

Preliminary Design and Environmental Assessment for Highway 401 from Cranberry Road to County Road 28 (Ontario Street), Port Hope

STUDY #1 GWP 4005-17-00

Municipality of Port Hope Council Presentation
January 18th, 2022

www.Hwy401PortHopeEa.com

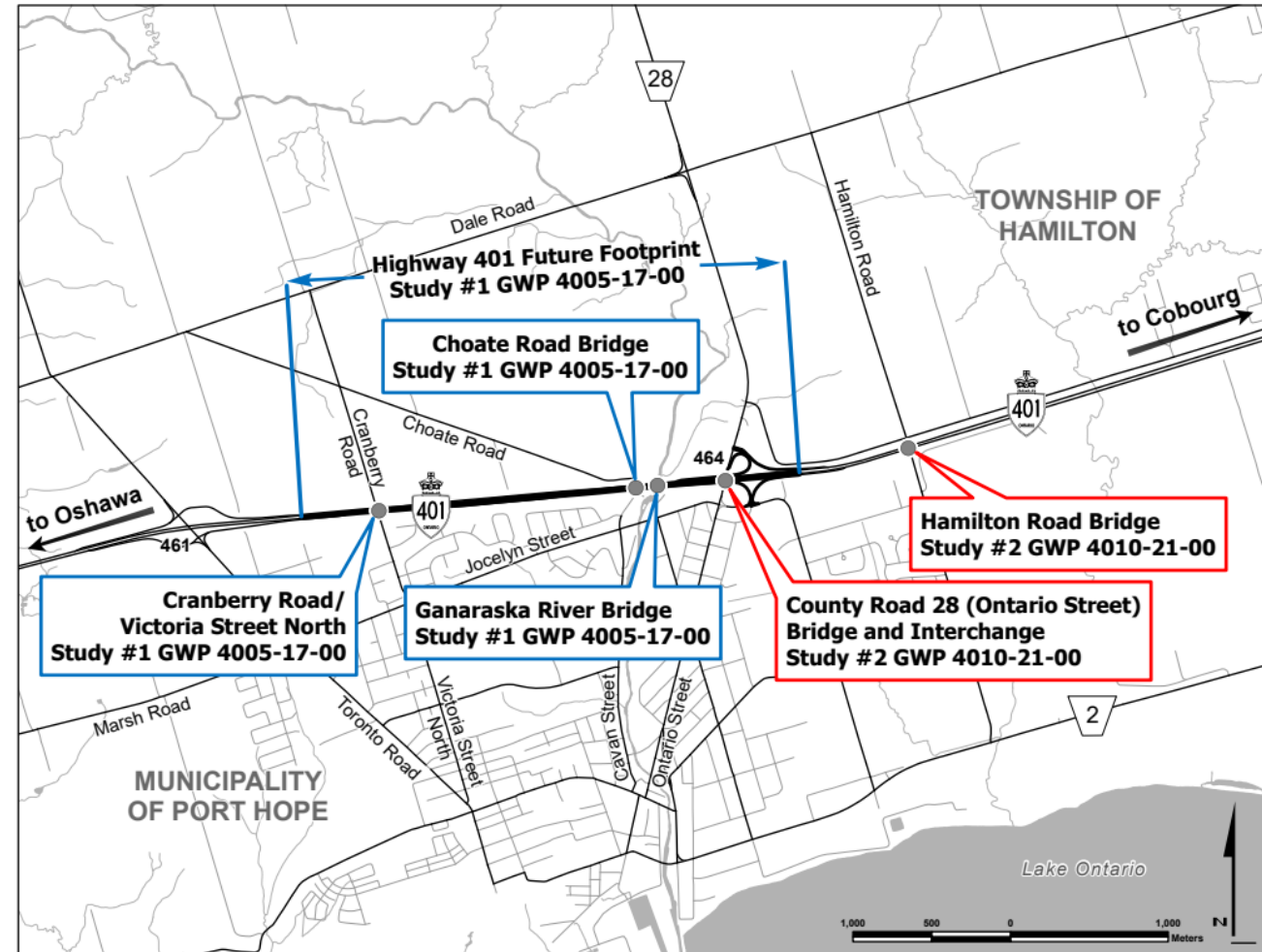
PROJECT LOCATION

2

The Ministry of Transportation (MTO) has retained the services of McIntosh Perry Consulting Engineers Ltd. and LEA Consulting Ltd. Joint Venture (MP-LEA Joint Venture) to carry out the Preliminary Design and Class Environmental Assessment (Class EA) for the following studies:

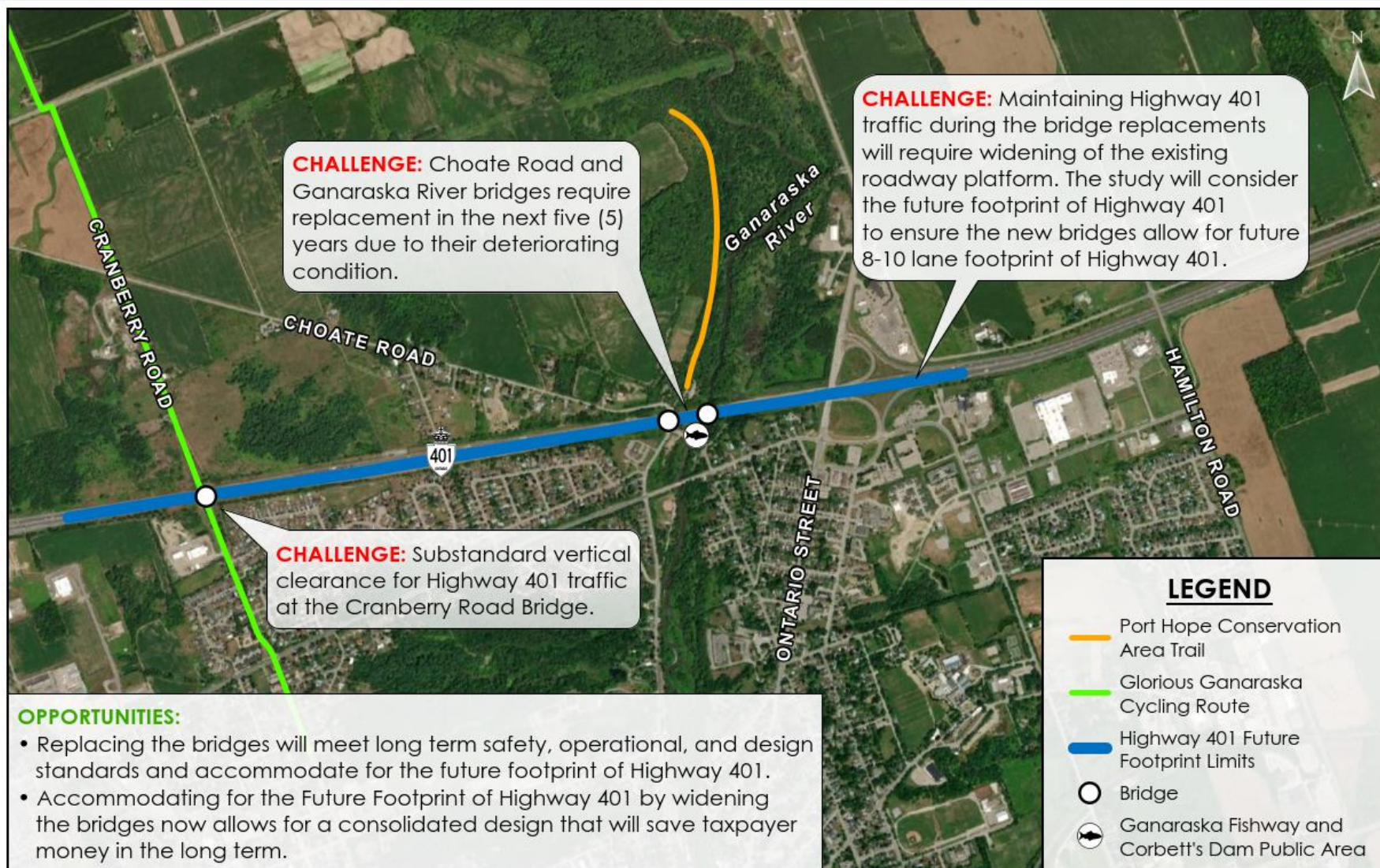
STUDY # 1 GWP 4005-17-00 includes structural needs of 3 bridges (Cranberry Road Bridge, Choate Road Bridge and Ganaraska River Bridge) and establishing the eight (8) and ten (10) lane future footprint of Highway 401 from 500m west of Cranberry Road to 450m east of County Road 28 (Ontario Street).

STUDY #2 GWP 4010-21-00 includes future operational long-term needs at the County Road 28 (Ontario Street) interchange, and structural needs of 2 bridges (County Road 28 bridge and Hamilton Road Bridge).



CHALLENGES AND OPPORTUNITIES

3



The study is being carried out in accordance with the approved environmental planning process for Group 'B' projects under the MTO *Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (2000)*.

A **Transportation Environmental Study Report (TESR)** will be prepared to summarize the study process and recommendations. Upon completion, the TESR will be made available for a 30-day public review and comment period.

Upon completion of the 30-day public review period and provided there are no outstanding concerns, the study will be considered to have met the requirements of MTO's Class EA process.

