA Phase 2: Preferred Solution
- Feedback from the Online Public Information Centres #1 and #2
- Alternative Design Concepts
- Evaluation Criteria
- Preliminary Preferred Design
- Drainage and Stormwater Management
- Preliminary Impacts and Mitigation Measures – Natural and Cultural Environments
- Next Steps and Questions

Housekeeping Items

- When joining the online meeting, we request you to please turn off your camera and mute the microphone.
- There will be an opportunity at the end of the presentation to ask any questions or submit comments. Please use the chat function to type in your questions/comments or click on "Raise hand".

- In case if you would like to submit your feedback later, the presentation materials and an online comment form are available on the project webpage.

Introductions

Niagara Region	Wood Environment and Infrastructure Solutions
Maged Elmadhoon, M.Eng., P.Eng. Manager, Transportation Planning	Jeff Suggett, M. Sc. Project Manager
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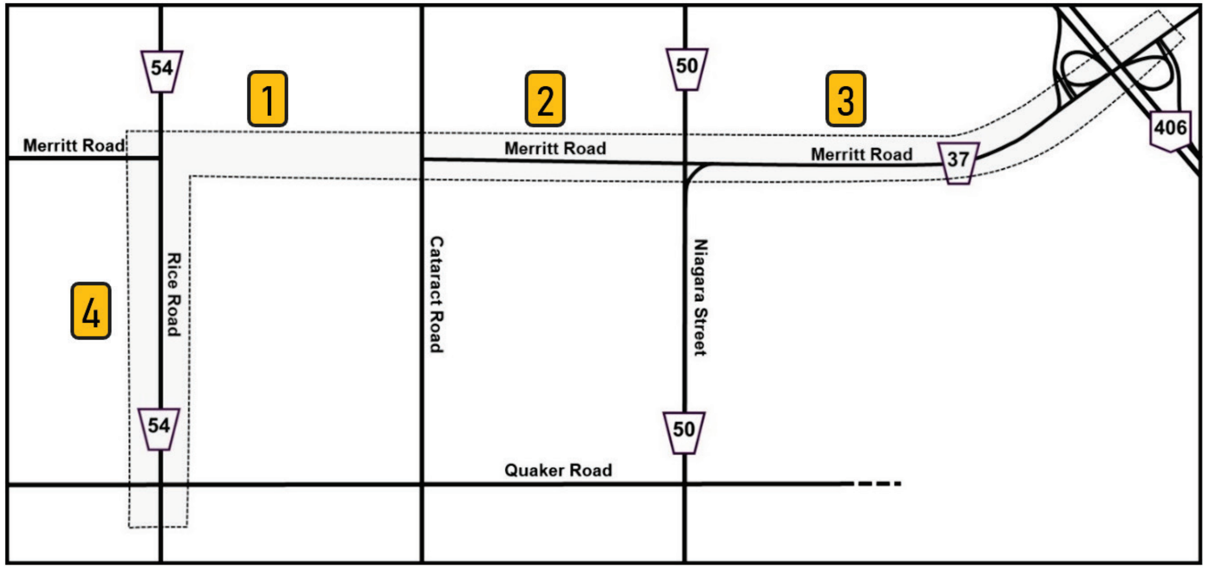
	Mir Ahsan Talpur, M.Env.Sc., EP Environmental Planner

Study Overview

The Niagara Region is conducting an environmental assessment study to identify improvements to Merritt Road and Rice Road as a result of proposed developments in the Town of Pelham, the City of Thorold and the City of Welland. Building upon the recommendations of the 2017 Niagara Region Transportation Master Plan, this study will propose improvements and active transportation facilities to the following segments of Merritt Road and Rice Road:

- **Segment 1 –** Merritt Road between Rice Road and Cataract Road
- **Segment 2** – Merritt Road between Cataract Road and Merrittville Highway / Niagara Street
- **Segment 3** – Merritt Road between Merrittville Highway / Niagara Street and Highway 406
- **Segment 4** – Rice Road between Merritt Road and Quaker Road



Municipal Class EA Process & Timeline

PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
▪ Notice of study commencement ▪ Problem or opportunity statement ▪ Public Information Centre #1	▪ Inventory natural, social and economic existing conditions ▪ Identify and evaluate alternative solutions ▪ Identify preferred solution ▪ Public Information Centre #2	▪ Inventory natural, social and economic existing conditions ▪ Identify and evaluate alternative design concepts for preferred solution ▪ Identify preferred design concept ▪ Public Information Centre #3	▪ Document Study process and findings in Environmental Study Report (ESR) ▪ Issue Notice of Study Completion ▪ Place ESR on public record for a minimum of 30-day review period	▪ Proceed to the detailed design and construction of the project ▪ Monitor environmental provisions and commitments
Winter 2021 (Complete)	Spring 2021 (Complete)	Fall 2021	Winter 2022	TBD

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Progress on Technical Investigations and Consultation

Technical Investigations Finalized:

- Stage 1 Archaeological Assessment

Technical Investigations to be finalized following confirmation of Preferred Design:

- Environmental Impact Assessment
- Cultural Heritage Assessment
- Stormwater Management Assessment
- Detailed Transportation Assessment
- Health Impact Assessment

Consultation:

- Publication of study notices in local newspapers, posting on Niagara Region's website and social media accounts and direct mail to area residents (~500 addresses)
- Email circulation of notices to the Indigenous Nations, Agencies and Stakeholders
- Meetings with local area municipalities, Ministry of Transportation and utility companies
- Meetings with government agencies
- Engagement with the Indigenous Nations (reports shared for review, invitations extended to participate in the fieldwork)
- Two Public Information Centres completed to date
- Meetings with impacted property owners

Class EA Phase 1: Problem or Opportunity

This study is building on the recommendations of the Niagara Region's Transportation Master Plan (TMP) (2017), which included the following:

- Extension of Merritt Road between Regional Road 54 (Rice Road) and Cataract Road;
- Capacity improvements of Merritt Road from Cataract Road to Highway 406; and,
- Capacity improvements to Regional Road 54 (Rice Road) from 200 meters north of Merritt Road to Quaker Road.

The traffic assessment completed as part of this Class EA Study confirmed the findings of the TMP regarding the need for improvements to address anticipated congestion in the future (2031 and 2041 horizon years).

Class EA Phase 2: Preferred Solution

Following five alternatives were presented at the PIC #2:

- Alternative 1: Do Nothing
- Alternative 2: Manage Transportation Demand
- Alternative 3: Limit Growth and Development
- Alternative 4: Improve Other North-south and East-west Roads

Alternative 5 – Improve Merritt Road and Rice Road was identified as the **Preferred Solution**. This includes:

- Extension of Merritt Road between Rice Road and Cataract Road;
- Improvements to Merritt Road between Cataract Road and Highway 406;
- Improvements to Rice Road between 200m north of Merritt Road and Quaker Road;
- Localized intersection improvements, such as addition of dedicated turn lanes, and traffic signals/roundabouts and/or improvement of the timing of the existing traffic signal at Merritt Road and Niagara Street intersection to improve traffic operations; and
- Providing active transportation facilities on both Merritt Road and Rice Road.

The proposed improvements to these two roads will help address transportation capacity and active transportation connectivity issues. These improvements will also implement a **Complete Streets approach** which will improve safety for drivers; cyclists; and pedestrians of all ages and abilities, while providing opportunities for walking and cycling.

Feedback from the Online Public Information Centres #1 and #2

The Public Information Centre #1 was held from March 24 to April 7, 2021, and the Public Information Centre #2 was held from June 9 to June 30, 2021. The **Preferred Solution (Improve Merritt Road and Rice Road)** was presented at the Public Information Centre #2. Materials related to these events, including the summary reports are available on the project webpage. Comments received from the public are summarized below:

- Protect Natural Environment
- Provide Stormwater Management
- Provide Safety for Road Users
- Provide Active Transportation Facilities
- Provide Intersection Improvements
- Do Not Build Merritt Road Between Rice Road & Cataract Road

Alternative Design Concepts

Alternative Design Concepts are the alternative ways a preferred solution can be designed and implemented.

