Public Information Centre (PIC) 2

Municipal Class EA Study

For Coleraine Drive Grade Separation

EVALUATION AND TECHNICAL ASSESSMENTS

P 16-4315

December 16, 2021 – January 21, 2022

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Land Acknowledgement

- We would like to acknowledge that the land on which we gather, and on which the Region of Peel operates, is part of the Treaty Lands and Territory of the Mississaugas of the Credit.
- For thousands of years, Indigenous peoples inhabited and cared for this land, and continue to do so today.
- In particular we acknowledge the territory of the Anishinbek, Huron-Wendat, Haudenosaunee and Ojibway/Chippewa peoples; and land that is home to the Metis; and most recently, the territory of the Mississaugas of the Credit.
- We are grateful to have the opportunity to work on this land, and by doing do, give our respect to it's first inhabitants.

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Not Preferred | No Preference | Preferred

EVALUATION

Criteria	Alt 1: Road Under Rail	Alt 2: Road Over Rail
Traffic Operations and Safety	Both alternatives eliminate excessive queuing and reduce number of intersections	
Natural Environment	Both alternatives will have minimal impact	
Stormwater Management and Groundwater	Complex groundwater /drainage impacts (would require pumping)	Less complex groundwater / drainage impacts
Pedestrian and Cyclist Safety	Both alternatives provide equal opportunity for new and improved active transportation facilities	
Noise / Air Quality	Both alternatives will have similar noise/air quality impacts	
Archaeology and Cultural Heritage	Both alternatives have no cultural heritage impacts and the same impact to areas of archaeological potential	
Access, Property and Aesthetics	Both alternatives have similar property requirements	
	More desirable aesthetics	Less desirable aesthetics, including shadow impacts
Constructability	Very Complex	Less Complex
Cost	More expensive ($56M)	Less expensive ($36M)
OVERALL		PREFERRED DESIGN

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TRAFFIC ANALYSIS

- Queues for the rail crossing are expected to extend beyond the intersection of Coleraine Drive and King Street West/Harvest Moon Drive in the future.
- Queuing will worsen as trains increase due to the planned extension of GO Train services.
- Benefits of providing either Road Over Rail or Road Under Rail include:
  - Elimination of queuing and reduced risk of train collisions
  - Reduction of intersections
  - Improved truck network and reliability for movement of goods
  - Opportunity for bicycle, pedestrian and transit facility upgrades.

NOISE ASSESSMENT

- A noise assessment was undertaken for the two alternatives
- With **noise mitigation, the options are similar** and will improve on existing conditions. There is not a strong preferred alternative from a noise perspective

