



MORRISON HERSHFIELD

Highway 138 Roundabout at Headline Road

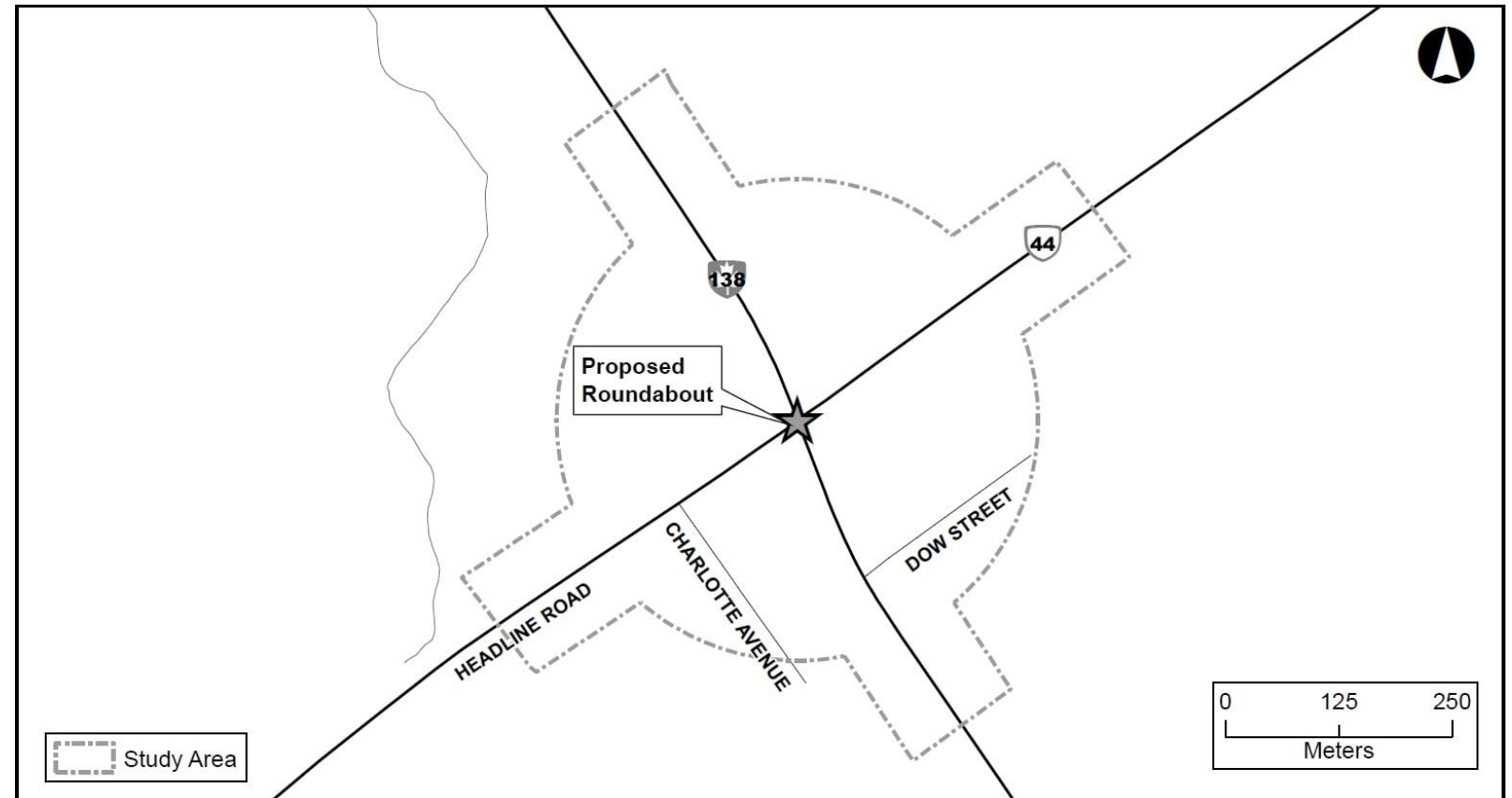
Detail Design and Environmental Assessment Study

G.W.P. 4004-21-00 | W.P. 4034-21-01

September 12, 2023

Welcome to the Online Public Information Centre

Highway 138
Intersection
Improvements at
Headline Road
Detail Design and
Class Environmental
Assessment Study
G.W.P. 4004-21-00