For this project, alternative design concepts were identified considering various constraints and opportunities, including the following:

- Natural Environment
- Utilities
- Private Properties
- Future Road Cross-section and Active Transportation Requirements
- Stormwater Management

Alternative design concepts were identified for the following:

- Road Alignments
- Road Cross-Sections
- Road Intersections

Evaluation Criteria

The following criteria were used to evaluate various alternatives:

Evaluation Criteria for Alignments

Transportation

- Safety/Road Geometry

Socio-economic Environment

- Impacts on Private Properties

Natural Environment

- Impacts on Terrestrial Environment
- Impacts on Aquatic Environment

Cultural Environment

- Impacts on Archaeological and Built Heritage Resources

Engineering / Constructability

- Utilities
- Drainage

Evaluation Criteria for Cross-Sections

Transportation

- Active Transportation
- Road Safety

Engineering / Constructability

- Flexibility in Design
- Operation and Maintenance
- Stormwater Management

Cost

- Cost to Construct, Operate and Maintain

Evaluation Criteria for Intersections

Transportation

- Road Safety, Operations and Road Corridor Consistency

Socio-economic Environment

- Impacts on Private Properties
- Public Realm

Natural Environment

- Impacts on Terrestrial and Aquatic Environment

Cultural Environment

- Impacts on Archaeological and Built Heritage Resources

Engineering / Constructability

- Feasibility

Cost

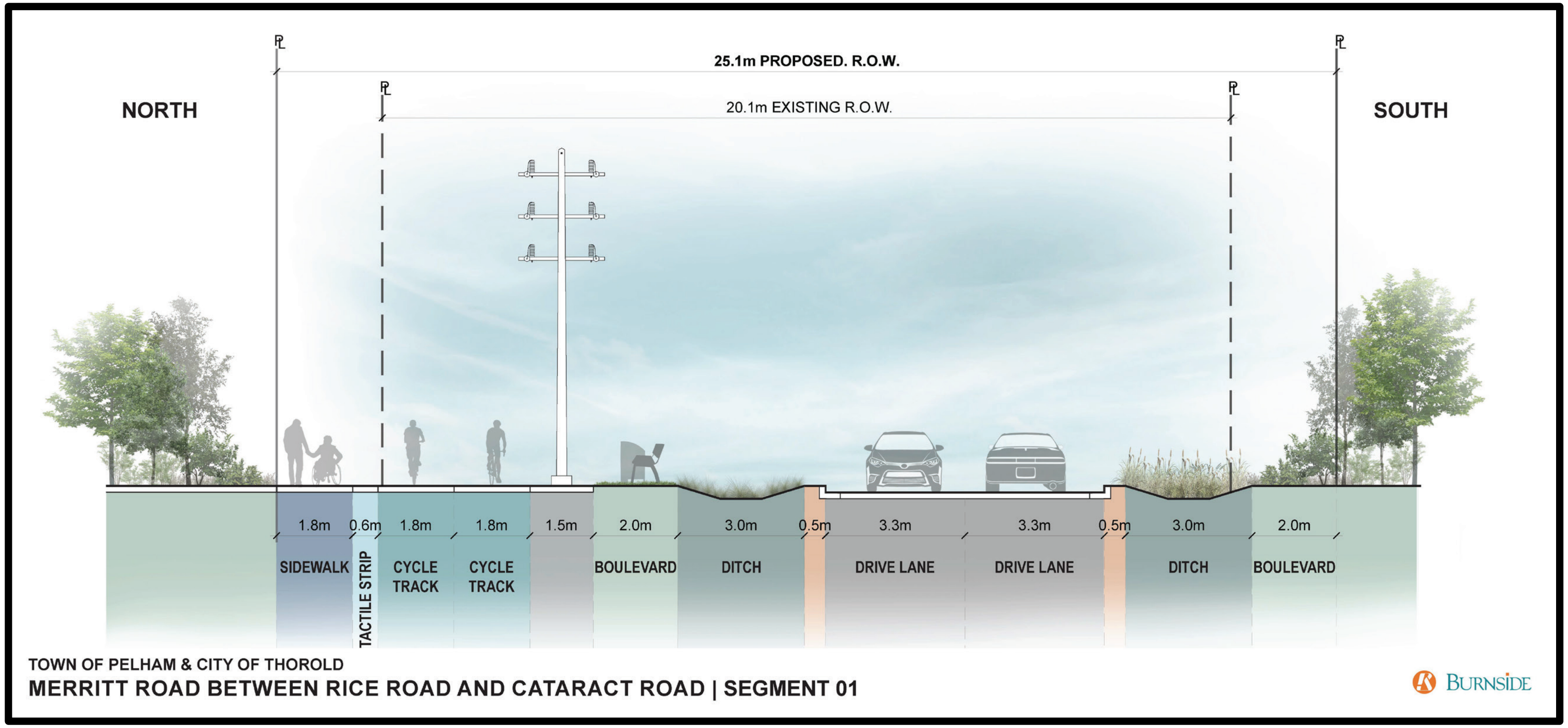
- Cost to Construct, Operate and Maintain

Segment 1: Merritt Rd (Rice Rd to Cataract Rd)

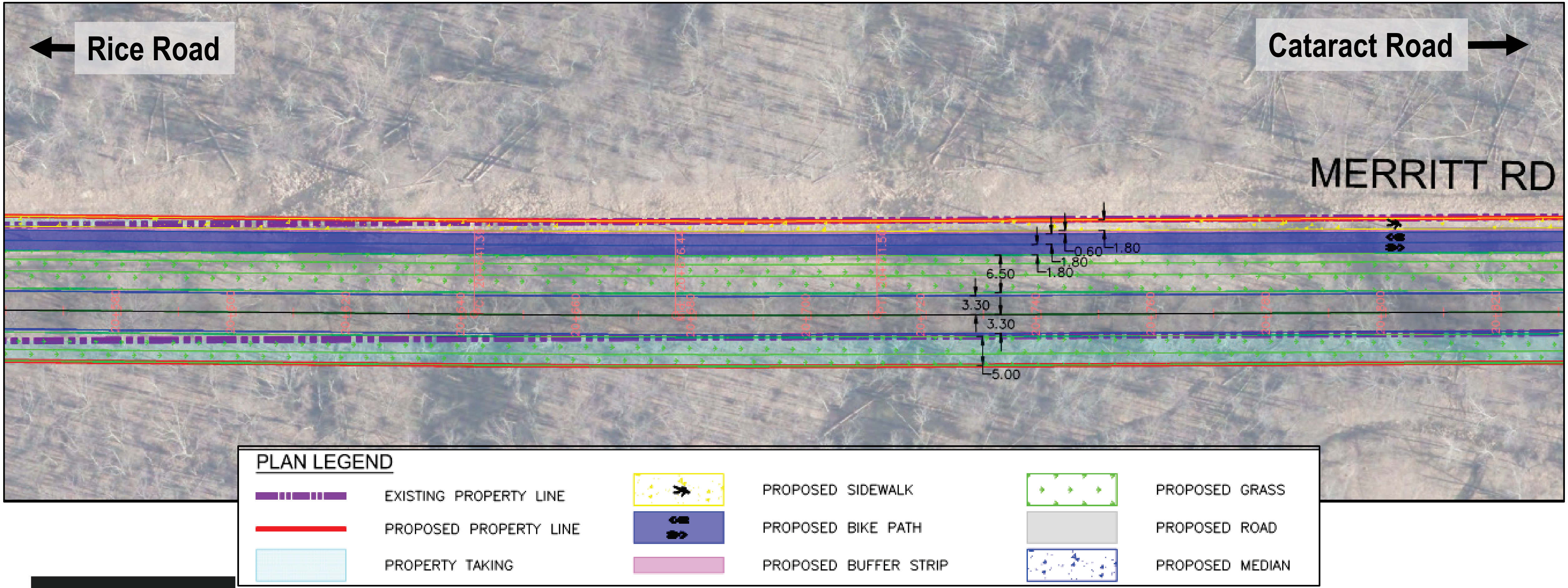
Road Alignment: New 25.1 m wide road right of way along the centreline, with slight horizontal curves near the intersections

Road Cross-section (based on Rural Scenic typology):
Hybrid (Rural-Urban) Cross-section with following:

- Two 3.3 m drive lanes with curbs
- A 3.6 m separated two-way cycle track on the north side
- 1.8 m sidewalk on the north side
- Ditches on both sides



Segment 1: Road Alignment (Excerpt from the Roll Plan)



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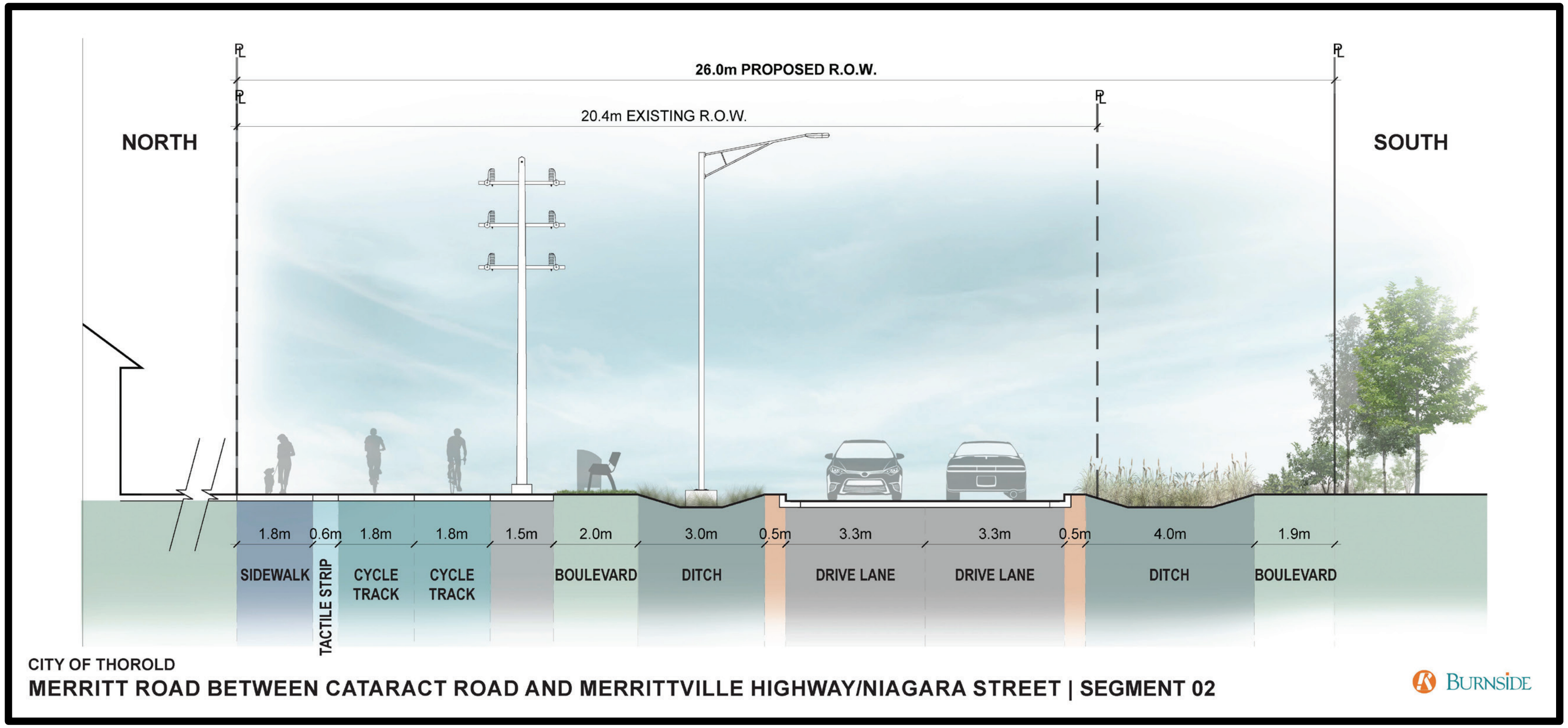
Segment 2: Merritt Rd (Cataract Rd to Merrittville Hwy/Niagara St)

