EXECUTIVE SUMMARY:

At its regular meeting held on January 20, 2009, Council approved a resolution to award the engineering services contract for the Environmental Assessment (EA) of the Third Crossing of the Cataraqui River to J.L Richards/Associated Engineering Joint Venture.

The EA process is being advanced in a two stage manner as follows:

**Stage One:** The completion of Phases 1 & 2 of the Provincial EA. Stage One identifies the WHY (or problem statement) and WHERE (or preferred location) and includes preliminary cost estimates. Stage One provides Council with the opportunity to determine whether the EA study should proceed to completion of Stage Two which includes the Federal EA process.

**Stage Two:** If approved by Council, this stage will identify the HOW (preferred crossing design) and the WHEN (timing for implementation subject to budget and construction approvals) including detailed Federal and Provincial EA documentation and reporting requirements. The detailed field investigations, preliminary design, cost estimates and an assessment of construction funding opportunities will be included in Stage Two.

The intent of staging was to give Council the opportunity to review the work done to date including the preferred location/solution and order of magnitude cost estimates and to gain an understanding of the remaining work to be done in Stage Two. It further gives Council the opportunity that it requested in order to make an informed decision as to whether or not to proceed with the completion of the EA process.

Stage One of the EA is now complete. An Executive Summary of the Stage One Report as prepared by J L Richards is contained in Exhibit “A”. The completion of Stage One provides Council with information to make the decision as to whether or not to proceed with Stage Two and the completion of the EA process. A decision to not proceed will either terminate the EA study or delay it for resumption at a later date, although not without added significant cost. Stage One Report recommends the solution for implementation of additional transportation capacity across the Cataraqui River to be a bridge located within Area 4 at the John Counter Boulevard and Gore Road alignment (Option 4A) as the preferred solution as shown in Figure ES-3 in Exhibit “A”.

Additional funding approval from Council is not required to complete Stage Two of the EA process. An approved EA has a ten year life span. It gives current and future Councils the ability to plan for long-term growth and development programs and the ability to apply for Federal/Provincial funding assistance programs. An approved EA does not commit Council to approve construction funding and start construction.

This report seeks Council’s approval to proceed with Stage Two of the EA process. Subject to Council’s approval, the EA completion and submission to Council is anticipated in November 2011.

RECOMMENDATION:

THAT Council authorize staff to continue to Stage Two, the completion of the EA process with the previously approved engineering services contract award to J.L. Richards/Associated Engineering Joint Venture for the Environmental Assessment of the Third Crossing of the Cataraqui River.

AUTHORIZING SIGNATURES:

<table>
<thead>
<tr>
<th>ORIGINAL SIGNED BY COMMISSIONER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denis Leger, Commissioner, Corporate Services</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ORIGINAL SIGNED BY CHIEF ADMINISTRATIVE OFFICER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gerard Hunt, Chief Administrative Officer</td>
</tr>
</tbody>
</table>

CONSULTATION WITH THE FOLLOWING COMMISSIONERS:

<table>
<thead>
<tr>
<th>Commissioner Beach, Sustainability &amp; Growth</th>
<th>N/R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acting Commissioner Willing, Community Development Services</td>
<td>N/R</td>
</tr>
<tr>
<td>Commissioner Leger, Corporate Services</td>
<td>✓</td>
</tr>
<tr>
<td>Jim Keech, President, Utilities Kingston</td>
<td>✓</td>
</tr>
</tbody>
</table>

(N/R indicates consultation not required)
OPTIONS/DISCUSSION:

Over the past 25 years, the City of Kingston has experienced significant growth. The need for a new crossing of the Cataraqui River between the LaSalle Causeway and Highway 401 has been recognized in several studies dating back to the 1960’s; the 2004 Kingston Transportation Master Plan (KTMP) and the 2009 Transportation Model Update being the most recent. The 1992 Transportation Study, 2004 KTMP and the 2009 Transportation Model Update identified the need for additional river crossing capacity to satisfy immediate and long term needs.