September 12, 2023



Purpose of this Online Public Information Centre

The purpose of this Online Public Information Centre (PIC) is to introduce the Class Environmental Assessment (Class EA) Study and is to present and receive input on the Recommended Plan for the Highway 138 / Headline Road intersection improvements (i.e., roundabout). As part of this Online PIC, you will have a chance to review:

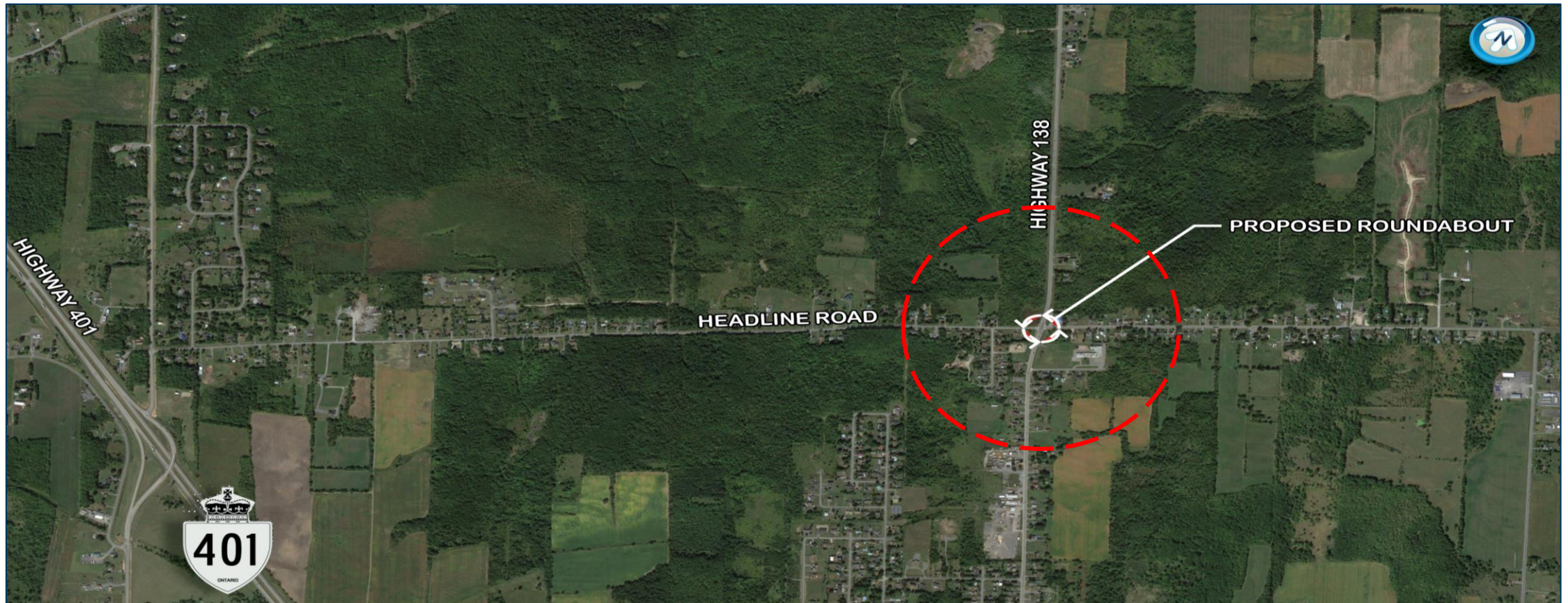
- An overview of the Project background and current Detail Design Study
- The steps in the Ontario Ministry of Transportation (MTO) Class EA process
- Existing natural, social, economic, cultural and technical conditions within the Study Area
- A description of the Recommended Plan, including proposed construction staging
- Anticipated (or predicted) project impacts and the prescribed mitigation measures to eliminate or reduce these impacts
- Next steps

Members of the Project Team are available to discuss any questions that you may have regarding this project, please email bhewton@morrisonhershfield.com (Consultant Project Manager).

If you require any assistance regarding the accessibility of these materials, please let us know by emailing the address above. We would be happy to assist you.

