Victoria Bridge
Municipal Class EA
Civic Works Committee

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AECOM

Introduction

- Existing Conditions
- Municipal Class EA
- Proposed Bridge
- Proposed Road Reconstruction
  Proposed Improvements
- Construction Details
- Detour Plan
- Next Steps

Existing Conditions

Victoria Bridge

- The bridge is a seven panel modified Warren steel-pony truss bridge with an exposed concrete deck.
- The two-span structure was built in 1926 as the fourth crossing of the Thames River.
- Portions of the north abutment and pier date back to 1875.
- The bridge supports Bell cables, a sanitary sewer and watermain.

Active Transportation

- Currently there are shared bike facilities (sharrows) along the bridge as part of the bike lanes running north-south along Ridout Street. Important connection for commuter trips between residential areas and downtown.
- The bridge is a connection between on–road network and the Thames Valley Parkway system.
- The transition from pathway to bridge is narrow.
- The vertical clearance between the bridge and the pathway does not meet acceptable standards.

Existing Conditions

Structural Assessment – Rehabilitation (2016)

- A structural analysis was undertaken to determine the feasibility of accommodating a wider sidewalk on the bridge for cyclists.
- The structural analysis determined there is sufficient load capacity to accommodate a wider sidewalk and rehabilitation of the bridge was feasible.
- Removal of the existing sidewalk and railing system would be required to accommodate a maximum 3m wide cantilevered sidewalk.
- Structural deficiencies include the deck, barrier systems, steel components, bottom chords, steel roller bearings, piers and abutments, etc.
- Utilizing the existing north abutment and pier (1875) will not extent the service life of the overall structure.

Existing Conditions

Cultural Heritage (2016)

- A Cultural Heritage Evaluation Report (CHER) identified the Victoria Bridge as having significant cultural heritage value or interest under Ontario Regulation 9/06.
- The bridge is not currently designated or listed on the City's Inventory of Heritage Resources or other provincial/federal registries or inventories.
- The CHER recommended conserving the cultural heritage of the bridge either by bridge rehabilitation with sympathetic modifications or other forms of heritage conservation.

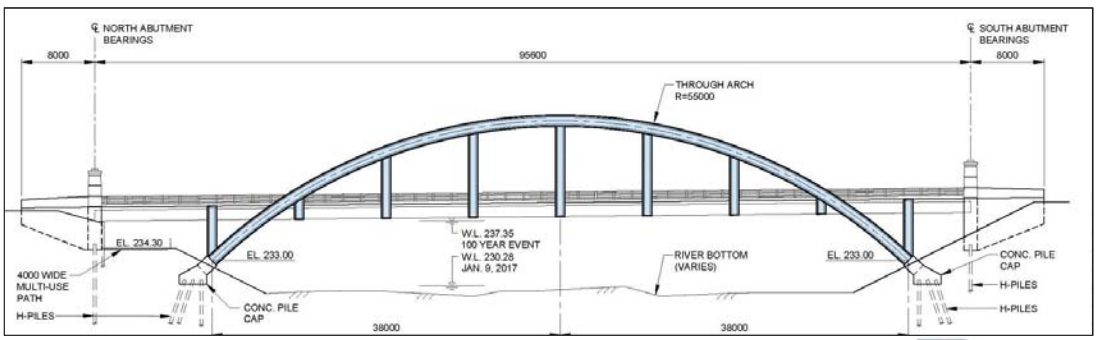
Municipal Class Environmental Assessment

Phase 2 Evaluate Rehabilitation or Replacements Options

- Alternatives evaluated based on selected criteria that included impacts on social, economic, natural, and cultural environment, as well as technical viability.
- A number of alternatives were considered for replacement and rehabilitation. Options also considered alternative bridge alignment.
- Bridge Replacement was selected as the Preferred Alternative.

Phase 3: Preferred Bridge Design

- Alternatives evaluated concrete girder, steel box girder, concrete box girder and tied arch.
- Following PIC #2, an additional alternative was considered (Through Arch).
- Through Arch was selected as the Preferred Design Concept



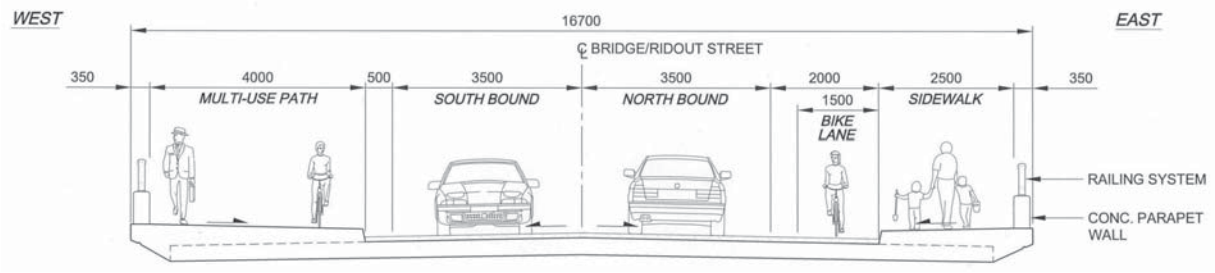
Proposed Bridge

Bridge Structure

- Concrete deck with asphalt wearing surface
- Steel through arch with floor beams and stringers