The “Problem Statement” for this EA study is as follows:

There are currently two crossings of the Cataraqui River within the City of Kingston urban limits: the LaSalle Causeway/Highway 2 corridor located at the southerly confluence of the Cataraqui River and Lake Ontario; and the Highway 401 crossing located approximately 6 kilometres upstream of the LaSalle Causeway/Highway 2 corridor. There is a requirement to evaluate the need for and the feasibility of implementing additional transportation capacity across the Cataraqui River over the immediate (2009), mid-term (2029) and long-term (2050/2075) planning horizons in response to:

- The Level of Service (LOS) for the LaSalle Causeway crossing, which is falling below the City’s accepted policy level of LOS ‘D’, as a result of existing traffic congestion on the LaSalle Causeway during peak hour traffic demand (and during a Highway 401 detour event), despite focused strategies to increase walking, cycling, and public transit use. LOS is measured between LOS ‘A’ and LOS ‘F’ where LOS ‘A’ involves a free flow traffic operations at average travel speeds and LOS ‘F’ involves traffic flows at extremely low levels and intersection congestion at critical signal locations. LOS ‘B’, ‘C’, ‘D’ and ‘E’ are incremental measures between LOS ‘A’ and LOS ‘F’. The City generally applies LOS ‘D’ as a goal for future design purposes at peak hour traffic volume levels, which is commonly used in similarly sized Canadian cities. The LOS is a measurement of traffic mobility compared with the level of congestion determined by traffic delay. The LOS for the LaSalle Causeway is expected to continue decreasing in the future due to population and employment growth causing increased traffic congestion.

- The current role of the Highway 401 crossing as an alternative route to the LaSalle Causeway, given its primary role as an inter-city roadway facility, the travel distance between it and the LaSalle Causeway to the south and the historical origin-destination patterns of traffic using the LaSalle Causeway.

- Projected 19 percent population growth and 22 percent employment growth in the City by 2029 and the need to determine whether the City’s transportation networks will be able to accommodate long-term planned growth and development programs, particularly on the east side of the Cataraqui River, in an efficient and effective manner.

The opportunities to improve existing conditions through this EA study include:

- The relief of existing and future traffic congestion through improved road network connectivity and traffic flows.
- Through the use of state-of-the-art, sustainable and aesthetic design practices, enhance the City’s historic association with the Rideau Canal as a designated UNESCO World Heritage Site, National Historic Site, Canadian Heritage River and fully functional navigable waterway.
- The ability to accommodate long-term planned growth and development programs through improved east-west road network connectivity.
- The enhancement of public transit services by creating new east-west routes.
- The enhancement of emergency service provisions and the delivery of municipal services to the eastern portion of the City.
- The promotion of alternative modes of transportation by creating new pedestrian and cycling routes.
In May 2008, the Real Estate & Construction Services Department initiated a formal consultant selection procedure to undertake the Environmental Assessment (EA) of the Third Crossing of the Cataraqui River. The objective of the EA is to confirm the need for an additional crossing and preferred location including a preliminary design and cost estimate of the crossing which will show regard for Environmental, First Nations, Cultural, Heritage, Navigational, Architectural Aesthetics, Geotechnical, Landscape, Archeological and Economic issues.

At its regular meeting held on January 20 2009, Council approved the following resolution:

**THAT** Council authorize the Mayor and Clerk to sign an engineering services contract with J.L. Richards/Associated Engineering Joint Venture for the Environmental Assessment of the Third Crossing of the Cataraqui River at their total upset limit price of $1,381,610 plus GST, in a form satisfactory to the Director of Legal Services, with the clear understanding that the only spending is $550,000 for completion of the Stage One Environmental Assessment; and

**THAT** Council approve a 2009 Capital Budget amount for Phase 2 in the amount of $950,000 to be funded $475,000 from development charges and $475,000 from the municipal capital reserve fund, with the understanding that these funds will not be expended if Council decides not to go forward with the project after the completion of the Stage One Environmental Assessment.