Highway 138 / Headline Rd Intersection Study Area

The Project is located in the Township of South Stormont, within the United Counties of Stormont, Dundas and Glengarry. We acknowledge that the Highway 138 at Headline Road Intersection Project Study Area is located on / in the traditional territory of the Haudenosaunee, Mohawk, and Huron-Wendat, which is covered by the Upper Canada Treaties.



Project Background

Highway 138 Improvements from Highway 401 to Highway 417 (2017)

In 2017, the MTO completed the Preliminary Design and EA Study for operational and safety improvements for approximately 35 km of Highway 138 between Highway 401 and Highway 417 in the City of Cornwall, and the Townships of North Stormont and South Stormont (GWP 4015-08-00). The Study examined intersection improvements, turning lanes, passing lanes, drainage improvements, carpool parking, corridor access and entrance improvements, and snowdrift mitigation.

The Preliminary Design and EA Study was carried out in accordance with the approved environmental planning process for Group B Projects under the MTO *Class Environmental Assessment for Provincial Transportation Facilities (2000)* and was documented in a Transportation Environmental Study Report (TESR, dated June 2017). The TESR received environmental clearance in June 2017.

A subsequent Preliminary Design Report (PDR, dated July 2019) was prepared to further document the Study process for this Project, including existing conditions, deficiencies, alternatives considered and the details of the Recommended Plan. Based on the 2019 PDR, a **Roundabout is recommended at the Highway 138 / Headline Road intersection.**



Highway 138 Improvements from Highway 401 to Highway 417
GWP 4015-08-00
June 2017

Eastern Region
Planning & Design Section
Ministry of Transportation Ontario

Transportation Environmental Study Report



HIGHWAY 138 IMPROVEMENTS
FROM HIGHWAY 401 TO HIGHWAY 417

GWP 4015-08-00
July 2019

Eastern Region
Planning & Design Section
Ministry of Transportation Ontario

Preliminary Design Report

Evaluation of Alternatives during Preliminary Design

Based on current traffic volumes and the existing operations, traffic control (i.e., traffic signals or a roundabout) is warranted at the Highway 138 / Headline Road intersection. Traffic control at this location will improve traffic operations and has the potential to minimize collisions.

Based on the evaluation of alternatives, a roundabout was selected as the recommended alternative as it:

- Has the potential to decrease the number and severity of collisions
- Provides traffic calming with reduced speeds
- Provides improved traffic operations, including shorter delay in travel time and vehicle queue lengths for the overall intersection
- Has the potential to act as a gateway feature in a key transition area

Although there is a perception that roundabouts can be difficult for trucks to navigate, the roundabout will be designed to accommodate all vehicles.

Project Overview

The MTO retained Morrison Hershfield Limited (MH) to complete the Detail Design for the recommended roundabout at Highway 138 and Headline Road in the Township of South Stormont.

Challenge: Highway 138 is experiencing increased traffic volumes, which causes safety concerns for drivers attempting to proceed through or turn onto Highway 138 from Headline Road.

Opportunity: The proposed roundabout is planned to calm traffic to reduced speeds and decrease the potential and severity of collisions while maintaining predominantly free flow operating conditions for all vehicles, including trucks and farm equipment. A roundabout will allow for improved traffic operations, including shorter travel times and reduced vehicle queue lengths.



Project Description

The scope of work includes conversion of the existing two-way stop control intersection of Highway 138 and Headline Road with a modern single-lane roundabout. The project will enhance operations and safety, and has been designed to include the following main components:

- Construction of a single-lane roundabout and approaches designed with a radius that will accommodate large vehicles
- Modifications to the intersection and roadway alignment (shift to the east) to improve sightlines to the intersection
- Installation of new concrete islands with curb and gutter on roundabout approaches and modification of entrance connections
- Drainage improvements including general grading and clean out of ditches, culvert flushing and cleanout, removal of vegetation, and culvert replacements and storm sewer replacement
- New illumination (lighting) at the roundabout and approaches
- Landscaping along the approaches and within the central island
- Utility relocations to facilitate the new roundabout footprint

What is a Roundabout?