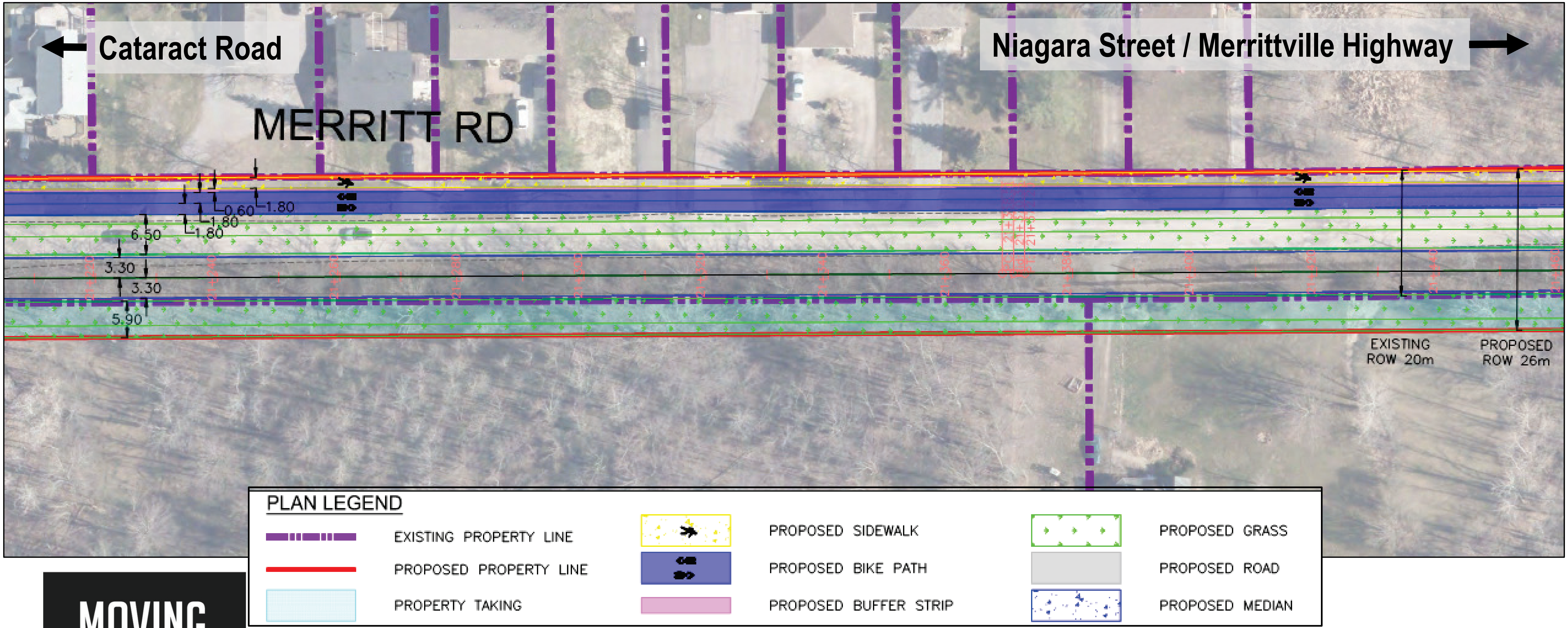
Road Alignment: Road right of way widening to the south side (from 20.4 m to 26.0 m)

Road Cross-section (based on Urban General Narrow typology): Hybrid (Rural-Urban) Cross-section with following:

- Two 3.3 m drive lanes with curbs
- A 3.6 m separated two-way cycle track on the north side
- 1.8 m sidewalk on the north side
- Ditches on both sides



Segment 2: Road Alignment (Excerpt from the Roll Plan)

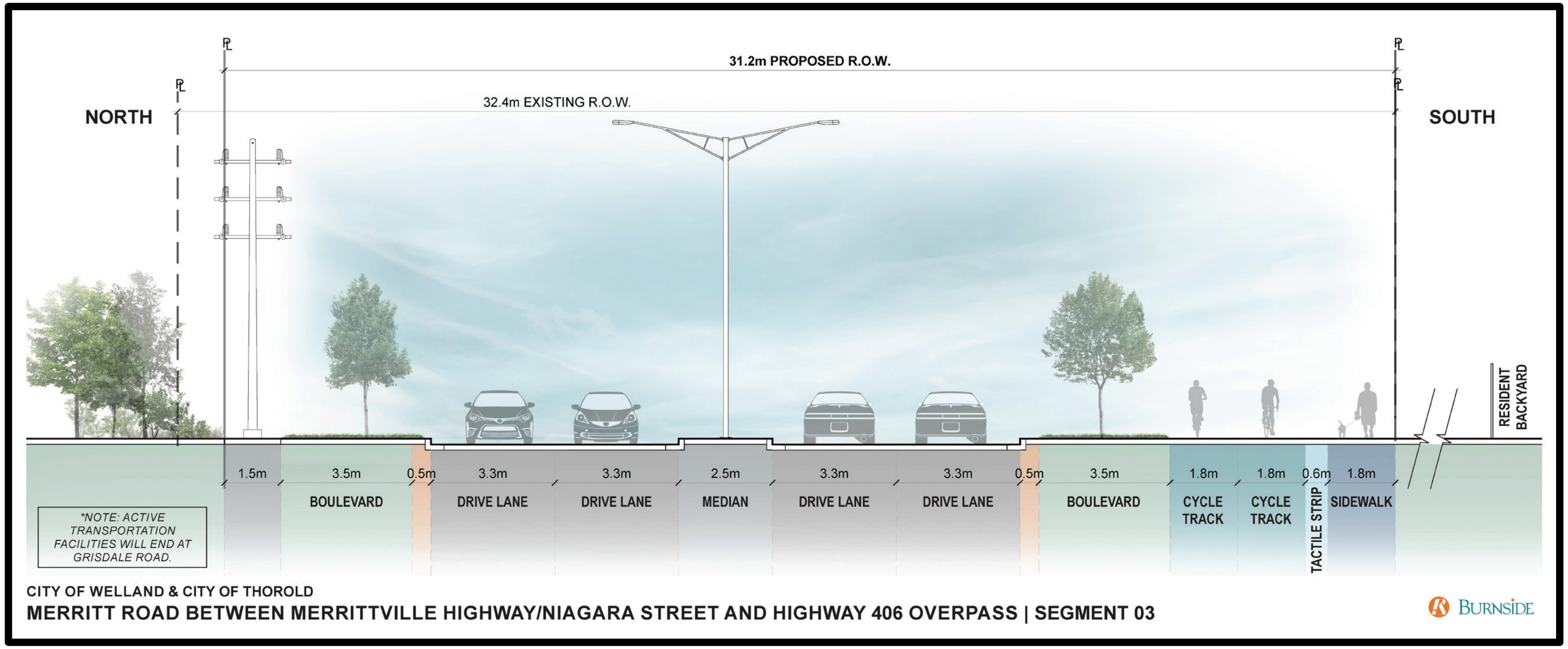


Segment 3: Merritt Rd (Merrittville Hwy/Niagara St to Hwy 406)

Road Alignment: Alignment shift to the north side (no additional right of way widening)

Road Cross-section (based on Urban General Wide typology):
Urban Cross-section with following:

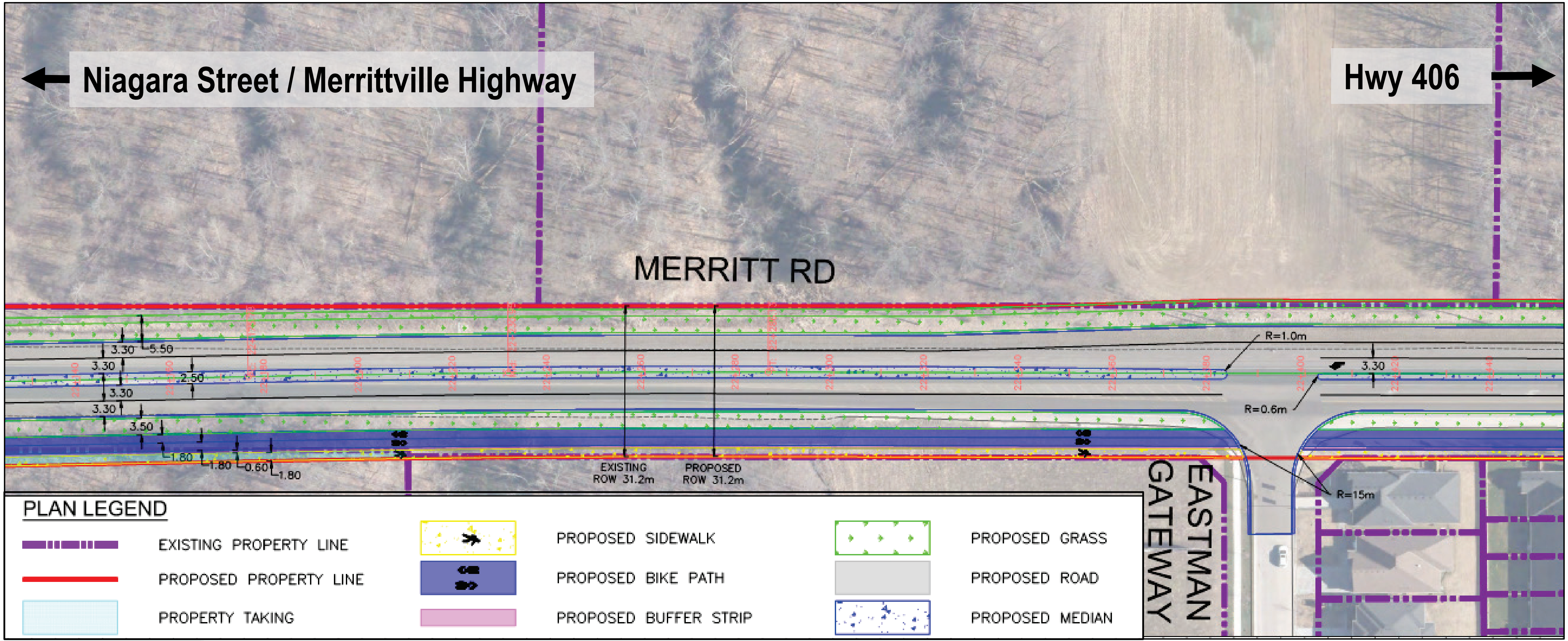
- Four 3.3 m drive lanes separated by a 2.5 m median
- 1.8 m sidewalk on the south side
- A 3.6 m separated two-way cycle track on the south side



CITY OF WELLAND & CITY OF THOROLD
MERRITT ROAD BETWEEN MERRITTVILLE HIGHWAY/NIAGARA STREET AND HIGHWAY 406 OVERPASS | SEGMENT 03

Road Intersections:
Removal of right turn channel and maintaining the existing signalized intersection at Merritt Rd and Merrittville Hwy/Niagara St
Conversion of Merritt Road / Grisdale Road to a right-in right-out only intersection

Segment 3: Road Alignment (Excerpt from the Roll Plan)



Segment 4: Rice Road (200 m north of Merritt Road to Quaker Road)