The EA study area is illustrated on Figure ES-1 which is part of the Executive Summary of the Third Crossing of the Cataraqui River, Environmental Assessment Stage 1 Summary Report attached as Exhibit A. The area extends along the shoreline and lands adjoining the Cataraqui River from the LaSalle Causeway/Highway 2 corridor in the south, to Highway 401 in the north. Other main roadways within the study area include John Counter Boulevard and Montreal Street west of the river, as well as Kingston Road 15 and Gore Road east of the river. As shown on Figure ES-1, the EA study area has been subdivided into six corridor areas and crossing alignment options have been developed based on potential connections to existing infrastructure.

The EA involves an assessment of the potential positive and negative social, cultural, economic and environmental impacts of the following options;

- Retain the status quo or “do nothing” - which means that no improvements or changes would be made to provide the additional capacity and the problem remains. Means of improving the existing conditions were evaluated in the 2004 KTMP and were found to be inadequate in providing the additional river crossing capacity;
- Increase the capacity of the LaSalle Causeway;
- Increase the capacity of Highway 401 between Kingston Road 15 and Montreal Street; or
- Implement a new crossing between the LaSalle Causeway and Highway 401 by either a bridge or a tunnel.

The work plan for this EA follows both the provincial and federal Environmental Assessment Framework and was developed to proceed in two stages. The intent is to provide the City Council the opportunity to consider its resource commitments at the end of Stage One based on the needs assessment, recommended corridor and location, preliminary capital cost estimates and consultation activities.

The completed Stage One focused on the needs assessment (the “Why”) and the alternative options and corridor locations (the “Where”) and recommends a preferred crossing option including preliminary cost estimates. The Stage One Report provides Council with information to render a decision as to whether or not to proceed with Stage Two. A decision to proceed will authorize completion of the EA including the Federal EA requirements. An approved EA supports the need for a crossing and is required for seeking federal and provincial construction funding, should the opportunity arise. The level of effort and tasks completed during Stage One represent approximately 35 percent to 40 percent of the total EA work program.
If Council decides not to proceed with completion of the EA process, this will either terminate the EA study or delay its completion, at a significant added cost, to a later date. If the EA is terminated the project would not be considered for project funding assistance by upper levels of government as it becomes available in the future. Should the EA be delayed, approximately $225,000 of Stage One work budgeted at $550,000, such as the public and first nations consultation portions of the technical assessments, agreements in principle with federal and provincial authorities particularly Parks Canada in relation to World Heritage and Rideau Canal issues, would become obsolete and/or would require updating.

Should Council decide to delay completion of the EA, the services contract with J.L. Richards could be suspended and reactivated at any time prior to December 31, 2011, at the engineering fees contained in the services contract but these fees would be adjusted for inflation for work after December 31 2011. It should be noted that the Terrestrial and Marine Ecological studies, which are part of Stage Two, must be undertaken during April/May migratory and spawning season. Should Council decide to delay the EA and resume at a later date, the EA completion time would be approximately 20 months after the April/May field study season.

Stage Two of the EA process would involve additional field investigations of the preferred option and focus on alternative design concepts (the “How”) including necessary mitigation measures, cost estimates and further consultation activities. Stage Two, which includes the Federal EA component, would require approximately 20 months for its completion (November 2011) provided authorization to proceed is rendered by May 1 2010.

A completed EA or Stage Two will provide the City with a comprehensive needs assessment and support document for a major capital undertaking. This would assist the City in facilitating long-term planning and budget programming including the ongoing collection of development charges allocated to the third crossing and the pursuit of financial assistance from upper levels of government. According to the Ontario Environmental Assessment Act the EA has a “shelf-life” of 10 years for the City to start implementation of the preferred option.

The EA Project tasks, including decision making and consultation activities, are being facilitated through four committees:

- A Senior Management Committee to oversee the overall project direction.
- A Technical Advisory Committee to provide technical guidance.
- A First Nations Consultation Sub-Committee to facilitate consultation with various First Nations communities having an interest within the EA study area.
- A Public Liaison Committee to provide guidance and input for public consultation activities.

A comprehensive consultation plan has also been implemented to facilitate input from the public and various federal and provincial approval agencies. Consultation will continue in Stage Two.