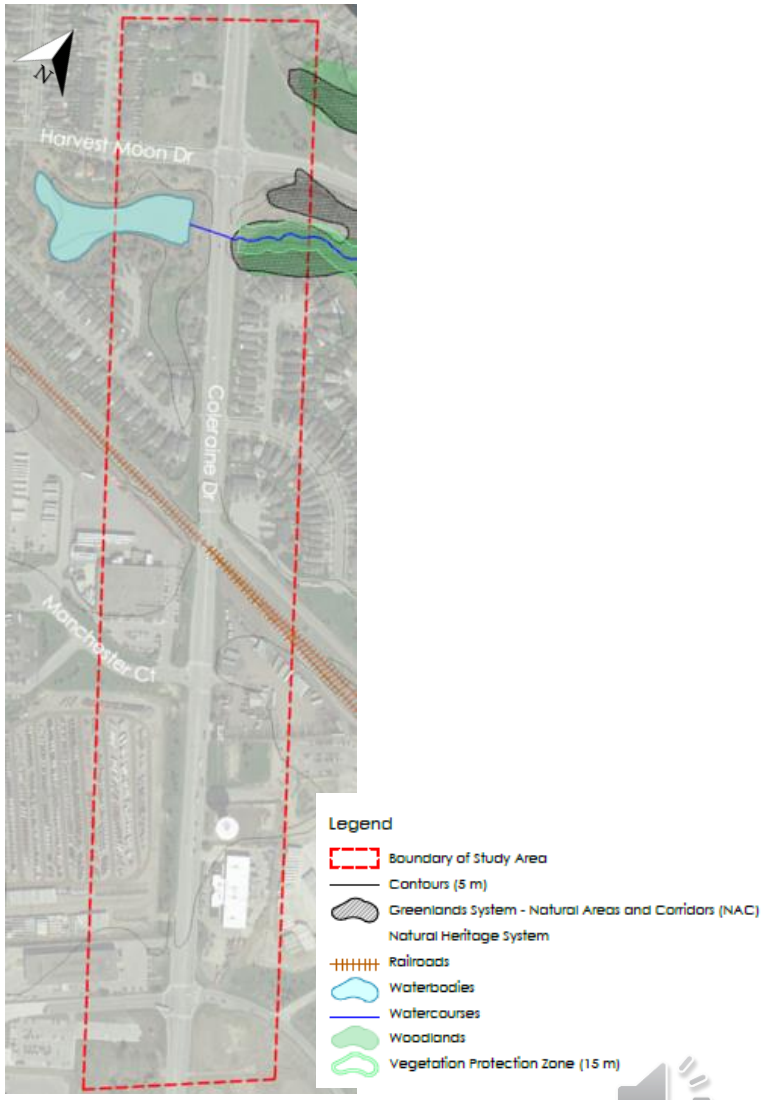
	Existing Without Project (dBA)	Alt: 1 Road under Rail (dBA)	Alt: 2 Road over Rail (dBA)
OLA001	53.6	48.4	53.1
OLA002	58.8	52.9	50.8
OLA003	58.8	51.1	50.6
OLA004	58.6	55.9	53.6
OLA005	55.9	54.2	54.7
OLA006	59.1	56.1	56.6

dBA = Decibels
OLA = Outdoor Living Area

- Noise mitigation options for the Road Over Rail include raised roadside barriers.