Road Alignment: Road widening to the east side for the north portion, and road widening to the west side for the south portion.

Road Cross-section (based on Urban General Wide typology):

Urban Cross-section with following:

- Four 3.3 m drive lanes with a 2.5 m median or 3.3 m two-way left turn lane in centre
- 1.8 m sidewalks on both sides
- A 3.0 m separated two-way cycle track on the west side
- Ditches on both sides

Road Intersections: Access to Rosedale Crescent maintained.

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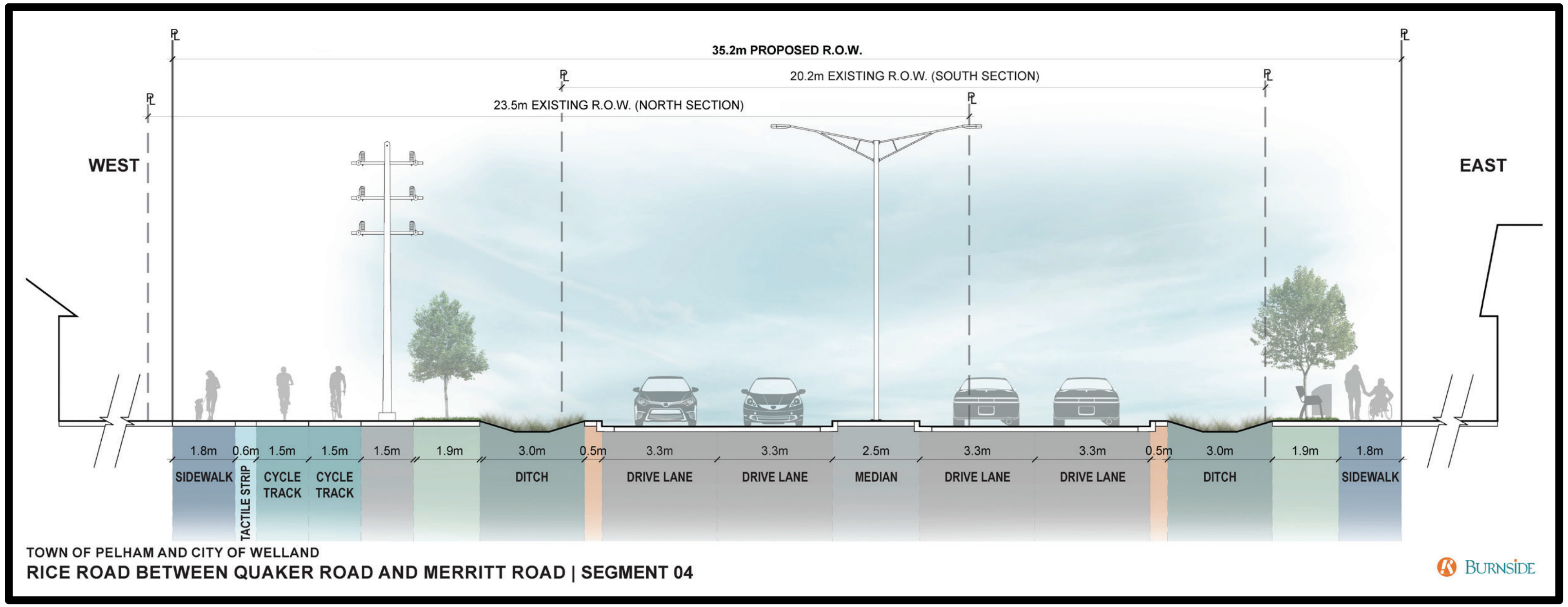
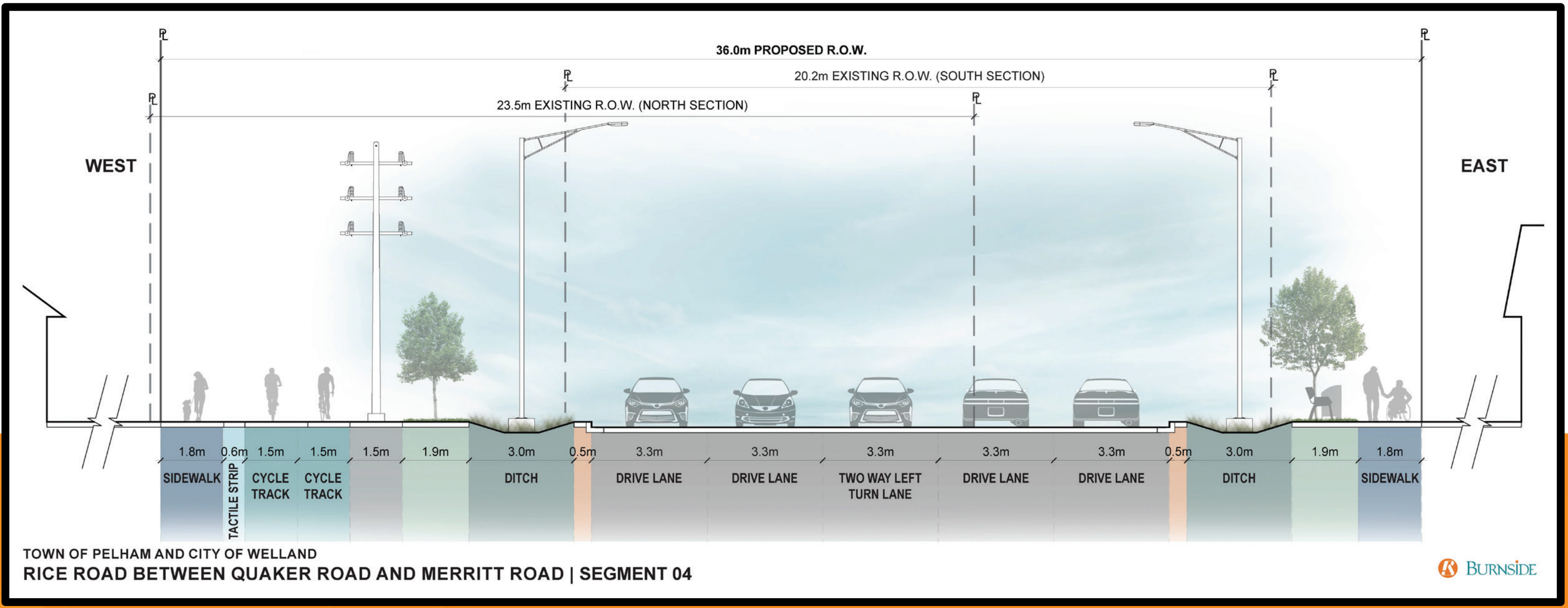
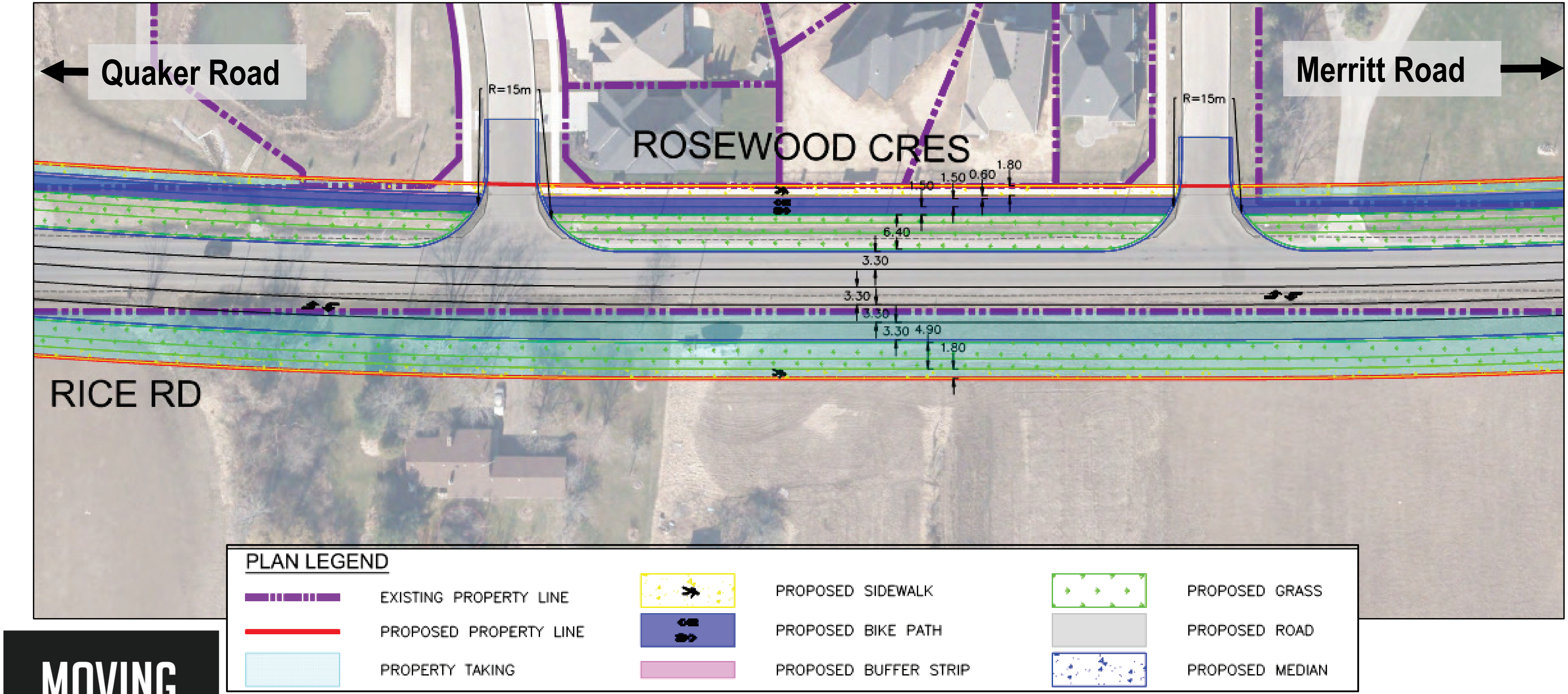