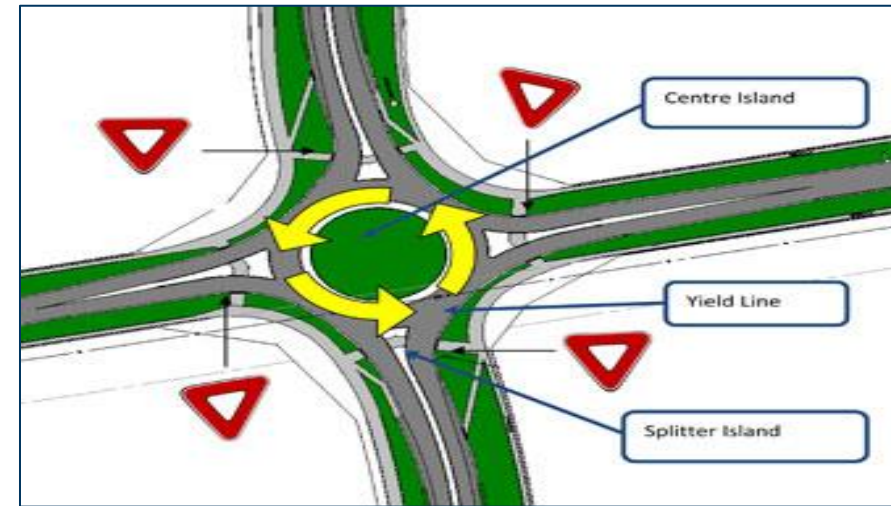
Per the Transportation Association of Canada (TAC) Canadian Roundabout Design Guide (2017):

“a modern roundabout is a type of circular intersection in which vehicles travel counter-clockwise (in Canada) around a central island. Vehicles entering the roundabout must yield to circulating traffic. Roundabouts have specific geometric design and traffic control features to enhance safety and capacity of the intersection”.

Roundabouts are typically designed with a tighter curve around the island to encourage lower speeds and may have a sloped curb to allow more room for larger commercial vehicles. The following are some of the benefits of roundabouts over traditional intersections:

- Improved road safety due to lower vehicle speeds and the elimination of angle (side impact collision) crashes
- Speed management
- Increased capacity
- Fewer stops and reduced delays
- Less idling and air pollution
- Reduced construction and ongoing maintenance costs

There are several existing roundabouts within the United Counties of Stormont, Dundas and Glengarry.



The Class Environmental Assessment Process

The MTO initiated this Detail Design and Class EA Study in October 2021. The Notice of Study Commencement was published in December 2021, at which time, the MTO established the project website (<http://www.highway138roundabout.ca>) to inform and receive feedback.

The purpose of this Class EA Study is to identify a Recommended Plan for the roundabout and prepare the Contract Documents to facilitate construction. Once completed, a Design and Construction Report (DCR) will be prepared. The DCR will include:

- A summary description of the project (i.e., proposed roundabout)
- An outline of the Class EA process followed
- A description of the Recommended Plan
- A summary of stakeholder and public consultation
- A detailed description of anticipated environmental effects and recommended mitigation measures to be incorporated into the Contract Documents.

To provide stakeholders with the opportunity to review and comment on the document, the DCR will be placed on the Public Record for a minimum comment period of 30 calendar days. Completion of the 30-day comment period is anticipated in Fall 2023, after which the project can proceed to construction.



Class Environmental Assessment Process

THE CLASS ENVIRONMENTAL ASSESSMENT PROCESS FOR GROUP 'B' PROJECTS



DETAIL DESIGN WITHIN THE ENVIRONMENTAL ASSESSMENT PROCESS



Existing Roadway Configuration

Highway 138

- Highway 138 is a provincial highway connecting Highway 417 in the north with Highway 401 in the south.
- Currently operates as a two-lane (one lane per direction) highway with a speed limit of 70 km/h. The regulatory posted speed limit increases to 80 km/hr., approximately 100 m north of the Highway 138 and Headline Road intersection.
- The traffic pattern in this section of Highway 138 is Intermediate Commuter where heavy vehicles make up approximately 8% of the total traffic mix.

Headline Road

- Headline Road is a two-lane (one lane per direction) suburban collector roadway with a speed limit of 50 km/h.
- Currently, Headline Road is stop controlled at Highway 138.
- Truck restriction is in effect on the Headline Road west leg. The proportion of heavy vehicles on Headline Road is approximately 9% of the total traffic mix.



