



A new **bridge** for the St. Lawrence

Note: This document does not in any way modify the content of the Request for Qualifications

SITE VISIT

April 1, 2014

08:00 Leave 900 René-Lévesque Blvd. West (at Mansfield) in Montreal

Highway 15

08:00 – 08:25 Federal portion of Highway 15, as far as Atwater St.

08:25 – 08:55 Canal de l'Aqueduc

08:55 – 09:15 Atwater Interchange

09:15 – 09:30 Snow chutes

09:30 – 09:45 St-Pierre collector

Nuns' Island Bridge

09:45 – 10:00 Île-des-Soeurs Bridge

10:00 – 10:20 Temporary causeway-bridge

10:20 – 10:40 Île-des-Soeurs Interchange

Champlain Bridge (southbound to Brossard)

10:40 – 11:00 Champlain Bridge

11:00 – 11:10 Champlain Bridge ice control structure

11:10 – 11:20 Prehistoric site

11:20 – 11:30 Le Ber site

Brossard Interchange (Highway 10)

11:30 – 11:40

Bonaventure Expressway (Highway 10 westbound)

11:40 – 11:45 Clément Bridge

11:45 – 12:00 Elevated stretch of Bonaventure Expressway

End of visit



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Return to downtown

OVERVIEW OF THE PROJECT AREA

- Today we'll be providing you with an overview of the project components. That being said, to ensure the integrity of the competitive process we will not be answering questions verbally.
- As stated in the Request for Qualifications, enquiries and other communications regarding the RFQ must be directed, in writing, to the Procurement Authority at the e-mail address you used to register for this site visit.
- For transparency, the enquiries received and the replies to such enquiries, if any, will be provided in writing in an addendum which will be posted on Buyandsell.gc.ca without revealing the source of the enquiry. It is the responsibility of each interested party to regularly verify Buyandsell.gc.ca.
- As you know, the new Bridge for the St. Lawrence corridor project covers approximately 8 km of highway and includes sections of Autoroutes 10 and 15 in Montréal and the south shore.
- At its western extent, the project area begins at the property boundary of the ministère des Transports du Québec (MTQ) near Pitt Street between the De La Vérendrye and Atwater Interchanges on the Island of Montréal.
- The project corridor follows the existing highway across the île-des-Soeurs Bridge, passes through the northern part of île-des-Soeurs (Nuns' Island), and then crosses the Champlain Bridge to end, at its eastern extent, near Boulevard Pelletier in the City of Brossard.



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- The project area, for operations and maintenance only, also extends northwards from île-des-Sœurs to include the Clément Bridge and part of the Bonaventure Expressway (Autoroute 10).
- The project area encompasses various approach ramps and approach roads that serve the interchanges within the project corridor.
- We have provided you with a map that outlines the various stops we will be making today.
- These stops are:
 - 1) The Canal de l'Aqueduc;
 - 2) The Atwater Interchange;
 - 3) The Snow Chutes and St.Pierre Collector;
 - 4) The île-des-Sœurs Bridge / The Temporary Causeway-Bridge;
 - 5) The île-des-Sœurs Interchange;
 - 6) The Champlain Bridge;
 - 7) The Seaway Dyke and Estacade;
 - 8) The Prehistoric Site and the Le Ber Archaeological Site;
 - 9) The Brossard Interchange; and
 - 10) The Bonaventure Expressway



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HIGHWAY 15

- The proposed corridor for the project, particularly Highway 15, passes through a busy urban area of the city of Montreal. The corridor will also cross or connect numerous streets.
- The City of Montreal owns various municipal and underground facilities that cross the project corridor.
- The portion of highway 15 affected by the project is the federal section, the part between the île-des-Sœurs Bridge and the exit and access ramps to Atwater Avenue. The federal section, approximately 3 km long, must be rebuilt and widened.
- A third lane in each direction will be added to the highway, between the Turcot interchange and the île-des-Sœurs Bridge.
- Several ramps will be impacted by the project in the areas of Atwater Avenue and île-des-Soeurs.
- The successful proponent will be expected to design, build, finance, operate and maintain the federal section of Highway 15.
- This component of the project must be operational by the end of 2020.

CANAL DE L'AQUEDUC

- The Canal de l'Aqueduc, operated by the City of Montreal, was constructed in the mid-nineteenth century, and was subsequently widened and deepened.



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- The Canal is an 8 km long freshwater intake channel extending from the St. Lawrence River at LaSalle to the Atwater treatment plant. The Atwater treatment plant is close to the Atwater Interchange.
- The Canal de l'Aqueduc is an important part of the drinking water supply serving the City of Montréal and strict limitations apply on possible spillages or pollution affecting this asset.
- Important measures will need to be taken to protect the water source during construction and operation.
- It's likely that a confinement wall will need to be constructed in order to attenuate risk.

ATWATER INTERCHANGE

- The Atwater Interchange is one of four highway interchanges within the project area.
- The Atwater Interchange connects Autoroute 15 with Atwater Avenue.
- The Atwater Interchange is considered by the City of Montreal as a strategic artery. All work done on this area would be subject to stringent requirements for the maintenance of traffic. Several bus routes circulate in the area.