Segment 4: Road Alignment (Excerpt from the Roll Plan)



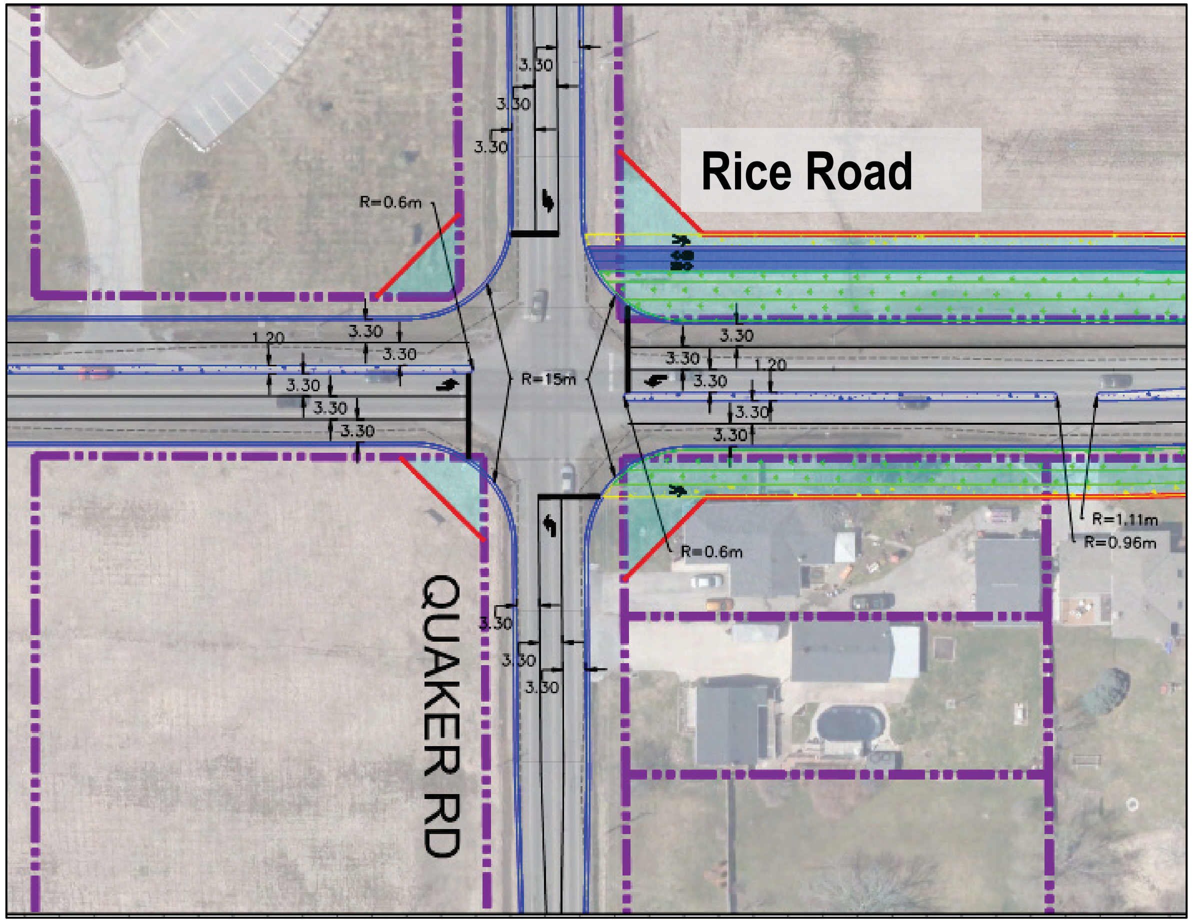
Intersection Improvements

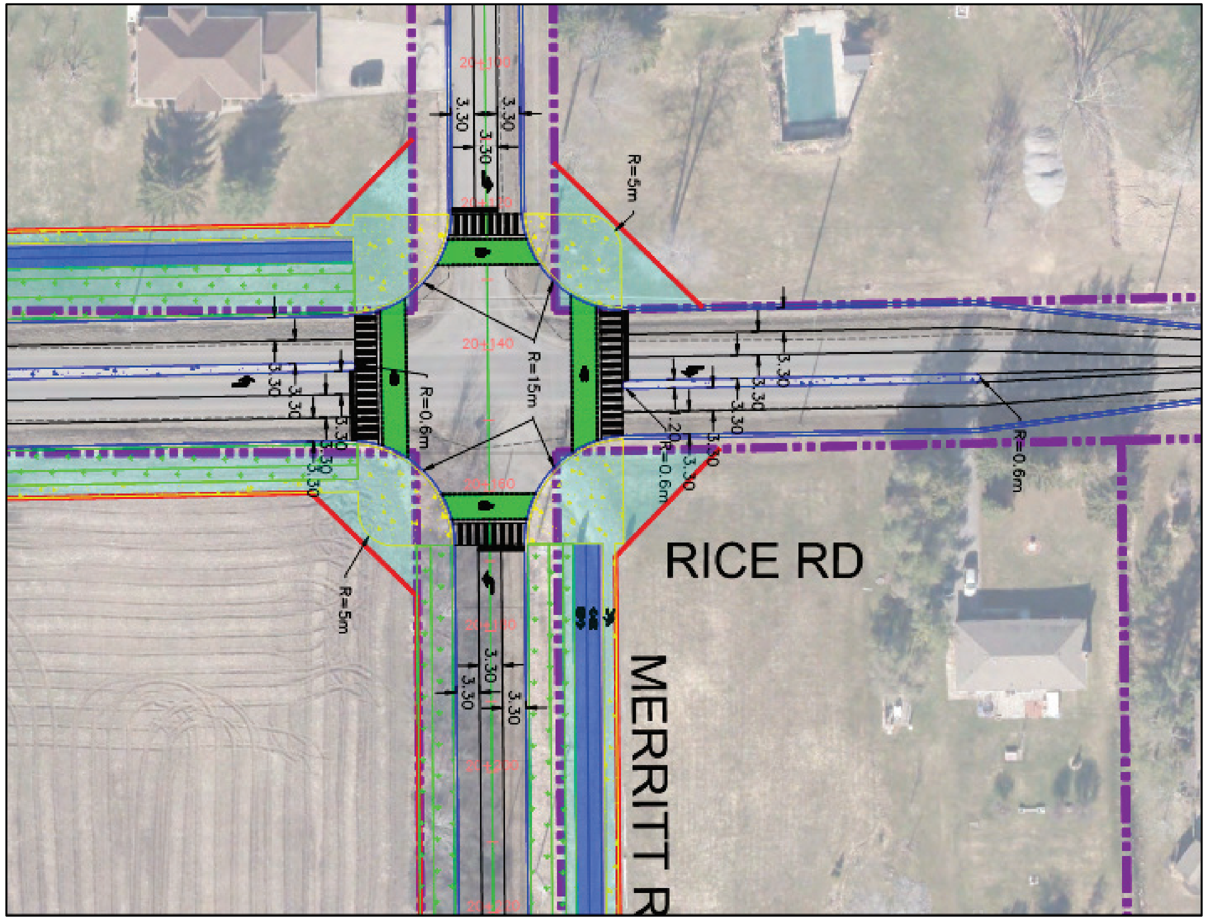
For intersection improvements, the following two alternatives were evaluated:

- **Traffic Signals**
- **Roundabouts**

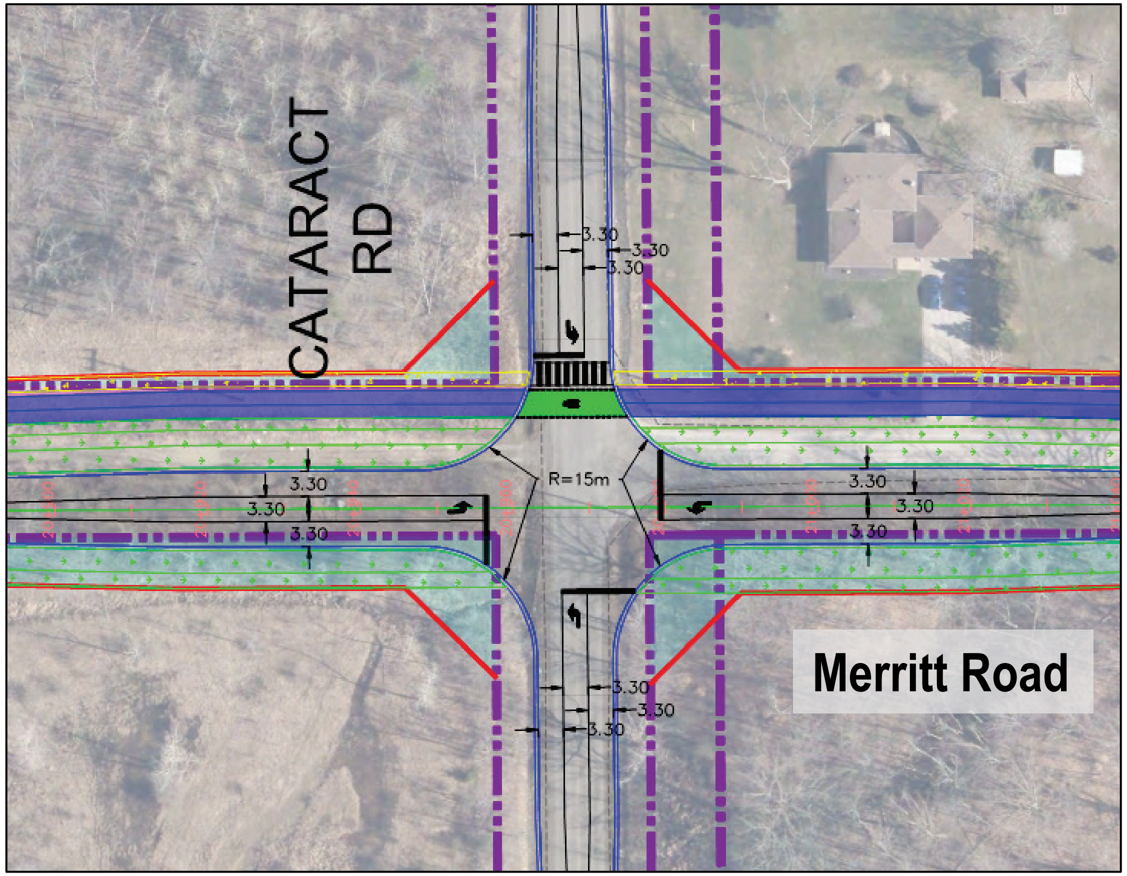
The evaluation identified the traffic signals to be the preferred road intersection improvements for the road intersections within the Study Area. The traffic signals were selected as the preferred intersection improvements due to less private property impacts and capital cost, and less impacts to natural and cultural environment, compared to roundabouts.