Existing Highway 138 and Headline Road Lane Configurations

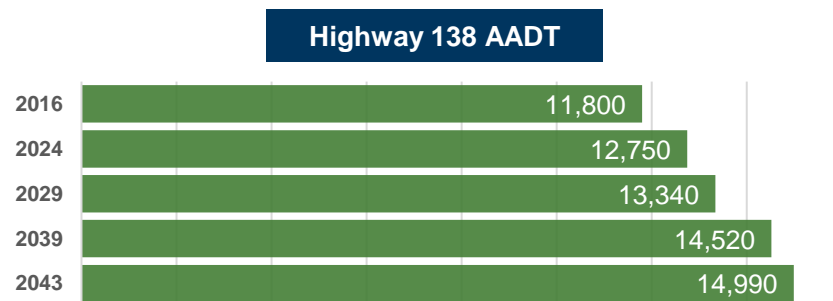
Existing Traffic Conditions

Highway 138

- 2016 Average Annual Daily Traffic (AADT) is 11,800 vehicles
- 2019 Peak hourly volume is 595 vehicles in the northbound direction during the afternoon peak hour (4:30 to 5:30 p.m.)
- Operates at Level of Service (LOS) D during peak periods

Headline Road

- 2019 Peak hourly volume is 205 vehicles in the westbound direction during the afternoon peak hour (4:30 to 5:30 p.m.)



Existing Intersection Conditions

Highway 138

- Highway 138 is a north-south undivided rural highway with a two-lane cross-section and a regulatory posted speed limit of 70 km/h. The regulatory posted speed limit increases to 80 km/h, approximately 100 m north of the intersection.



Headline Road

- Headline Road is classified as an undivided suburban collector road with a two-lane cross-section and a regulatory posted speed limit of 50 km/h on the east side, and 60 km/h on the west side. Currently, Headline Road is stop controlled at Highway 138. Truck restrictions are in effect on the Headline Road west leg, which prohibit any truck access.



Highway 138 at Headline Road Intersection

- The intersection currently operates under two-way stops for Headline Road, with dedicated right turn lanes on the north and south approaches.



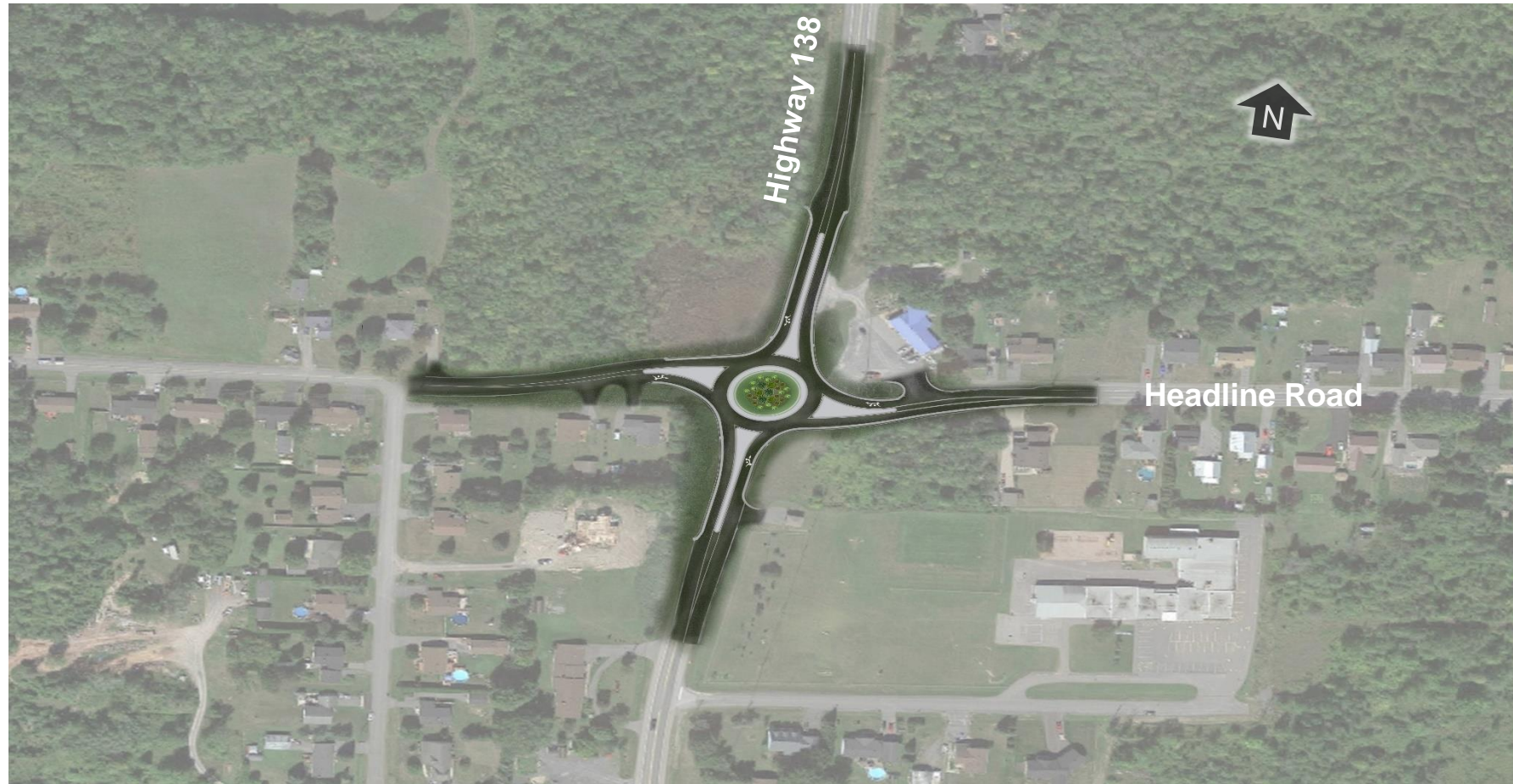
Highway 138 and Headline Road Intersection