CN RAILWAY

- Canadian National Railway tracks run alongside the northern boundary of the project area within the Island of Montréal, from the Atwater Interchange past Interchange S/T to the Bonaventure Expressway.



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- The CN tracks are not expected to be part of the project.

METRO TUNNEL

- Part of Montréal's metro (underground railway) system passes underneath Autoroutes 15 between Atwater Avenue and Wellington Street.
- This section of the metro, which is between the LaSalle and Charlevoix stations on the Green Line, was constructed in the 1970s in a tunnel excavated in the Utica Shale that underlies that area.
- The metro is operated by the Société de transport de Montréal (STM).

UTILITIES

- High-voltage electricity pylons, overhead lines and buried cables operated by Hydro-Québec (H-Q) run alongside and cross over parts of the New Bridge for the St. Lawrence Corridor Project area, both in Verdun (in the western part of the project area), and at the South Shore (near Brossard at the eastern end of the project area).
- A Hydro-Québec electrical substation is located close to the Atwater Interchange.
- As well as the electrical power utilities, the project area includes other third-party buried and overhead utilities typical of a long-established urbanized area, including telecommunications, fiber optic lines, gas, drinking water, waste water, drainage, street lighting and traffic signals.



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SNOW CHUTES AT ST. PIERRE COLLECTOR

- Two sets of snow chutes, the Verdun snow chute and the Butler snow chutes, are located immediately above the St. Pierre Collector tunnels within the project area.
- The snow chutes are vertical shafts connecting from ground level to the tunnel crowns.
- During periods of heavy snow fall, trucks, operated on behalf of the City of Montréal, deliver snow collected from roadways for disposal into the chutes.
- When not in use, the chutes are sealed with hinged steel covers.

THE ST. PIERRE COLLECTOR

- The St. Pierre Collector is a critical infrastructure for the drainage of a major part of the Island of Montréal.
- The St. Pierre Collector has one of the largest catchment areas in North America. The catchment extends approximately 5400 hectares and encompasses seven districts of the City of Montréal
- The St. Pierre Collector drain is a twin-tunnel combined sewer. It was constructed in phases starting in the 1930s.
- The St. Pierre Collector mainly follows the course of the former St. Pierre River, which had previously been used for sewage disposal.



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- The twin tunnels sit side by side and are horseshoe-shaped, with an arched cross-section and a flat base. The width of each tunnel is approximately 4.5m to 5m. The crown elevations of the tunnels vary, but are generally approximately 3m to 6m below ground level.
- The phased development of the St. Pierre Collector is reflected in the construction materials used: parts were built by tunneling and unreinforced concrete support; parts were built in open-trenches using reinforced concrete support; and parts were constructed of masonry.
- During moderate rainfall events, the outflow from the St. Pierre Collector enters an interceptor ring main, which is approximately 10 m below the Collector tunnels.
- In severe rainfall events, the St. Pierre Collector overflows.
- The overflow runs into the St. Pierre Collector overflow channel, which is an open channel to the south of Interchange S/T that outfalls into the St. Lawrence River.

ÎLE-DES-SOEURS BRIDGE

- The île-des-Soeurs Bridge is a key part of the highway system in Montréal and is an essential connection to the Champlain Bridge.
- The île-des-Soeurs Bridge spans the branch of the St. Lawrence River that flows between the Island of Montréal and Île-des-Soeurs.
- The existing île-des-Soeurs Bridge is almost 470 m in length and approximately 29 m wide.



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- The bridge has three traffic lanes in each direction plus a narrow lane used by cyclists.
- The successful proponent will be expected to demolish the existing structure and design, build, finance, operate and maintain the new bridge, approximately in the same alignment of the existing bridge.
- The new bridge will include two three-lane corridors for vehicular traffic as well as a multi-use path.
- The integration of a transit corridor linking île-des-Soeurs to the Island of Montreal is also under consideration by the government of Quebec.
- The new bridge is expected to have a 125-year design life. This component must be operational by the end of 2020.

TEMPORARY CAUSEWAY-BRIDGE

- In July 12, 2013, the Government announced the construction of a temporary causeway-bridge between Île-des-Soeurs and the Island of Montréal.
- The temporary causeway-bridge will bypass the existing Île-des-Soeurs Bridge, and is part of preparatory works to support and facilitate the proposed New Bridge for the St. Lawrence Corridor Project.
- It is expected that the temporary bridge will open to the public in 2015. The project is under the direction of the Jacques Cartier and Champlain Bridges Incorporated (JCCBI).



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- The temporary causeway-bridge will have three lanes in each direction and a lane reserved for transit, as well as shoulders and a multiple-use lane for pedestrians and cyclists.
- The form of the crossing comprises two abutments that extend into the river as short causeways, linked by a connecting bridge that is supported on two in-river piers.
- The temporary causeway-bridge and its associated access roads will remain in place until the existing Île-des-Soeurs Bridge is demolished and replaced with a new, permanent bridge as part of the New Bridge for the St. Lawrence Corridor Project.