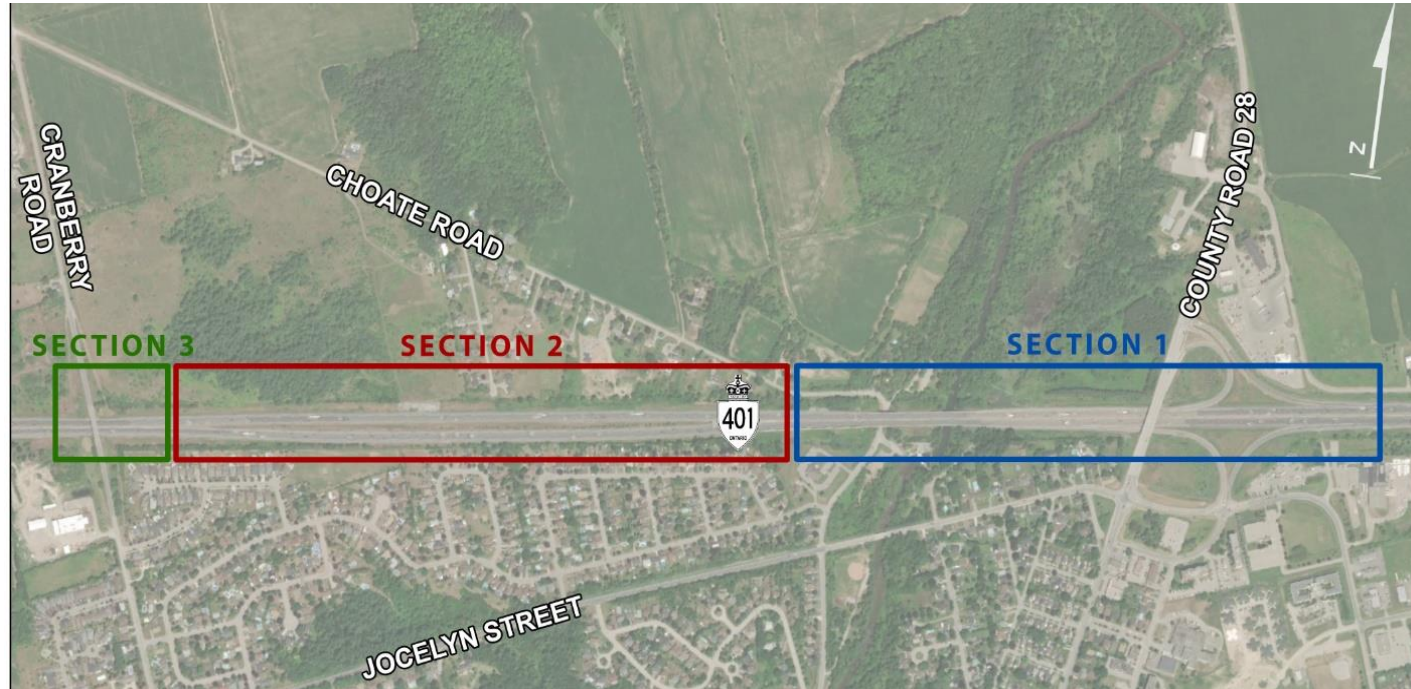


HIGHWAY 401 FUTURE FOOTPRINT

HIGHWAY 401 – 3 SECTIONS

6

Highway 401 in this location is a six (6) lane divided highway with three (3) eastbound lanes and three (3) westbound lanes. The highway has been broken out into three (3) different sections to evaluate alternatives for the future footprint of Highway 401:



Section 3 - 50m west of Cranberry Road to 150m east of Cranberry Road

- Paved median and tall wall barrier.
- Land use includes agricultural and residential uses, as well as the Port Hope Public Works facility.

Section 2 - 150m east of Cranberry Road to 190m west of Choate Road

- Variable width grass/sloping median with grade difference between eastbound and westbound directions.
- Dense residential areas south of the highway

Section 1 - 190m west of Choate Road to 450m east of County Road 28

- Paved median and tall wall barrier.
- Land use includes Ganaraska Region Conservation Area and Corbett's Dam Public Area.
- Cultural heritage resources including buildings and landscapes located north and south of the highway.

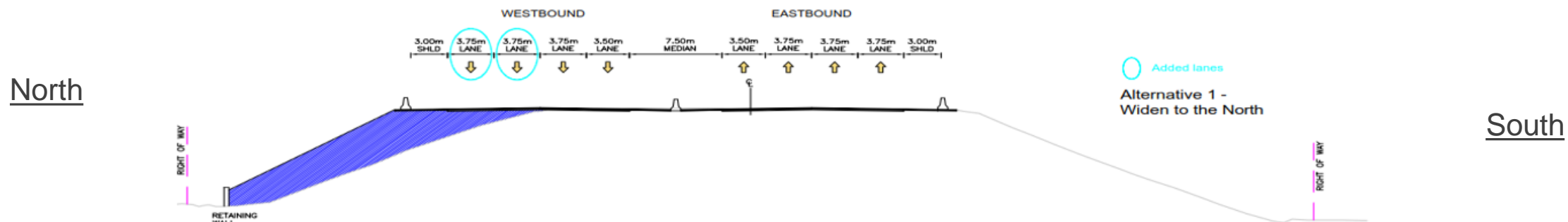
RECOMMENDED PLAN

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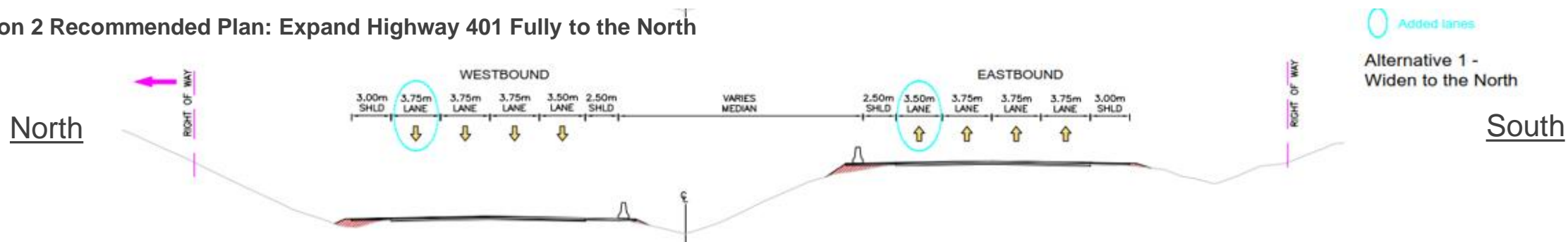
Section	Description	Recommended Alternative	Rationale
1	East of County Road 28 west of Choate Road (1.2 km)	Alternative 1 - Extend to the North	<ul style="list-style-type: none">✓ Minimizes permanent residential property impacts✓ Avoid impacts to existing noise barrier✓ Minimizes environmental impacts, especially to Corbett's dam (fish ladder)✓ Most cost-efficient option✓ Least overall noise impacts
2	West of Choate Road and westerly to east of Cranberry Road (1.3 km)	Alternative 1 - Extend to the North	<ul style="list-style-type: none">✓ Minimizes permanent residential property impacts✓ Avoid impacts to existing noise barrier✓ Most cost-efficient option✓ Least overall noise impacts
3	East of Cranberry Road to west of Cranberry Road (0.2 km)	Alternative 2 - Extend to the North and South	<ul style="list-style-type: none">✓ No permanent property impacts✓ Low staging complexity✓ Most cost-efficient option✓ Least overall noise impacts