Current Configuration



Highway 138 and Headline Road Intersection

Proposed Configuration



Highway 138 and Headline Road Intersection

Proposed Configuration



Highway 138 and Headline Road Intersection

Proposed Configuration



Historical Context

- The project study area is located within the traditional territory of the Mohawks of Akwesasne and is within the boundaries of the Upper Canada Treaties.
- The project study area is situated approximately 5.5 km northeast of the St. Lawrence River and contains tributaries of the Raisin and South Raisin River along with marshy areas and has discrete areas of elevated topography.
- This region of what is now known as Ontario has a lengthy history of human occupation and use, which can be traced back at least 10,000 years. With this general area likely being used by Indigenous Peoples to practice their traditional activities historically, as well as currently.

Environmental Protection and Management

Environmental factors were assessed during the Preliminary Design Study to determine existing conditions and identify mitigation measures to minimize and / or address potential impacts associated with the proposed works at the Highway 138 and Headline Road intersection. Additional field work was completed to update information, identify changes to statutory requirements, and refine the mitigation measures based on the Recommended Plan for the roundabout (see next slide).

Contract documentation will include general environmental management (e.g., prescribed construction Best Management Practices - BMPs) and specific provisions to protect the surrounding environment and mitigate any predicted construction-related impacts to:

- Traffic operations
- Private property
- Noise and air quality
- Ground and surface water resources
- Vegetation and wildlife habitat
- Erosion and sediment control
- Archaeological resources
- Management of excess material



Overview of Environmental Investigations

During this Detail Design and Class EA Study, various field investigations (or studies) were completed to collect primary environmental and engineering information to:

- Confirm, augment and document existing (baseline) natural, social, economic, cultural and technical conditions within the Study Area
- Confirm the anticipated (or predicted) project impacts
- Develop applicable environmental protection and mitigation measures to alleviate / minimize the predicted project impacts

Field investigations / studies completed within the Study Area included:

- Geotechnical Assessment
- Terrestrial Ecosystems Assessment
- Land Use Assessment
- Stage 1 Archaeology Assessment
- Drainage / Hydrology Assessment
- Phase 1 Environmental Site Assessments
- Desktop Hydrogeological Study



Environmental Impacts and Mitigation Measures

The proposed roundabout will cause minimal widening of the intersection's footprint beyond the existing roadbed. The anticipated environmental impacts and prescribed mitigation measures include but are not limited to:

Potential Environmental Impact	Prescribed Mitigation Measures
Natural Environment	
<ul style="list-style-type: none"> Potential impacts to vegetation, species at risk (SAR), and wildlife habitat 	<ul style="list-style-type: none"> Construction to occur primarily within the existing right-of-way and construction footprint has been reduced to the extent practical with minimal impacts to vegetation and wildlife habitat Minimize vegetation removal and protect those trees and shrubs to remain Replace vegetation in accordance with Landscape Plan No species at risk were observed within the Study Area Standard erosion and sediment control measures to be incorporated into Contract Documents - including measures to prevent off-site transport of sediment No impacts to fish or fish habitat
Socio-Economic Environment	
<ul style="list-style-type: none"> Partial purchase of five (4) private properties (permanent) Need to acquire / protect other properties for working / staging areas (either short or long term) 	<ul style="list-style-type: none"> Early communication / coordination with property owner(s) and tenants to minimize disruption associated with property purchases Property agreements (both permanent and temporary) will be in place prior to construction All entrances impacted by construction will be reconstructed
<ul style="list-style-type: none"> Potential noise and air quality impacts from construction equipment and vehicles 	<ul style="list-style-type: none"> Abide by Township Noise and Nuisance By-law 2016-20 for day-to-day operations including night and weekend work Implement best practices to reduce potential air quality / dust impacts - maintain equipment in good operating condition and restrict idling to the minimum necessary to perform the work

Environmental Impacts and Mitigation Measures

Potential Environmental Impact	Prescribed Mitigation Measures
Socio-economic Environment	
<ul style="list-style-type: none"> Potential for traffic delays due to road / lane closures and reductions, and detours during construction 	<ul style="list-style-type: none"> Traffic delays have been minimized to the extent possible Provide advance notice of construction start (including road signage) and minimize duration Provide advance notification of construction start to local residents, emergency service providers (Fire, Police and Ambulance), Township and County, and school boards A Traffic Management Plan will be developed and implemented to minimize traffic impacts Ongoing communication will be maintained prior to and during construction Lane closures will be controlled by flag persons when workers are present and restored to two lanes when workers are not present Access to private properties will be maintained throughout construction All traffic lanes will be opened to the public by the end of each day
Cultural Environment	
<ul style="list-style-type: none"> Potential impacts to archaeological and cultural heritage resources 	<ul style="list-style-type: none"> The Archaeological Assessment undertaken found no potential to encounter archaeological remains due to intensive and extensive disturbances, and low and wet conditions Based on review of Township Heritage Register, no registered properties affected
Technical Environment	
<ul style="list-style-type: none"> Potential impacts to municipal infrastructure and utilities including relocation and temporary service outages 	<ul style="list-style-type: none"> Required relocations will be coordinated with the affected provider in advance of construction Properties affected by any required temporary service outages will be notified in advance Existing infrastructure/utilities to remain in place will be protected during construction