Bridge Hydraulics

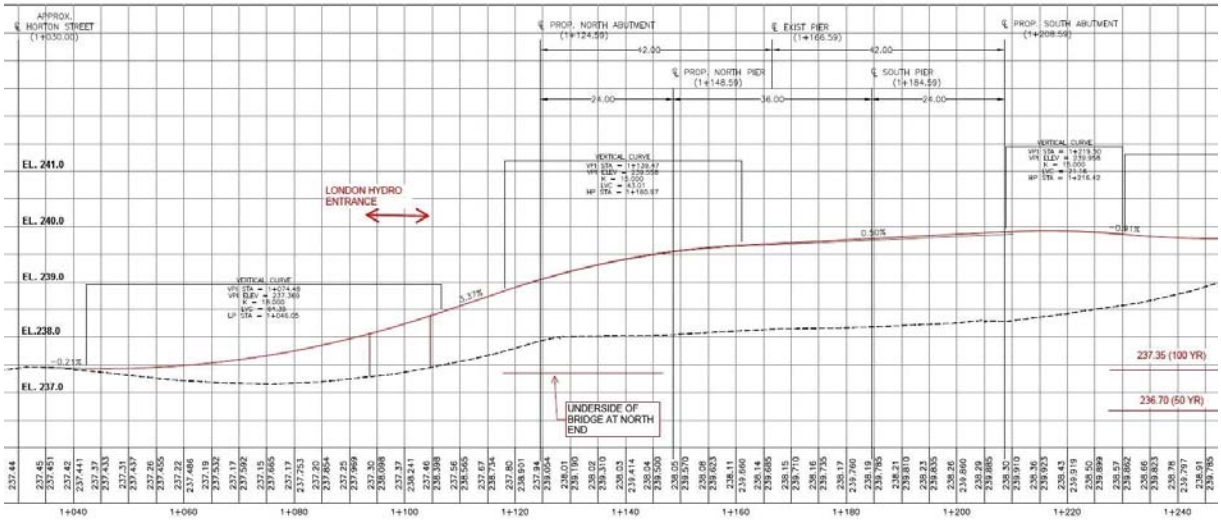
- Vertical road grade increase on Ridout Street (between Horton Street and Ingleside Place) to improve hydraulic grade line and pass 100 year flood



Proposed Road Reconstruction

Ridout Street

- Two (2) lanes - 3.5 m wide
- Vertical road grade increase on Ridout Street (between Horton Street and Ingleside Place)
- Reconstructed entrances to London Hydro and Thames Park



Proposed Improvements

- Existing multi-use path splits east of Horton Street bridge:
  - multi-use path continues along Thames River
  - designated bike lane on Horton Street west of Ridout Street.
- Existing shared bike lane on Ridout Street upgraded to a designated bike lane south of Horton Street to south of Victoria Bridge to join existing designated bike lane.
- Multi-use path improvements to provide acceptable clearance under bridge.
- Improvements to increase vertical profile of Horton Street, London Hydro entrance and Thames Park entrance.

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Construction Details

- Install temporary Bridge (for pedestrian use and support of existing utilities) and approaches to bridge.
- Disconnect and relocate existing services (sanitary and Bell only).
- Remove existing bridge structure.
- Construct concrete abutment including piles and piers.
- Install structural steel.
- Construct concrete deck.
- Construct concrete parapet walls and railing system.
- Reconstruct Thames Valley Parkway path below north side of bridge.
- Complete approach work including regrading and entrances.
- Waterproof and asphalt pavement.

Temporary bridge example

Detour Plan

Active Transportation Detour

- Temporary closure of Thames Valley Pathway below the bridge is anticipated for the full duration of construction.
- A temporary bridge will provide access for pedestrians and cyclists across the river during construction.

Vehicular Traffic Detour

- Because of the scale of work required to replace the bridge and limited space, it is expected that a full road closure will be required on Ridout Street between Horton Street and Thames Park entrance.
- Traffic is required to be rerouted to roads capable of carrying the increased volume of traffic.
- Vehicular traffic will be directed to Wharncliffe Road to the west and Wellington Road to the east for one full construction season.
- Traffic management will be further refined during detailed design. Impacts to adjacent roads may also be monitored and addressed.
- Driveway access will be maintained during construction.

Next Steps

- City Council (June 26)
- 30 Day Public Review of the Environmental Study Report and Environment Impact Study (July 5 – August 7)
- Detailed Design (TBD)
- Tender and Construction (TBD)