RECOMMENDED PLAN

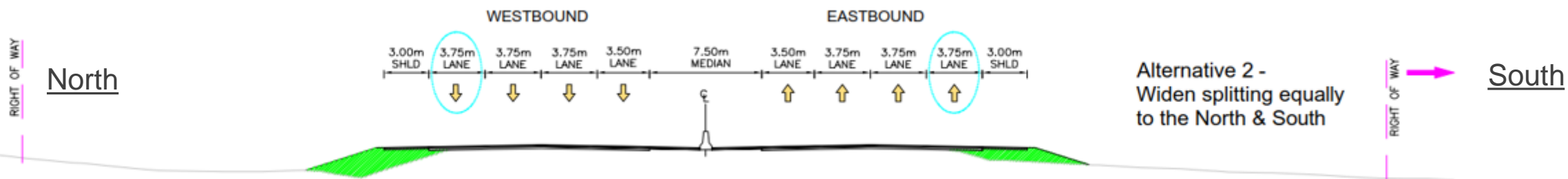
Section 1 Recommended Plan: Expand Highway 401 Fully to the North



Section 2 Recommended Plan: Expand Highway 401 Fully to the North



Section 3 Recommended Plan: Split the expansion for each direction of Highway 401 (both north and south)



Minor potential permanent property required for the Highway 401 Future Footprint north of Highway 401 in Section 2 at one (1) agricultural/residential property



CRANBERRY ROAD BRIDGE

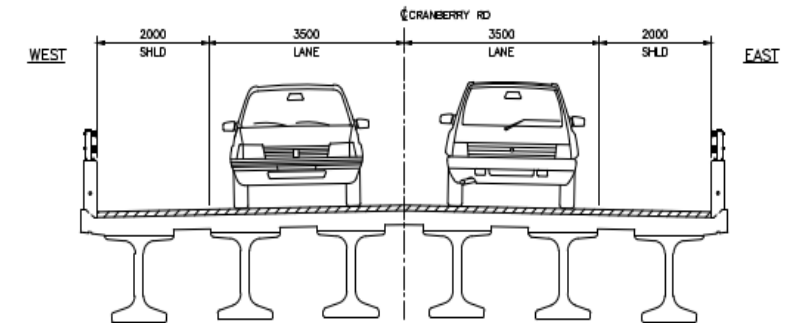
RECOMMENDED PLAN

11

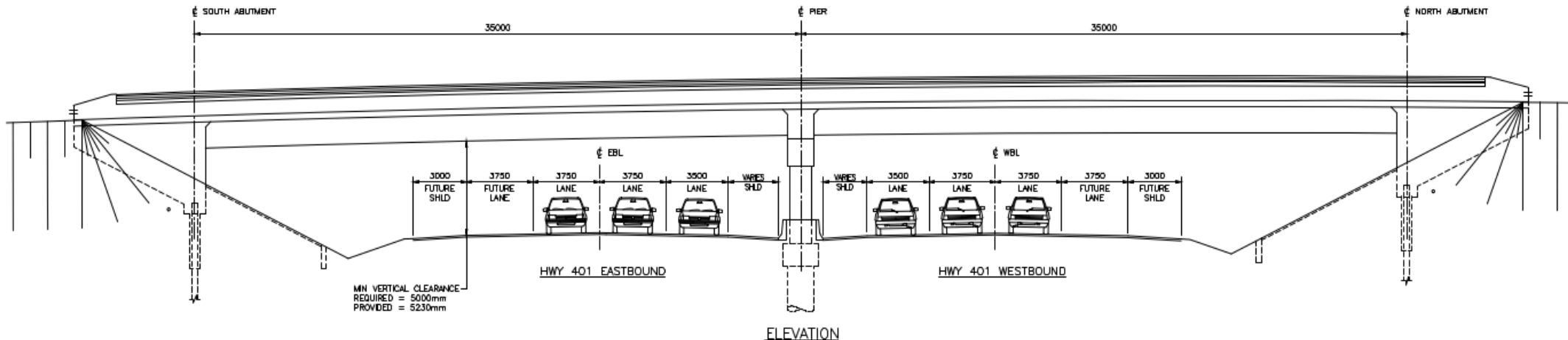
The Recommended Alternative is to replace the bridge in the same location as the existing bridge with a full closure (Alternative 2):

- The new bridge will provide one lane of traffic in each direction for Cranberry Road and will span to allow for the potential 8-10 laning of Highway 401.
- A ~1.0 m profile raise will be required on Cranberry Road.
- 2.0 m paved shoulders to support the Glorious Ganaraska Cycling Loop

Cranberry Road Cross Section over Highway 401



Highway 401 Cross Section under Cranberry Road



CRANBERRY ROAD DETOUR

12

Full closure of Cranberry Road is required for the duration of construction (one full season).