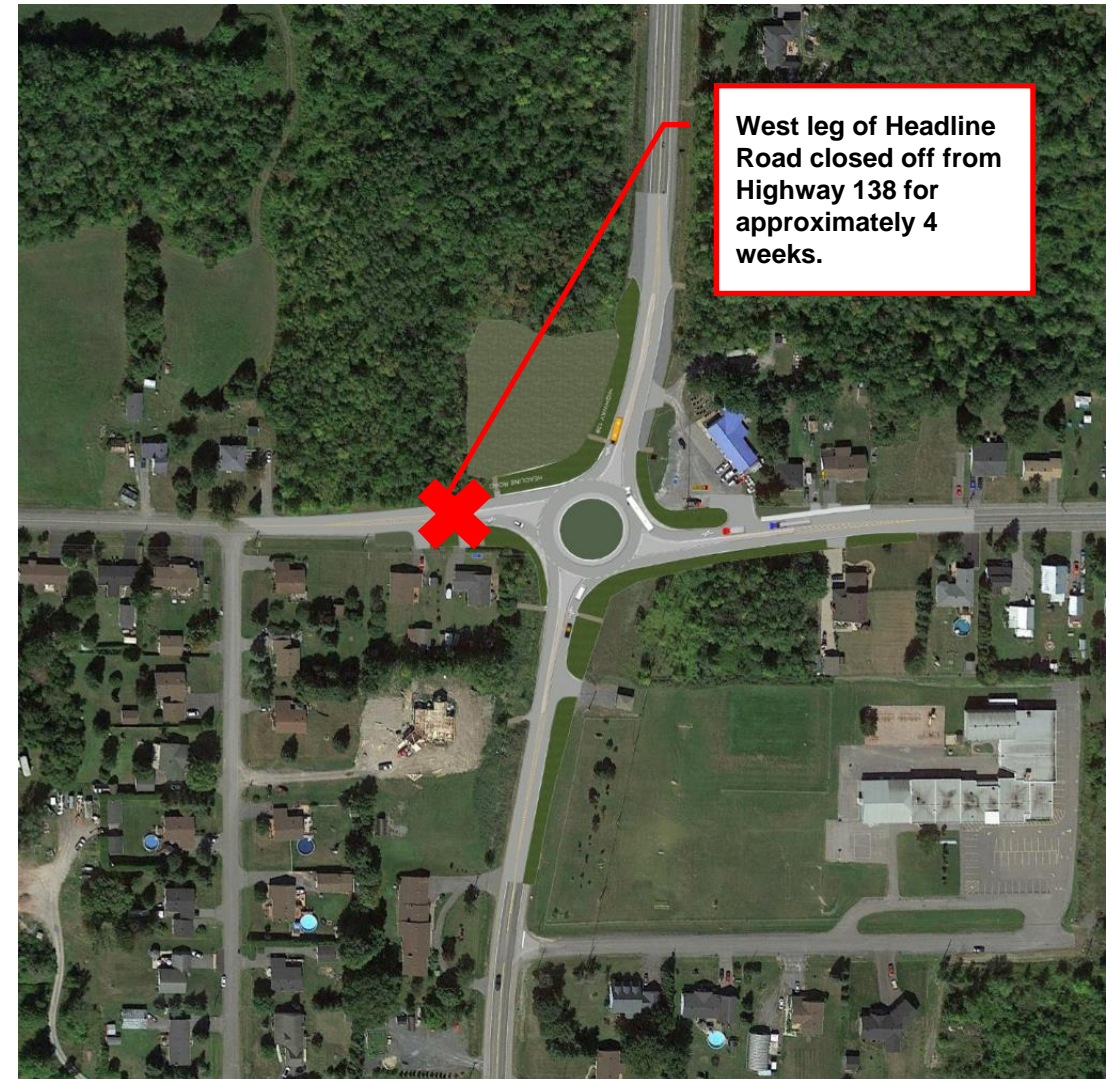
Construction Staging and Schedule

Pending the availability of funding, and selection of a preferred Contractor, the MTO is planning to commence construction in Spring 2024. The proposed works will entail:

- Single lane closures with flagging or short-term closures
- Short-term detours during construction of the approaches and roundabout
- Long-term closure of Headline road during one stage of construction for the splitter island and roadways realignments on Headline Road
 - Temporary detour of Headline Road west traffic will include Dundas Street (CR 18/36, and Power Dam Drive (CR33) Cornwall Centre Road
 - Highway 138 will remain open to through traffic
 - The detour is anticipated to be in place for approximately 4 weeks



Detour Route



Construction Staging and Schedule

As part of the project works, the Highway 138 section between Cornwall Centre Road to County Road 43 in Monkland will be rehabilitated. In general, the work will consist of the following:

- Pavement rehabilitation including reinstatement of existing fully paved shoulders
- Drainage improvements including culvert replacements
- Sidewalk reconstruction at County Road 18
- Clearing for intersection sightline improvements

This work will be combined with the Roundabout under one construction Contract.

Next Steps

Following this Online Public Information Centre, next steps will include:

- Reviewing and responding to comments received
- Refining the Detail Design and Mitigation Plan
- Preparing the Design and Construction Report (DCR) for public review
- Finalizing the Detail Design and preparing the Contract Package
- Submitting the Contract Documents for Tender
- Selecting the Preferred Contractor and starting construction.

Thank you for participating in the Online Public Information Centre.

We welcome your comments. Information is being collected in accordance with the *Freedom of Information and Protection of Privacy Act*. Except for personal information, all comments will become part of the public record.

If you have accessibility requirements in order to participate in this project, or if you would like more information, please contact:

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We encourage you to submit any questions or comments to the contacts listed above or under the “**Contacts**” section of the project website (<http://www.highway138roundabout.ca/contactUs.aspx>) by September 26, 2023.