The assessment of the EA options and corridor locations was facilitated through the completion of the following technical assessments:

- Current and projected traffic conditions
- Ecological Conditions (Marine and Terrestrial)
- Cultural Heritage Conditions including First Nations Issues
- Archaeological Conditions (Marine and Terrestrial)
- Geo-Environmental Conditions
- Geotechnical Conditions
- Landscape Conditions
The EA study area was subdivided in six corridor areas with nine possible crossing alignment options considered based on potential connections to existing transportation infrastructure. The corridor areas were evaluated based on technical feasibility, transportation effectiveness, cultural, environmental and cost issues, resulting in three possible crossing alignments being short-listed for further consideration, as illustrated on Figure ES-2 in Exhibit A.

An evaluation matrix consisting of forty-eight criteria was developed and applied to the short-listed crossing options, in consultation with the Technical Advisory Committee. The following table provides the ranking of the short-listed alternatives and preliminary opinion of probable cost:

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Location</th>
<th>Shore to Shore Distance (m.)</th>
<th>2 Lanes</th>
<th>2 Lanes and a Substructure For 4 Lanes</th>
<th>4 Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bridge at Area 4 – Option 4A (John Counter Boulevard/Gore Road)</td>
<td>1,150</td>
<td>$114 million</td>
<td>$139 million</td>
<td>$181 million</td>
</tr>
<tr>
<td>2</td>
<td>Bridge at Area 4 – Option 4B (John Counter Boulevard to a new “T” intersection at Kingston road 15, roughly 150 metres north of Gore Road)</td>
<td>1,450</td>
<td>$141 million</td>
<td>$172 million</td>
<td>$224 million</td>
</tr>
<tr>
<td>3</td>
<td>Bridge at Area 2 – Option 2 (Russell Avenue to Craftsman Boulevard)</td>
<td>1,450</td>
<td>$141 million</td>
<td>$172 million</td>
<td>$224 million</td>
</tr>
</tbody>
</table>

Notes:
1. Includes $15 million and $18 million at Option 4A and Options 2 and 4B, respectively, for a temporary working bridge to facilitate construction.
2. Based on multiple 50 meter bridge spans.
3. Includes sidewalk and bicycle lane in both directions.
4. Includes 15 percent and 25 percent for Engineering and Contingency, respectively.
5. Expressed in 2010 dollars, with no allowance for cost escalation/inflation.

The recommended corridor alignment/solution for implementation of additional transportation capacity across the Cataraqui River is a bridge at Option 4A, the John Counter Boulevard and Gore Road Alignment as outlined on Figure ES-3 in Exhibit A. The number of lanes to be implemented (2 versus 4) would require further analyses during Stage 2 of the EA process.

Options to fund the capital cost would also be reviewed during Stage 2, but would include:

- Funding/Grants from Federal and Provincial Governments;
- Development Charges collected from ongoing and future development;
- Taxes;
- User Fees/Tolls; and/or
- Combination of all or some of the above.
A tunnel crossing option using a cut and cover technique was also considered and found not to be a viable solution due to:

- Significantly greater environmental impacts compared to a bridge.
- Technical challenges due to insufficient distance available between the river’s edge and Kingston Road 15 to achieve an acceptable geometric and vertical profile design of 6 percent or less. The vertical profile of the recently constructed Centennial Drive CN Rail overpass is 6%.
- Significant capital costs estimated in the $400 million range.

A tunnel through rock is also not feasible due to vertical profile constraints, as the rock elevation is roughly 20 metres to 40 metres below the river surface.

While public transit usage has increased from 3 percent of daily vehicle trips in 2004 to 5 percent in 2009, achieving a target of 11 percent usage in the longer term, an objective identified in the KTMP, will be challenging. Analyses completed as part of the 2004 “Kingston Transportation Master Plan” (KTMP) and the 2009 KTMP Update for the City’s “2009 Development Charges Review Study” indicated that enhanced transit would provide a noticeable capacity benefit in certain areas of the City, such as the Bath Road and King Street corridors in particular, but little-to-no benefit across the LaSalle Causeway. As a result, increasing transit services will not eliminate the need for additional transportation capacity across the Cataraqui River.