- Detour Length: 7.5 km
- The detour will utilize Dale Road, County Road 2, and Jocelyn Street

Full closure of Highway 401 is required to facilitate the demolition of the existing bridge

- The detour will be in place for 2-3 nights on Friday and Saturday nights (weekend closures)
- The detour will redirect traffic onto the Emergency Detour Route (EDR), which utilizes the County Road 2 (Toronto Road) interchange to the west and County Road 28 (Ontario Street) interchange to the east.



CHOATE ROAD BRIDGE & GANARASKA RIVER BRIDGE

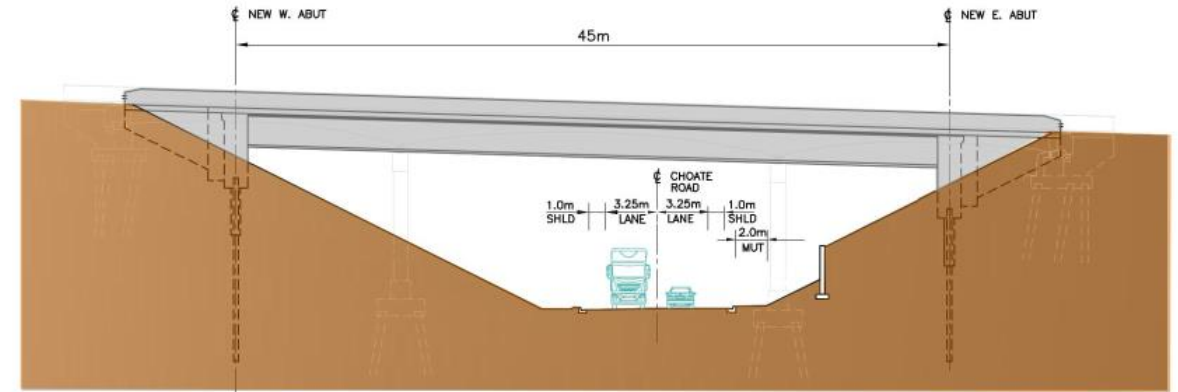
RECOMMENDED PLAN

14

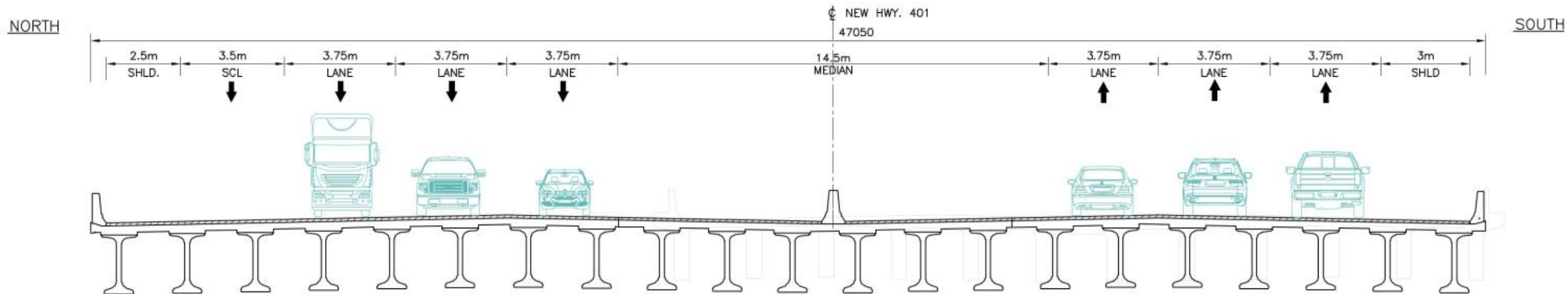
Choate Road Overpass

- 45 m single span bridge
- 2.0m Multi Use Path provided for Ganaraska Hiking Trail
- Bridge will be built to accommodate the future footprint of Highway 401