THE ÎLE-DES-SOEURS INTERCHANGE

- The Île-des-Soeurs Interchange is one of four highway interchanges within the project area.
- The Île-des-Soeurs Interchange connects Autoroute 15 with local streets and the Boulevard de l'Île-des-Soeurs, and also connects Autoroute 15 with Autoroute 10.
- The successful proponent will be responsible for connecting the new bridge to the local infrastructure.

CHAMPLAIN BRIDGE

- The Champlain Bridge, operated and maintained by The Jacques Cartier and Champlain Bridges Incorporated (JCCBI), opened in 1962.



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- The bridge links the City of Montréal and the City of Brossard, and is one of the busiest vehicular bridges in Canada with approximately 40-50 million vehicles crossing the bridge each year, approximately 10% of which are trucks.
- Between 1962 and 1990, the Champlain Bridge was tolled.
- The Champlain Bridge is approximately 3.4 km long. It carries six lanes of traffic separated by a median formed from a concrete barrier. A lane is temporarily reserved for buses on weekdays during morning and evening rush hours.
- The Champlain Bridge is part of a major Canada-United States trade corridor that is an essential element of Canada's Continental Gateway, handling approximately \$20 billion of international trade each year.
- The Champlain Bridge is also critical to public transport in Montréal. Approximately 200,000 buses use it every year to carry up to 11 million public transit journeys.
- The main span of the Champlain Bridge crosses the St. Lawrence Seaway navigational channel. It is a steel cantilever structure supporting an orthotropic steel deck, which was installed in the 1990s to replace the original deck.
- The majority of the Champlain Bridge crosses the St. Lawrence River and consists of relatively short spans formed from pre-stressed concrete beams that support a pre-stressed concrete deck.



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THE ESTACADE

- The Estacade is an ice control structure which was built across the St. Lawrence River during the mid-1960s to help protect the manmade islands that were developed for the 1967 International and Universal Exposition (Expo 67) in Montréal.
- The Estacade is used as a pedestrian walkway and bicycle path. Although the Estacade does serve to regulate ice flows upstream of the Champlain Bridge, its continued presence is not considered to be essential for the Champlain Bridge or to be necessary for the proposed New Bridge for the St Lawrence.
- The Estacade is operated and maintained by The Jacques Cartier and Champlain Bridges Incorporated (JCCBI).

CULTURAL HERITAGE SITES

- Two sites of recognized cultural heritage value are located immediately to the north of the Champlain Bridge, alongside the St. Lawrence River:
 - The older of the two sites is of prehistoric origin and dates from approximately 4,000 years before present. Pottery shards and stone tools have been found at the site. Evidence has also been found of burials at the site;
 - The Le Ber archaeological site comprises the in-situ buried remains of stone foundation walls and artifacts associated with the mid-seventeenth century manor farm of Jacques Le Ber. The in-situ remains are well-preserved and extensive, and include the foundation walls of the main house, stables and a bake house.



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BROSSARD INTERCHANGE

- The project corridor connects to the South Shore at the City of Brossard and will need to be integrated within the local environment and ensure adequate connections with the provincial portion of Autoroute 10 as well as Route 132.
- The Brossard Interchange connects the eastwards continuation of Autoroute 10, the southward continuation of Autoroute 15, and the northward continuation of Autoroute 20.
- The project will preserve and enhance the important highway and transit connections to and from Brossard and destinations across the St. Lawrence River as well as provide connections to existing paths for pedestrians and cyclists.
- The successful proponent will be expected to connect the new bridge to local roads in Brossard.

CLÉMENT BRIDGE

- The Clément Bridge carries Autoroute 10, and is one of only two direct road connections between Île-des-Soeurs and the Island of Montréal: the other is the Île-des-Soeurs Bridge.
- The Clément Bridge spans the branch of the St. Lawrence River that flows between the Island of Montréal and Île-des-Soeurs.
- The successful proponent will be responsible for the operation and the maintenance of the existing Clément Bridge.



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- Major maintenance and reconstruction of this infrastructure will not be included in the Project.
- The responsibility for this component is expected to begin when all traffic has been transferred from the existing Champlain Bridge to the New Bridge for the St. Lawrence by the end of 2018.

BONAVENTURE EXPRESSWAY

- The Bonaventure Expressway is the name of the section of Autoroute 10 that links downtown Montréal with Île-des-Soeurs.
- The Bonaventure Expressway was opened to traffic in 1967. The section of the Bonaventure Expressway between approximately Rue Mill, and île-des-Sœurs, is maintained by The Jacques Cartier and Champlain Bridges Incorporated (JCCBI).
- The City of Montreal owns and operates the section of the Bonaventure Expressway between the Lachine Canal and University Street in downtown Montréal.
- The successful proponent will be responsible for connecting the new bridge to the Bonaventure expressway.
- The successful proponent will also be responsible for the operation and maintenance of the existing Bonaventure expressway.
- Major maintenance and reconstruction of this infrastructure is not included in the Project.



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- Responsibility for this component is expected to begin when all traffic has been transferred from the existing Champlain Bridge to the New Bridge for the St. Lawrence by 2018.