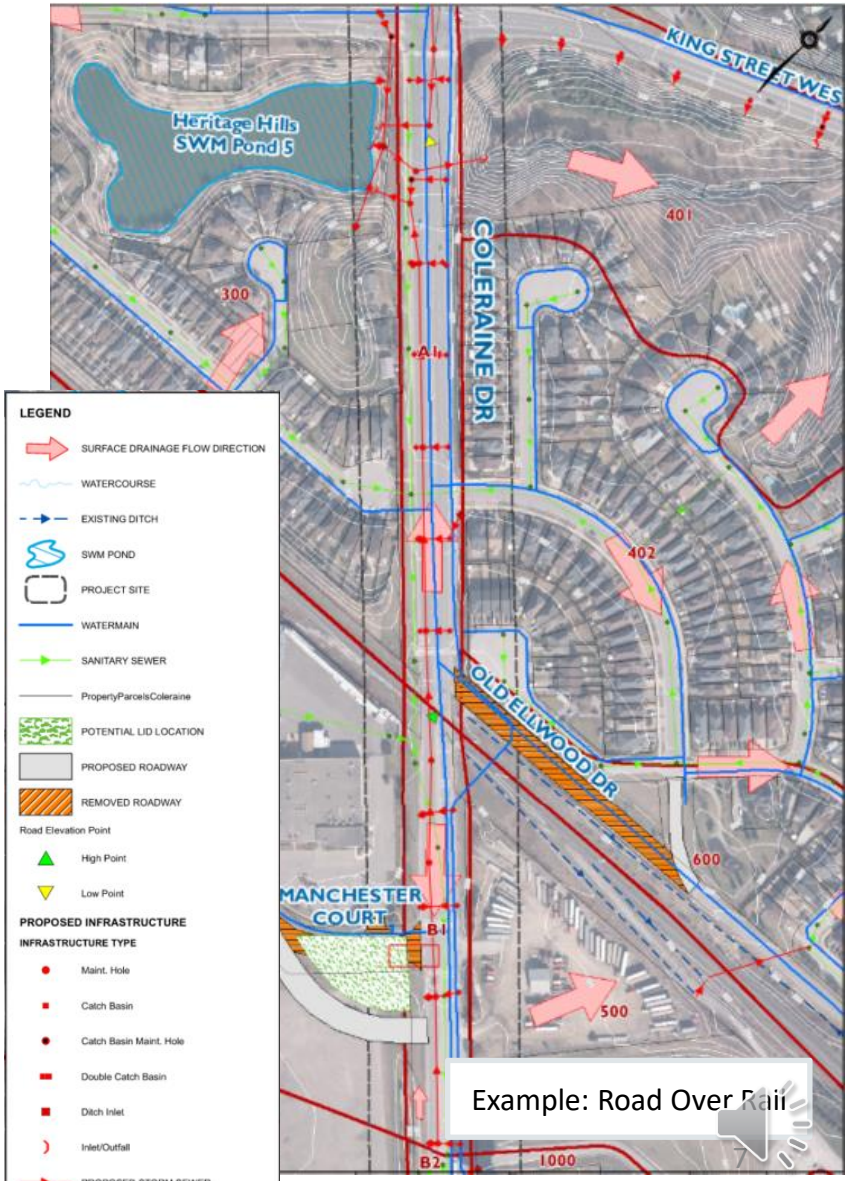
NATURAL ENVIRONMENT

- Study area within the Humber River Watershed and the Main Humber sub-watershed, regulated by Toronto and Region Conservation Authority (TRCA).
- Woodlands are located northeast of the study area.
- Stormwater pond west of Coleraine Drive does not support fish habitat.
- No species at risk (SAR) were observed.
- Mitigation measures are recommended for construction activities.



STORMWATER MANAGEMENT

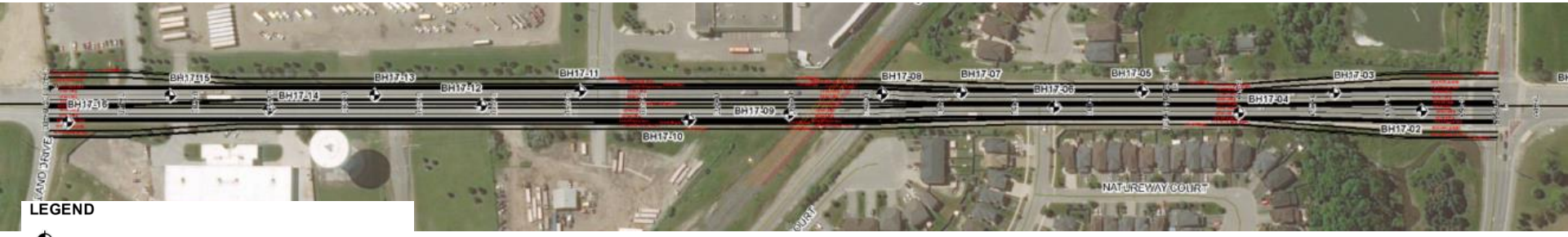
- Both alternatives will increase impervious area within study area.
- Water quality, quantity and erosion controls will be provided by existing stormwater management pond, and proposed Low Impact Development (LID) facility at Manchester Court
- Storm sewer system is recommended to be upgraded to 10-year storm-event design standard, to improve drainage and help combat climate change.



Example: Road Over Rail

HYDROGEOLOGY

- Assessment completed to determine the hydrogeological (groundwater) conditions of the area
- Groundwater table is shallow, and the soils are susceptible to erosion.
- Road Under Rail will require permanent measures (i.e., pumping) to mitigate environmental impacts including groundwater seepage and erosion;
  - **Key disadvantage** compared to Road Over Rail.



ARCHAEOLOGY & CULTURAL

- Archaeological Assessment
  - Stage 1 Assessment identified no archaeological potential for most of the study area.
  - Vegetated area at Holland Drive and Coleraine Drive intersection has archaeological potential and a Stage 2 Assessment is recommended.
- Cultural Heritage
  - The Shore-Wakely House is designated and retains cultural heritage value.