Choate Road Cross Section under Highway 401



Highway 401 Cross Section over Choate Road



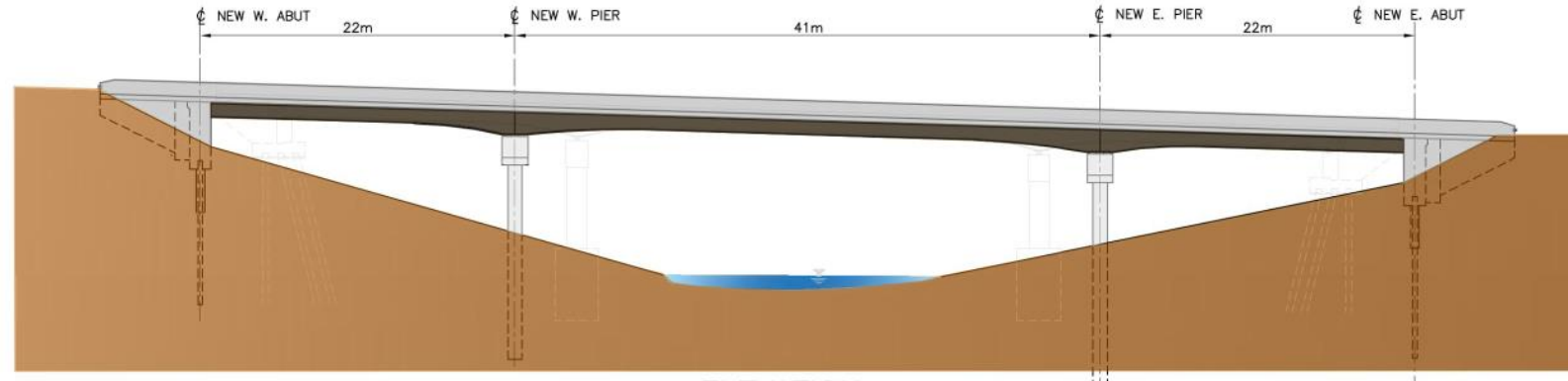
RECOMMENDED PLAN

15

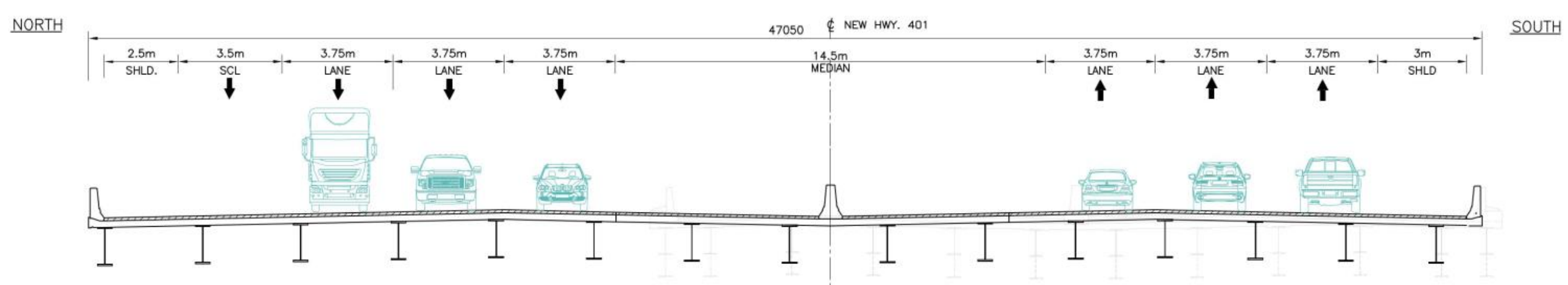
Ganaraska River Bridge

- 93 m three-span (24m, 45m, 24m) bridge
- Bridge will be built to accommodate the Future Footprint of Highway 401