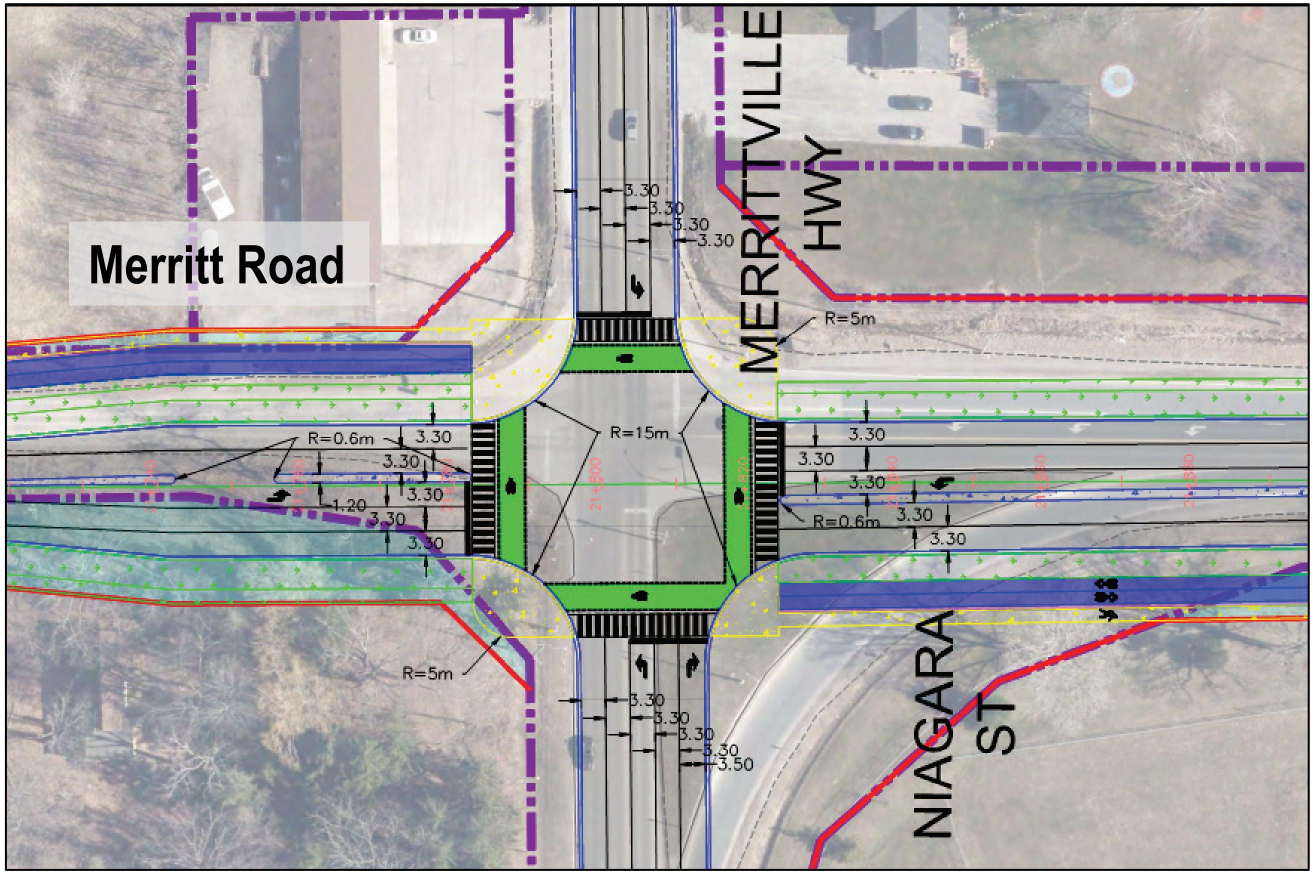
Intersection Improvements – Rice Road





Intersection Improvements – Merritt Road



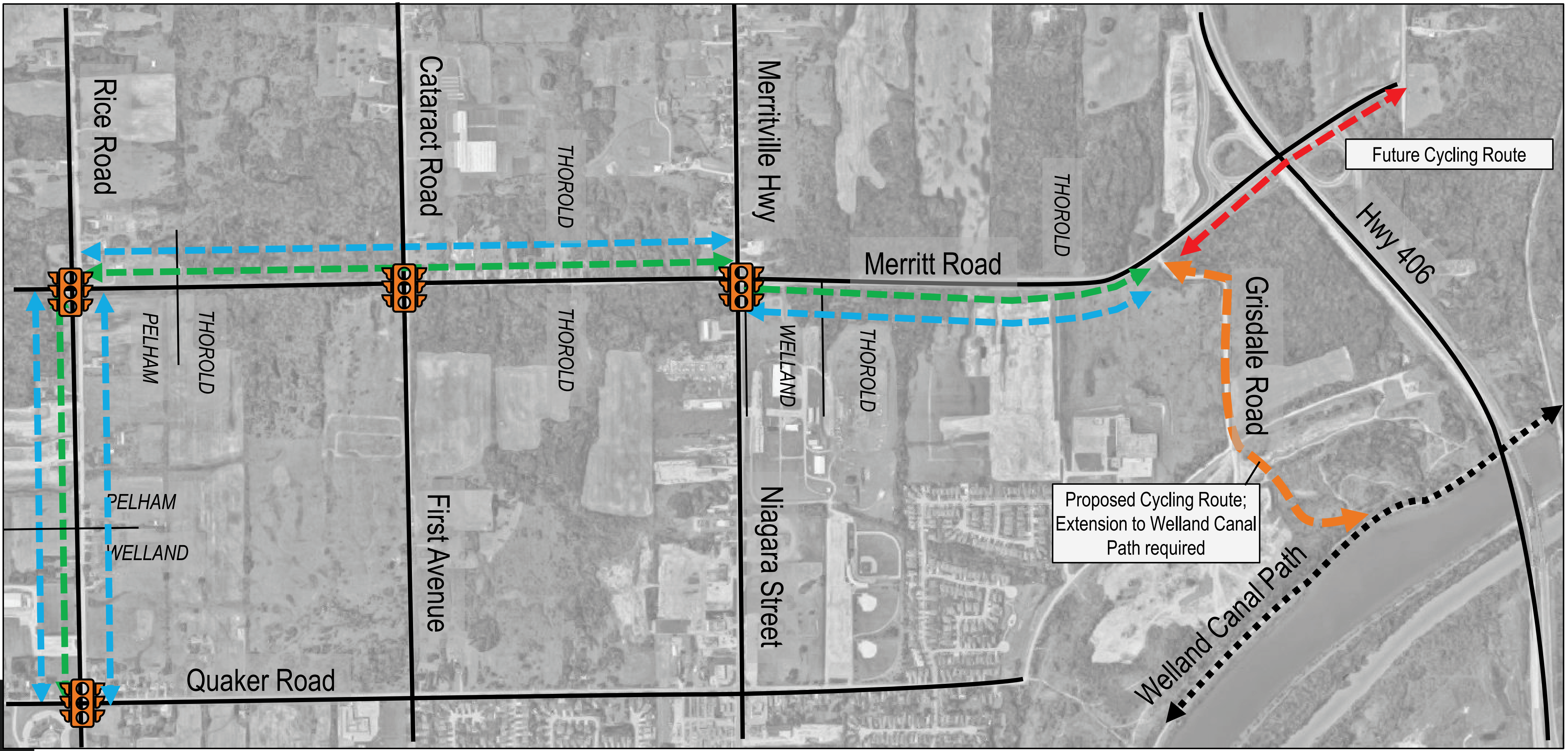


Proposed Improvements - Snapshot

Capacity Improvements
Segment 1: New Road (25.1 m)
Segment 2: Road widening to the south side (from 20.4 m to 26.0 m)
Segment 3: Alignment shift to the north side (no widening)
Segment 4: Road widening to the east side for the north portion, and road widening to the west side for the south portion.

Operational Improvements
Traffic signals at four intersections

Active Transportation
Sidewalk
⟷
Two-way Cycle Track
⟷
Future Cycling Route
⟷
Proposed Cycling Route
⟷



Future Cycling Route

Proposed Cycling Route; Extension to Welland Canal Path required

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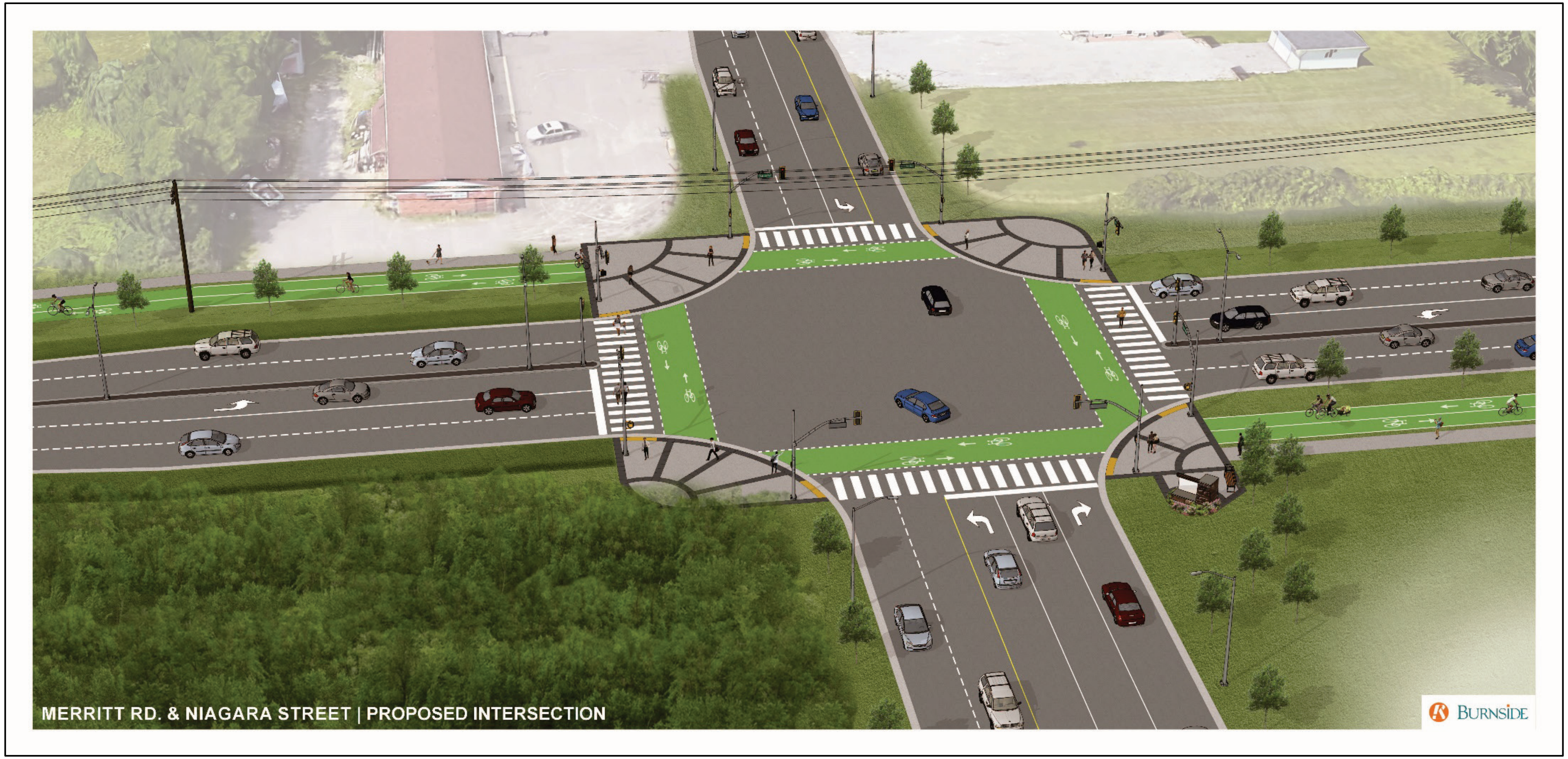
Benefits of Two-Way Cycle Tracks