  (Not impacted by the proposed works)

Shore-Wakely House

CONSTRUCTABILITY

ROAD OVER RAIL

- Simpler construction as deep excavation is not required.
- No impacts to rail operations
- Tall retaining walls required

ROAD UNDER RAIL

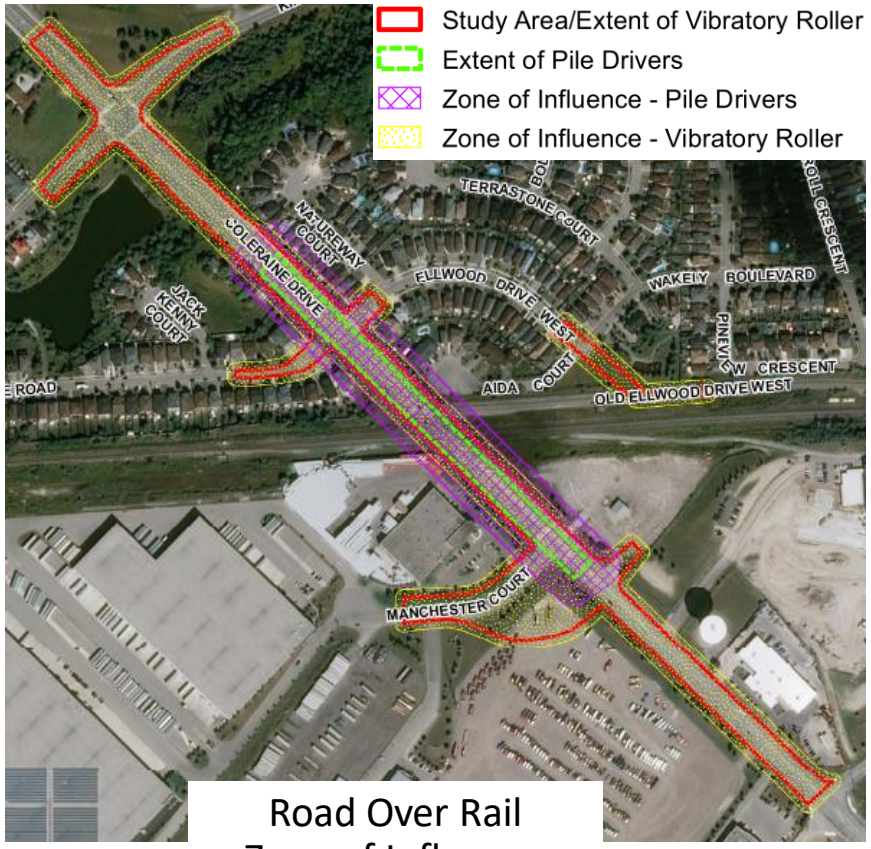
- Deep excavation (up to 9 m) required, increasing difficulty.
- Complex dewatering during construction.
- Requires permanent drainage system (i.e., pumping)
- Significant and costly impacts to rail operations (requires track diversion)
- Water table and Well impacts
- Potential for longer duration of construction