Ganaraska River Cross Section under Highway 401



Highway 401 Cross Section over Ganaraska River

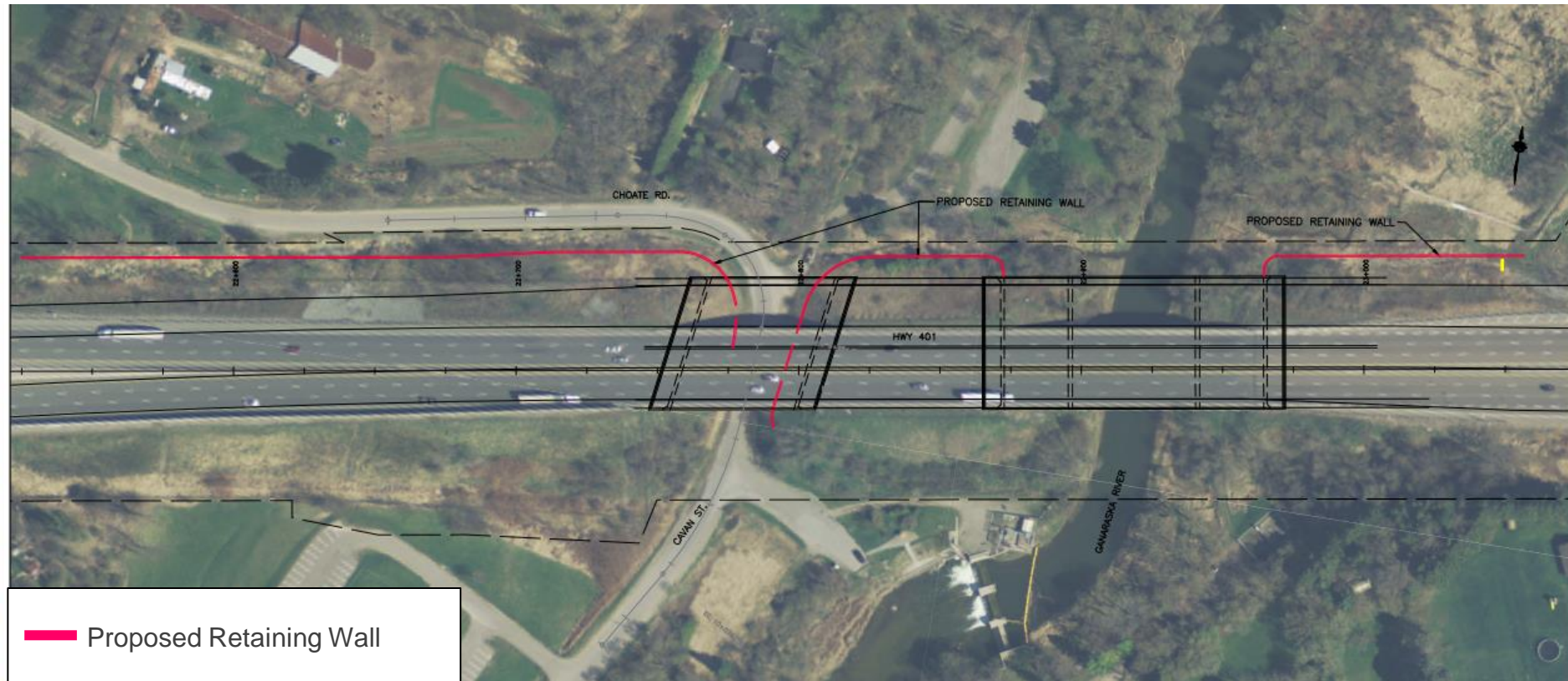


RECOMMENDED PLAN

16

Retaining Walls

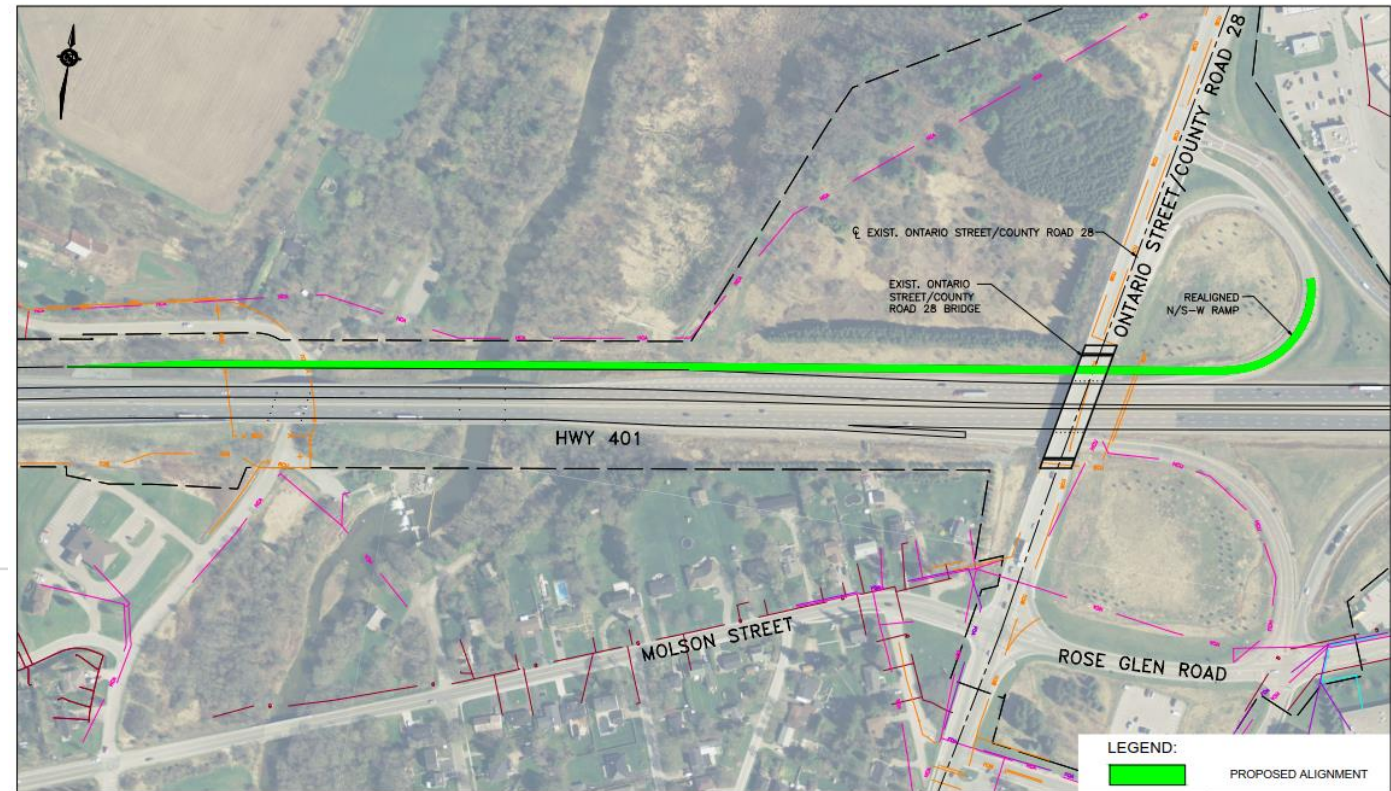
- North side of Westbound Lanes
 - 65 m long wall between both Choate Road and Ganaraska River bridges
 - 200 m long wall west of Choate Road (6+m high)
 - 100 m long wall east of Ganaraska River (3+m high)



RECOMMENDED PLAN

17

- Construction staging for the replacement of Choate/Ganaraska bridges requires lane shifts on Highway 401
- To facilitate lane shifts, relocation of the WB on-ramp at County Road 28 interchange to the north span of the CR28 bridge is required.



CHOATE ROAD DETOUR

18

Choate Road closures will be required during the construction of the Choate Road structure.