The Status Quo/Do Nothing option will result in increased congestion on the LaSalle Causeway causing travel delays and a significant increase in greenhouse gas emissions from vehicle idling during peak hour traffic demand. The 2029 PM peak hour greenhouse emissions are estimated to be 70 percent less with the implementation of a new crossing at the John Counter Boulevard/Gore Road location compared with the Status Quo/Do Nothing option.

A total of $1,700,000 was approved in the 2008 and 2009 Capital Budgets for the completion of the entire EA process, subject to receipt of a Stage One report and its further approval to proceed further.

The Stage One actual expenditure as of March 31 2010 date is approximately $500,000 and within the $550,000 allocation approved for that portion of the work. Should the EA be delayed, approximately $225,000 of Stage One work budgeted at $550,000, such as the public and first nations consultation portions of the technical assessments, agreements in principle with federal and provincial authorities particularly Parks Canada in relation to World Heritage and Rideau Canal issues, would become obsolete and/or would require updating.

The Environmental Assessment budget has been funded equally from the development charges fund (50%) and the municipal capital reserve fund (50%).

**EXISTING POLICY/BY LAW:**
Not applicable

**NOTICE PROVISIONS:**
Not Applicable

**ACCESSIBILITY CONSIDERATIONS:**
Not Applicable
FINANCIAL CONSIDERATIONS:

A total of $1,700,000 was approved in the 2008 and 2009 Capital Budgets for the completion of the entire EA process.

The Environmental Assessment budget is to be funded equally from the development charges fund (50%) and the municipal capital reserve fund (50%). Should the City not proceed with Stage 2 of the EA, the unused funding will remain in the respective reserve funds.

CONTACTS:

Speros Kanellos, Director, Real Estate & Construction Services, 613 546-4291 ext. 3133
John Sawarna, Capital Works Engineer, Real Estate & Construction Services, 613 546-4291 ext. 3169

OTHER CITY OF KINGSTON STAFF CONSULTED:

Alan McLeod, Senior Legal Counsel
Mark Van Buren, Director, Engineering Division
Stephen Dickey, Acting Director, Financial Services
Malcolm Morris, Director, Transportation

EXHIBITS ATTACHED:

Exhibit “A” Executive Summary of Third Crossing of the Cataraqui River, Environmental Assessment Stage 1 Summary Report.
EXECUTIVE SUMMARY

On January 20, 2009, the City of Kingston retained a team led by J. L. Richards & Associates Limited to initiate an Environmental Assessment (EA) to evaluate the need for and the feasibility of implementing additional transportation capacity across the Cataraqui River, which forms part of the Rideau Canal, a designated UNESCO World Heritage Site, National Historic Site, and Canadian Heritage River. Several studies have indicated an eventual need for additional transportation capacity across the Cataraqui River in order to: i) relieve traffic congestion on the LaSalle Causeway during peak hour traffic demand and/or during a Highway 401 detour event; ii) support continued urban growth in the City; and iii) enhance transit, emergency, and municipal services to the community, particularly on the east side of the river.

The undertaking of this EA study represents an opportunity to improve the following existing conditions:

1. The relief of existing and future traffic congestion through improved road network connectivity and traffic flows.

2. The enhancement of the City’s historic association with, and the values of, the Rideau Canal as a designated UNESCO World Heritage Site, National Historic Site, Canadian Heritage River and fully functional navigable waterway through the use of state-of-the-art and sustainable design practices.

3. The ability to accommodate long-term planned growth and development programs through improved east-west road network connectivity.

4. The enhancement of public transit services by creating new east-west routes.

5. The enhancement of emergency service provisions and the delivery of municipal services to the eastern portion of the City.

6. The promotion of alternative modes of transportation by creating new pedestrian and cycling routes and improving overall network connectivity.

As shown on Figure ES-1, two major east-west transportation crossings of the Cataraqui River currently exist within the City of Kingston urban limits, namely, the LaSalle Causeway along Highway 2 and Highway 401, approximately 6 kilometres north of the LaSalle Causeway/Highway 2 corridor. The LaSalle Causeway is operating at capacity and is expected to experience increased congestion during peak traffic periods as population and employment...
growth, including modest expansion of Canadian Forces Base (CFB) Kingston, continues west and east of the river.