Less complex

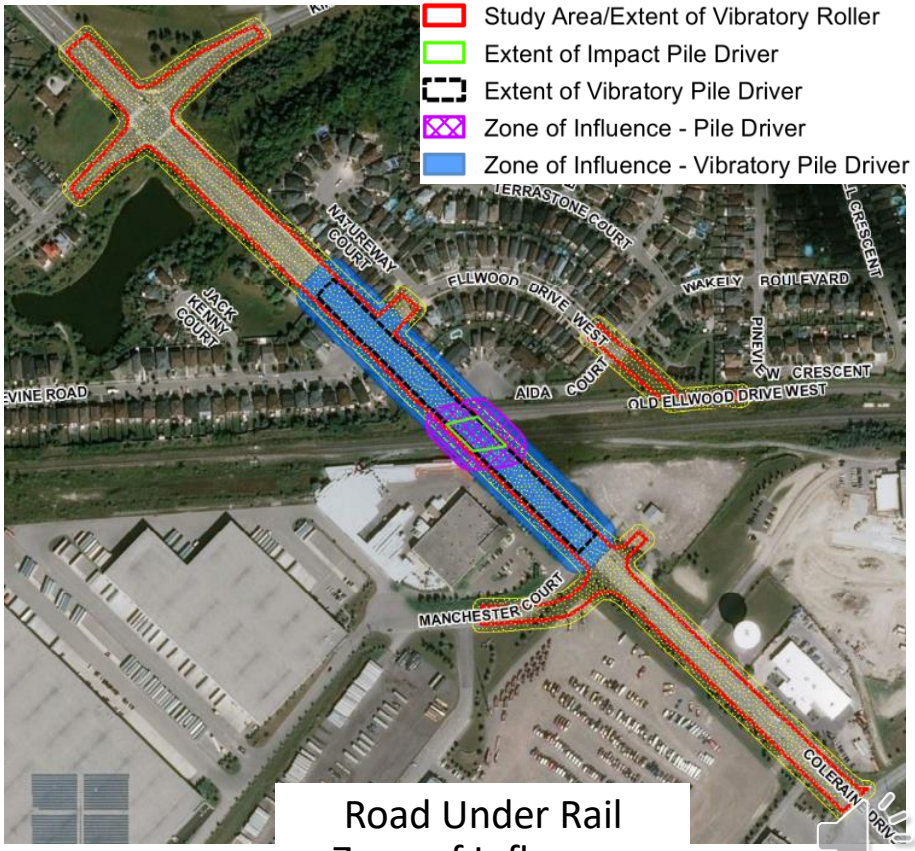
More complex

VIBRATION ASSESSMENT

- Vibration during construction anticipated to be below guideline limits.
- Induced ground vibrations during construction will be felt by surrounding residences



Road Over Rail
Zone of Influence



Road Under Rail
Zone of Influence

SHADOW IMPACT ANALYSIS

- A Shadow Impact Analysis was undertaken using Town of Caledon guidelines

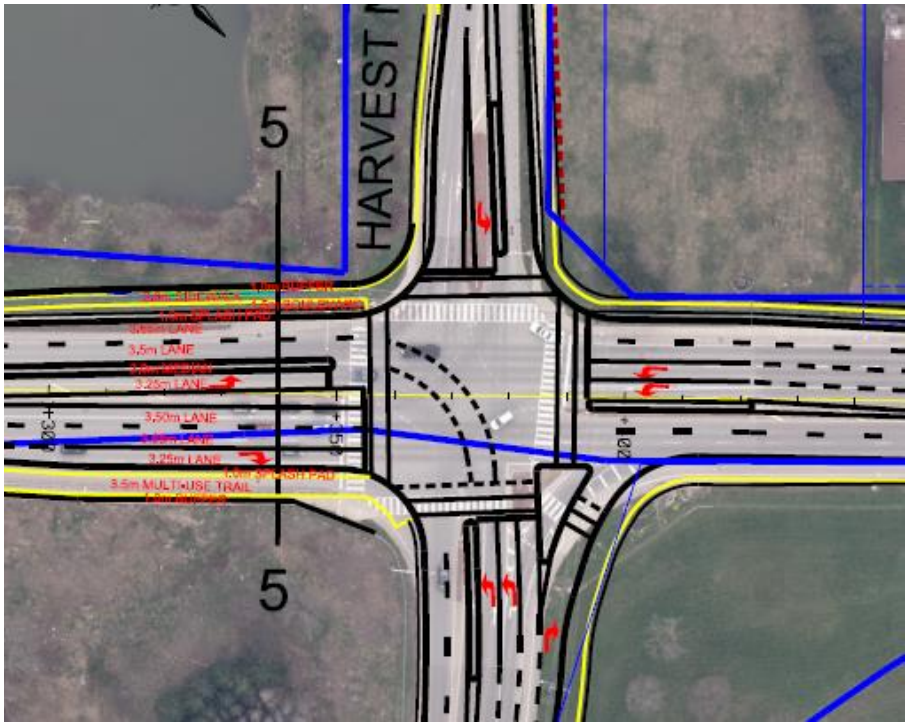
MARCH
(Early evening)