During the closures, traffic will be diverted to Cranberry Road

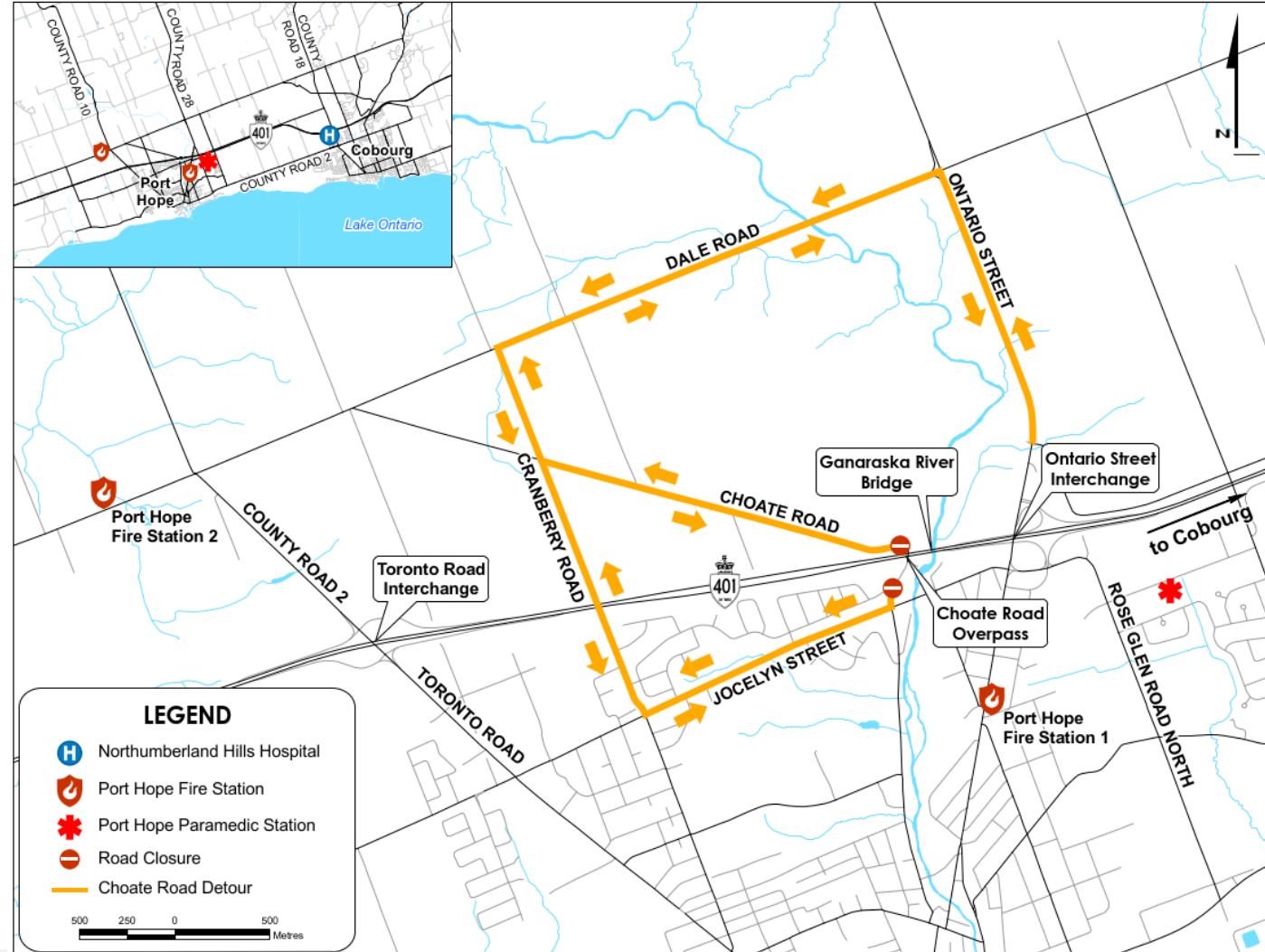
- Vehicles travelling east of Ontario Street may divert to Dale Road and then to Ontario Street.

Impacts to Local Traffic:

(30-40 residences north of Highway 401)

- 4.5 additional kms
- 5 additional travel minutes (worst case)

**Full closure of Highway 401 is not anticipated.
Short duration, single lane closures will be required
on Highway 401 during construction**



Potential property is required on the north side of Highway 401 west of Choate Road to facilitate the construction staging for the replacement of Choate Road and Ganaraska River

- Maximum 15 m outside of existing Right-Of-Way



RECOMMENDED PLAN RECAP



Highway 401 – Future Footprint

- Section 1 (east) – Expand to the north
- Section 2 (middle) – Expand to the north (each direction)
- Section 3 (west) – Split extension to outside



Choate Road / Ganaraska River Bridges

Alternative # 1 – Maintain and Replace Both Bridges



Cranberry Road Underpass

Alternative # 3 – Replacement on Existing Alignment – Full Closure

SCHEDULE

The project has been split into two separate EA studies to accelerate the project schedule for the Choate Road and Ganaraska River Bridges (**Study 1**) due to the deteriorating condition of these structures.

As a result, preliminary design for County Road 28 interchange and Hamilton Road bridge (**Study 2**) is being presented as part of a separate consultation process once complete.

Study 1: Highway 401 & Cranberry, Choate, Ganaraska Bridges

- PIC 2 (present TPA) December 16th to January 16th 2022
- File TESR for public review March 2022

Study 2: County Road 28 Interchange & Hamilton Road Bridge

- PIC 1 (present short list) Spring 2022
- PIC 2 (present TPA) To Be Determined
- File TESR for Public Review To Be Determined

IF YOU WOULD LIKE MORE INFORMATION, PLEASE CONTACT:

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For more information, please visit the project website at:

www.Hwy401PortHopeEA.com