The following alternative options are being considered as part of this EA study:

1. Retain the status quo or “do nothing”, which means that no facilities would be constructed to provide additional transportation capacity across the Cataraqui River and the problem would remain and/or an opportunity would not be addressed;

2. Increase the capacity of the LaSalle Causeway;

3. Increase the capacity of Highway 401 from Montreal Street to Kingston Road 15; or

4. Implement a new crossing at a location between the LaSalle Causeway and Highway 401 by either a bridge or a tunnel.

The EA follows both the provincial and federal Environmental Assessment frameworks and is proceeding in two stages. Stage 1, which is essentially now complete, focused on the needs assessment (the “Why”) and alternative EA options and corridor locations (the “Where”) and recommends a preferred option, including preliminary costing information. The level of effort and tasks completed to date represent approximately 35 percent to 40 percent of the total EA work program. Stage 2 would proceed, subject to Council’s approval. It would require approximately 20 months to complete and would focus on alternative design concepts (the “How”) including detailed mitigation measures and capital and maintenance costs. More specific activities and deliverables as part of the Stage 2 EA process would include:

1. Continuing ongoing consultation activities with the public, various agencies, and First Nations communities.

2. Undertaking detailed field investigations (e.g. archaeology, ecology, fisheries, geotechnical, geoenvironmental, transportation, aesthetic design guidelines) at the preferred corridor location.

3. Assessing preliminary design options.

4. Identifying a preferred design option and necessary mitigation measures.

5. Updating preliminary costing information.

6. Developing various scenarios to fund and finance the anticipated capital expenditure.
Once completed, the EA would be valid for 10 years and provide the technical justification in support of potential funding opportunities from upper levels of government.

As shown in Table ES-1, project tasks, including decision making and consultation activities are being facilitated through four committees:

1. A Senior Management Committee to oversee the overall project direction.
2. A Technical Advisory Committee to provide technical guidance and act as a sounding board for technical decision making.
3. A First Nations Consultation Sub-Committee to facilitate consultation with the following First Nations communities having an interest within the EA study area:
   a) The Algonquins of Ardoch;
   b) The Mississaugas of Alderville;
   c) The Mohawk Nation Council of Chiefs;
   d) The Algonquins of Sharbot Lake; and
   e) The Council of the Mohawks of the Bay of Quinte at Tyendenaga.
4. A Public Liaison Committee to provide guidance and input for public consultation activities.

These committees are part of a comprehensive consultation plan that has been implemented to facilitate input from the public and various agencies. Additional consultation to date has been facilitated through:

1. Maintaining a comprehensive agency, stakeholder group, and contact list.
2. Preparing regular project status updates such as newsletters and information handouts distributed by mail and/or E-mail.
3. Maintaining an up-to-date project website at:
   (www.cityofkingston.ca/residents/transportation/thirdcrossing).
4. Facilitating Public Information Centres at key milestones.
### Table ES-1 – Role and Responsibilities of Various Committees