DECEMBER
(Early evening)

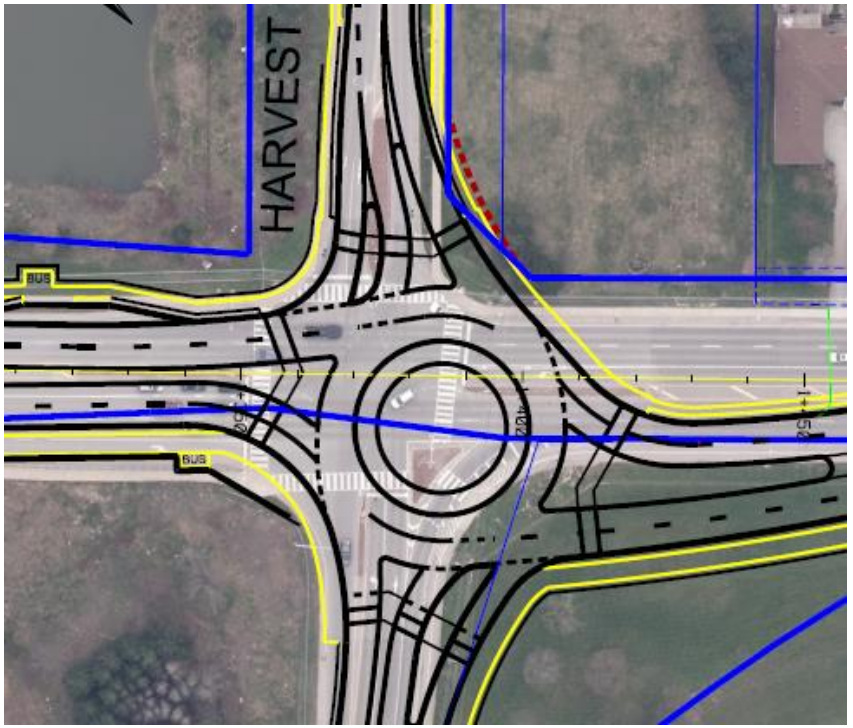
- Analysis concluded:
  - Shadow on neighbouring streets and sidewalks from the proposed road structure will be minimal and not considered an impact.
  - Shadow on neighbouring low-rise residential amenity spaces (i.e. gardens) east of will not meet the requirements of the Town's guidelines:
    - Some properties will have less than 5 consecutive hours of sunlight at certain times of the year and/or shadow on over 50% of their gardens.

ALTERNATIVE DESIGN CONCEPTS FOR HARVEST MOON DR. / KING ST. & COLERAINE DR.

Two alternatives were considered for the intersection.



SIGNALIZED INTERSECTION IMPROVEMENTS



ROUNDABOUT

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HARVEST MOON DR. / KING ST. & COLERAINE DRIVE INTERSECTION EVALUATION

	Signalized	Roundabout
Key Advantages	• Easier to construct. • Provides slightly better operations during peak hours.	• Less impact to sensitive natural environment areas. • More safety benefits, by always encouraging a slower speed. • Reduces severity of collisions, although it may increase non-fatal collisions. • More streetscaping potential. • Less delay during off-peak hours. • Less utility impacts.
Key Disadvantages	• Collisions are more severe as vehicles only slowed/stopped by red light. • More delay during off-peak hours. • Little streetscaping potential. • More utility impacts.	• Requires more construction staging. • Slightly more property impacts.
	Not Recommended	**Recommended**

NEXT STEPS

- Collect and respond to comments received, and tally results of the voting, to inform our decision on the "preferred alternative"
- Complete preliminary design of preferred alternative
- File Environmental Study Report (ESR) for EA approval, in 2022.
- The project will go to the detailed design in 2024, followed by property acquisitions and utility relocations. According to the 2021 Transportation Capital Budget, the construction of the project is scheduled to begin in 2029.

Please complete a comment sheet and submit all comments **by January 21:**

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