- Dedicate and protect space for bicyclists by improving perceived comfort and safety
- Eliminate risk and fear of collisions with overtaking vehicles
- Physically separated from roadway
- Safer than on-road cycle lanes
- More attractive to cyclists of all abilities
- Can be separated from adjacent sidewalk

Images Courtesy: National Association of City Transportation Officials and World Resources Institute

Urban Design Elements



- Gateway/public art feature in southeast corner of Merritt Road/Merrittville Highway and Niagara Street
- Stamped concrete adjacent to crosswalks (all intersections)
- Benches/bike racks along road segments

Drainage & Stormwater Management

Existing Conditions:

Existing drainage systems consist of:

- Roadside ditches – all segments (1-4)
- Culverts – roadway drainage and watercourses
- Local storm sewers & catch basins – Segment 3 (East of Eastman Gateway)

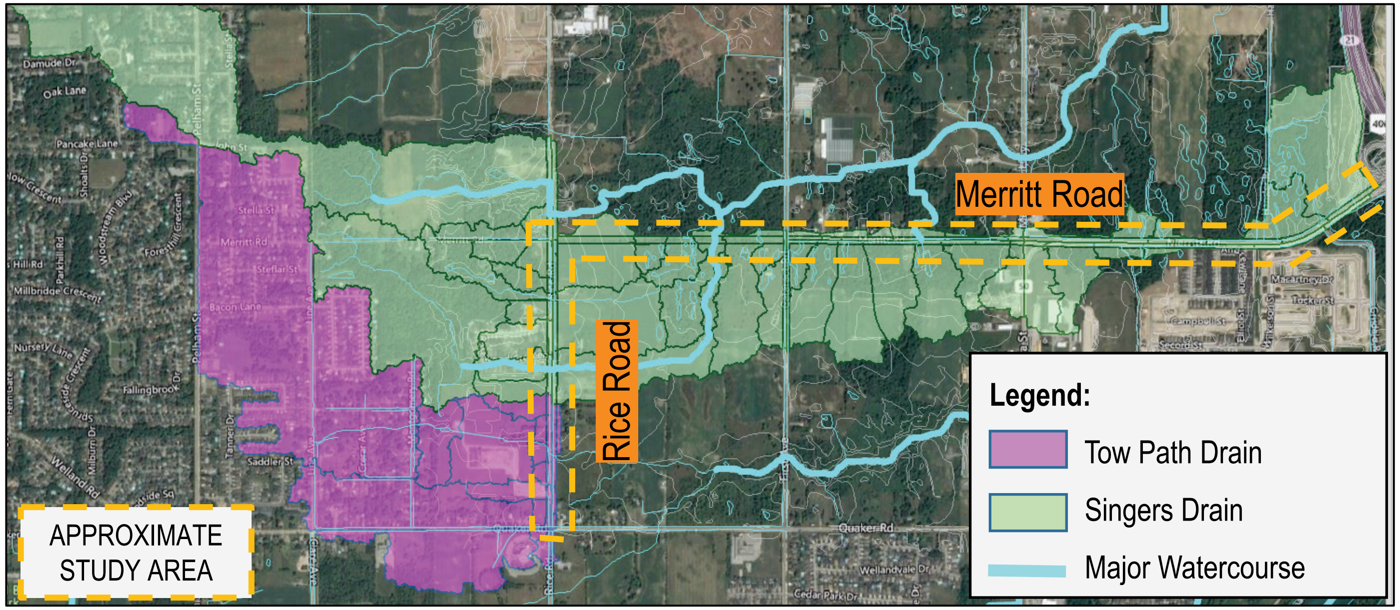
Roadway drainage contributes to two (2) subwatershed systems – Singers Drain Tributary & Tow Path Drain

- Outlets for study area roadway drainage include watercourse crossings and intersecting roadways (ditch drainage)

Observed drainage issues include standing water in ditches and localized flooding

Proposed Roadway Drainage Systems:

- Roadside Ditches for Segment 1, 2 and 4 (Rurally Serviced)
- Storm Sewer System for Segment 3 (Urban)



Drainage & Stormwater Management – Continued

Stormwater Management Design Criteria:

- No increase in flow rates.
- Control flows to prevent erosion.
- Provide water quality treatment and filtration.

Proposed Stormwater Management Strategies:

Rurally Serviced Sections (Roadside Ditches):

- Provide stormwater management within the ditches, by temporary storage of road runoff.
- Incorporation of Low Impact Development Best Management Practices (LID BMPs) (e.g., vegetative swales) for water quality treatment and filtration.

Urban Sections (Local Storm Sewers):

- Flow control provided within storage pipes and/or tanks.
- Water quality control provided by Oil Grit Separators & LID BMPs (e.g., tree pits, bio-retention cells, infiltration systems, etc.).

Example of Curb Cut Inlet to a Roadside Ditch LID BMP
(Source: Sustainable Technologies Evaluation Program)

Example of Vegetative Swale with Rock Check Dams
(Source: Sustainable Technologies Evaluation Program)

Terrestrial Resources – Existing Conditions

Existing Conditions:
The Study Area includes components of **Core Natural Heritage System** as described in the Niagara Region Official Plan and local municipal Official Plans. The **Core Natural Heritage System** is comprised of **Provincially Significant Wetlands**, **Woodlands**, **Significant Habitat of Threatened and Endangered Species**, and **Significant Wildlife Habitat**.

Species At Risk plants identified via field surveys include **White Wood Aster** and **Roundleaf Greenbrier** (both species are Threatened). **Species of Conservation Concern Birds** identified via field surveys include **Barn Swallow** (Threatened), **Eastern Wood-pewee** (Special Concern), and **Wood Thrush** (Special Concern).

Terrestrial Resources – Preliminary Impacts and Mitigation Measures

Preliminary Potential Impacts*:

- Removal of a portion of **Core Natural Heritage System**
- Tree removals, tree canopy reduction
- Potential fragmentation of **Provincially Significant Wetland**
- Increase in barriers to wildlife movement and increases in wildlife mortality from cars

Preliminary Mitigation Measures*:

- Wetland compensation will be required.
- Ecosystem restoration efforts will be confirmed through consultation with the regulatory agencies (Ministry of the Environment, Conservation, and Parks and Niagara Peninsula Conservation Authority)
- Vegetation removals will be completed outside of the Breeding Bird Window (April 1 – August 31)
- Tree removals will be completed outside of the Bat Maternity Roosting window (March 31 – Sept 30)
- Vegetation removal will be limited to the construction limits
- Erosion and Sediment Control Plan be prepared and implemented to prevent the release of sediment to the watercourses

*** Detailed impacts and mitigation measures will be included in the Environmental Impact Study.**

Aquatic Resources - Preliminary Impacts and Mitigation Measures

Existing Conditions:

A total of four watercourses were identified and assessed within the Study Area. Of these watercourses, only one watercourse provides for fish habitat, one provides potential seasonal fish habitat (both along Segment 1). The other two features, one in Segment 2 and one in Segment 3 do not provide fish habitat.

Preliminary Potential Impacts:

- Introduction of sediments, concrete and other deleterious substances;
- Death of fish;
- Harmful alteration of fish habitat;
- Disruption of critical fish life stages; and
- Erosion and sedimentation due to the operation of machinery and in-water works.

Watercourse with fish habitat within the study area.

Preliminary Mitigation Measures*:

- In-water work and work on watercourse banks will be not allowed between March 1 and July 1 of any given year)
- A sediment and erosion control plan will be designed and implemented to contain/isolate exposed soils, stockpiled materials and unstable areas in the work zone
- An in-water work area isolation plan will be designed and implemented to maintain clean flow around the work area.

*** Detailed impacts and mitigation measures will be included in the Environmental Impact Study.**

Cultural Environment - Preliminary Impacts and Mitigation Measures

Archaeological Resources:
The Stage 1 Archaeological Assessment identified that the study area has general archaeological potential and requires Stage 2 archaeological assessment.

A Stage 2 Archaeological Assessment will be completed during detailed design phase of the project. The Niagara Region will engage the local Indigenous Nations in the monitoring of the Stage 2 archaeological assessment at that time.

Cultural Resources:
The Cultural Heritage Assessment completed as part of this Class EA Study indicated that there are eight (8) cultural heritage resources (CHR), within, or adjacent to the Study Area.

Locations of cultural heritage resources will be indicated on design drawings to minimize impacts. Further cultural heritage studies such as Cultural Heritage Evaluation Reports (CHERs) and/or Heritage Impact Assessments (HIAs) may be recommended if direct impacts are identified.

Example of identified Cultural Heritage Landscape within / adjacent to the Study Area

Next Steps

Following this Public Information Centre, the Study Team will complete the following:

- Develop a PIC Summary to document results of this PIC. The Summary Report will be posted on the project webpage.
- Finalize technical studies.
- Prepare Environmental Study Report and issue for review by the public, Indigenous Nations, government agencies, local area municipalities, and key stakeholders. The report will be made available for a minimum of 30-day review period.
- If no Part II Order Requests are received during the formal review period, the project can proceed to detailed design.

Questions?

Your feedback will be important to us. Your comments will be reviewed by the Study Team and considered in the finalization of Preferred Design. To submit questions/comments/suggestions, please use the online comment form available on the project webpage or contact one of the following Study Team Members:

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