<table>
<thead>
<tr>
<th>Committee</th>
<th>Committee Structure</th>
<th>Committee Roles and Responsibilities</th>
<th>Meetings to Date</th>
</tr>
</thead>
</table>
| **Senior Management Committee** | • Senior City Staff  
• Senior Project Team Members                                                   | • Project Oversight and Administration  
• Manage Project Budget and Schedule  
• Issue/Risk Management and Mitigation                                              | 6 Meetings:  
• February 5, 2009  
• March 11, 2009  
• June 25, 2009  
• September 23, 2009  
• February 11, 2010  
• April 6, 2010 |
| **Technical Advisory Committee**   | • Various City Departments  
• Senior Project Team Members  
• Canadian Environmental Assessment Agency  
• Canadian Forces Base Kingston  
• Cataraqui Region Conservation Authority  
• Department of Fisheries and Oceans  
• Parks Canada  
• Ministry of Transportation Ontario | • Technical Guidance on EA Study Alternatives  
• Vetting Technical Decision-Making  
• Assistance in Identifying Approval Requirements                                     | 6 Meetings:  
• March 9, 2009  
• September 16, 2009  
• November 4, 2009  
• January 27, 2010  
• February 10, 2010  
• February 23, 2010 |
| **First Nations Consultations Sub-Committee** | • Senior City Staff  
• Senior Project Team Members  
• Special Advisors | • Led by the City  
• Represents City and Project Team  
• Maintain a Link With First Nations  
• See Section 3.6 for Details                                                        | Various and Ongoing  
• See Section 3.6 for Details |
| **Public Liaison Committee**    | • Senior City Staff  
• Senior Project Team Members  
• Eight ‘Local Community’ Representatives with Equal Representation from Both Sides of the Cataraqui River | • Ambassadors – Not Technical Advisors  
• Provide Input on Public Consultation Activities  
• Review Consultation Reports  
• Attend Public Information Centres                                                  | Five Meetings including a Boat Tour of the EA Study Area:  
• June 4, 2009  
• August 24, 2009  
• October 14, 2009  
• January 27, 2010  
• February 25, 2010 |
5. Consultation with Parks Canada and experts in the fields of ecology, fisheries, and wetland experts from provincial and federal agencies to discuss issues, concerns, and potential opportunities that might arise from various development proposals (such as an additional crossing of the Cataraqui River or residential development applications) on the part of the Rideau Canal located south of the Kingston Mills Lock Station.

6. Consultation with CFB Kingston to provide an overview of the project and discuss CFB Kingston's long-term strategic plans.

The assessment of the EA options and corridor locations was facilitated through the completion of the following technical assessments:

1. Existing and Future Traffic Conditions.
2. Ecological Conditions (Marine and Terrestrial).
3. Cultural Heritage Conditions.
4. Archaeological Conditions (Marine and Terrestrial).
5. Geo-Environmental Conditions.
7. Landscape Conditions.

With an existing traffic volume in the order of 1,000 to 1,100 vehicles per hour in each direction during the PM peak hour, the LaSalle Causeway is currently operating below the City’s target Level of Service (or ‘LOS’) ‘D’, which is based on an average estimated capacity of 900 vehicles per hour, per lane. Unless additional transportation capacity is implemented across the Cataraqui River, the LaSalle Causeway LOS is expected to fall further below the City’s target LOS ‘D’ as a result of increased traffic volumes associated with future population and employment growth, including the continued expansion of CFB Kingston. The traffic volume across the LaSalle Causeway is expected to reach approximately 1,350 vehicles per hour, per lane, during the PM peak hour by 2029. This is approximately 50 percent greater than the existing average estimated capacity of 900 vehicles per hour per lane.

While public transit usage has increased from 3 percent of daily vehicle trips in 2004 to 5 percent in 2009, achieving a target of 11 percent usage in the long-term will be very difficult, given Kingston’s population and the significant transit infrastructure and aggressive policy approach required. Analyses completed for the 2004 “Kingston Transportation Master Plan”
(KTMP) and the 2009 KTMP Update as part of the City’s “2009 Development Charges Review Study” showed that enhanced transit would provide a noticeable capacity benefit in certain areas of the City, such as the Bath Road and King Street corridors in particular, but little-to-no benefit across the LaSalle Causeway. As a result, increasing transit services will not eliminate the need for additional transportation capacity across the Cataraqui River.

As also shown on Figure ES-1, for EA evaluation purposes, the EA study area was subdivided into six corridor areas with nine possible crossing alignment options considered based on potential connections to existing transportation infrastructure. The corridor areas were evaluated based on technical feasibility, transportation effectiveness and potential social, cultural, environmental and financial impacts. A tunnel crossing option using a cut and cover technique was also considered and found not to be a viable solution due to:

1. Significantly greater environmental impacts compared to a bridge.

2. Technical challenges due to insufficient distance available between the river’s edge and Kingston Road 15 to achieve an acceptable geometric and vertical profile design of 6 percent or less.

3. Significant capital costs estimated in the $400 million range.

A tunnel through rock is also not feasible due to vertical profile constraints, as the rock elevation is roughly 20 metres to 40 metres below the river surface.

Based on this evaluation, three possible bridge crossing alignments were short-listed for further consideration, as illustrated on Figure ES-2. An evaluation matrix consisting of forty-eight criteria was then developed and applied to the short-listed bridge crossing options, in consultation with the Technical Advisory Committee. Table ES-2 provides the ranking of the short-listed alternatives and preliminary opinion of probable cost.
**Table ES-2 – Short-Listed Alternative Rankings and Preliminary Opinion of Probable Cost**

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Location</th>
<th>Shore to Shore Distance (m.)</th>
<th>Preliminary Opinion of Probable Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2 Lanes</td>
<td>2 Lanes and a Substructure For 4 Lanes</td>
</tr>
<tr>
<td>1</td>
<td>Bridge at Area 4 - Option 4A (John Counter Boulevard /Gore Road)</td>
<td>1,150</td>
<td>$114 million</td>
</tr>
<tr>
<td>2</td>
<td>Bridge at Area 4 – Option 4B (John Counter Boulevard to a new “T” intersection at Kingston Road 15, roughly 150 metres north of Gore Road)</td>
<td>1,450</td>
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<td>3</td>
<td>Bridge at Area 2 - Option 2 (Russell Avenue to Craftsman Boulevard)</td>
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</table>

**Notes:**
1. Includes $15 million and $18 million at Option 4A and Options 2 and 4B, respectively, for a temporary working bridge to facilitate construction.
2. Based on multiple 50 metre bridge spans.
3. Includes sidewalk and bicycle lane in both directions.
4. Includes 15 percent and 25 percent for Engineering and Contingency, respectively.
5. Expressed in 2010 dollars, with no allowance for cost escalation/inflation.
6. Excludes property acquisition and Harmonized Sales Tax.

The recommended corridor alignment for implementation of additional transportation capacity across the Cataraqui River is at the John Counter Boulevard and Gore Road alignment (Refer to Figure ES-3), with a bridge as the preferred crossing solution. The number of lanes to be implemented (2 lanes versus 4 lanes) would require further analyses during Stage 2 of the EA process.

Options to fund the capital cost would also be reviewed during Stage 2, but would include:

1. Funding/Grants from Federal and Provincial Governments;
2. Development Charges collected from ongoing and future development;
3. Taxes;
4. User Fees/Tolls; and/or
5. Combination of all or some of the above.

Based on consultations with the Technical Advisory Committee, Parks Canada officials and ecological, fishery and wetland experts from various provincial and federal agencies, it is considered feasible to implement a bridge that maintains and, in some instances, enhances the values of the Rideau Canal, while respecting its World Heritage and National Historic Site designations, through the use of state-of-the-art and sustainable design practices, including the development of such features as public gathering and sightseeing areas and walkways that showcase the Rideau Canal and the adoption of appropriate aesthetic design guidelines to reflect the site setting.

Despite opportunities for minor operational improvements and the City’s focused strategies to enhance public transit service, walking and cycling networks, the Retain the Status Quo/Do Nothing option will result in increased congestion on the LaSalle Causeway, causing travel delays and a significant increase in greenhouse gas emissions from vehicle idling during peak hour traffic demand. With the implementation of a Third Crossing at the John Counter Boulevard and Gore Road alignment, the 2029 PM peak hour greenhouse emissions are estimated to be approximately 70 percent less than with the Retain the Status Quo/Do Nothing option.

The following recommendations are provided, should the City wish to proceed to Stage 2 of this EA study for implementing additional transportation capacity across the Cataraqui River at the John Counter Boulevard/Gore Road alignment as the preferred location with a bridge being the preferred crossing solution:

1. Formally initiate the Canadian Environmental Assessment through the preparation of a Project Description.

2. Complete the Ontario Schedule C Class Environmental Assessment to identify a preferred design concept (the “How”) and mitigation measures.
FIGURE ES-2
SHORT-LISTED EA OPTIONS AND CORRIDORS

RECOMMENDED WELLINGTON ST. EXTENSION ALTERNATIVE AS PER 2006 ENVIRONMENTAL STUDY REPORT
POTENTIAL linkages
LIMIT OF RIDEAU CANAL RESERVE LANDS (APPROXIMATE LOCATION)

Exhibit "A"

Council Meeting 12 April 20, 2010

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