

10.0 CLASS EA PRINCIPLES

This study has followed the requirements of the MTO’s *Class Environmental Assessment for Provincial Transportation Facilities* which was approved under the Ontario *Environmental Assessment Act* in the fall of 1999 and amended in 2000.

The goal of all projects and activities covered by the Class EA is to provide a safe and effective transportation system while avoiding or minimizing negative environmental effects. To achieve this goal, the Class EA specifies certain mandatory principles which must be achieved.

Table 10-1 below summarizes how the principles of the Class EA were addressed in this project.

TABLE 10-1: CLASS EA PRINCIPLES

PRINCIPLES (SECTION OF CLASS EA)	HOW THE CLASS EA PRINCIPLES WERE ADDRESSED
Transportation Engineering (Section 4.1)	
<ul style="list-style-type: none"> Provide for the efficient movement of people and goods. 	<ul style="list-style-type: none"> New bridge will be constructed to ensure the efficient and safe movement of people and goods. Short-term partial lane closures may be required during non-peak hours. As with all MTO projects involving lane, ramp and roadway closures, Advanced Notification Signage will be specified to inform motorists of the closures. Operational improvements, such as the re-introduction of truck-climbing lanes, and improved roadway geometrics, such as widened shoulders, will improve safety and operations.
<ul style="list-style-type: none"> Meet the needs of the travelling public as a whole, by maximizing opportunities for access and mobility. 	<ul style="list-style-type: none"> The proposed works will address the long-term needs of the QEW corridor and the QEW Garden City Skyway, thus ensuring a continuous, reliable crossing of the Welland Canal. The construction of a twin bridge provides redundancy, such that in the event that one bridge is unserviceable, the other bridge could be used for bi-directional traffic with reduced lanes.
<ul style="list-style-type: none"> Address the identified transportation problems and opportunities, and maximize the opportunity to satisfy existing and future provincial travel demand. 	<ul style="list-style-type: none"> The Recommended Plan addresses the problems and opportunities identified in Section 5.1. The construction of a new twin bridge to the north of the existing bridge provides the opportunity to satisfy existing and future provincial travel demand.
<ul style="list-style-type: none"> Reflect sound engineering judgement, site specific transportation engineering and/or environmental constraints, transportation demand, capacity of existing and future transportation facilities, traffic composition, trip length, population density and land development, and traffic habits of the overall transportation system users, in meeting or exceeding current provincial standards and practices. 	<ul style="list-style-type: none"> The proposed works reflect sound engineering and design judgement, including constructing a new twin bridge to the north and rehabilitating the existing structure so as not to impede traffic flow. The re-introduction of truck climbing lanes addresses existing traffic composition, improving operational performance along the QEW Garden City Skyway.
<ul style="list-style-type: none"> Ensure compatibility with the existing and future provincial and municipal transportation system and system needs, and improve the level of service, 	<ul style="list-style-type: none"> The proposed works are compatible with existing and future provincial and municipal transportation systems and system needs.

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<ul style="list-style-type: none"> safety and operation for the provincial transportation system users. 	<ul style="list-style-type: none"> The level of service, safety and operations will also improve with the proposed improvement, through the reinstatement of the previous truck climbing lanes and the widening of shoulders on the existing bridge. The redundancy provided by a twin bridge also improves operations and level of service in the event that one bridge is unserviceable.
<ul style="list-style-type: none"> Ensure consistency with other transportation facilities in the vicinity to ensure rational and predictable behaviour of users. 	<ul style="list-style-type: none"> The Recommended Plan will provide a reliable crossing of the Welland Canal to ensure the continued efficient use of the QEW.
<ul style="list-style-type: none"> Ensure the technical feasibility of construction, operation and maintenance. 	<ul style="list-style-type: none"> The Recommended Plan is technically feasible from a construction, operation and maintenance point of view and meets MTO design standards for geometrics. A Value Engineering and Cost Risk Assessment workshop was completed for the alternatives.
<ul style="list-style-type: none"> Minimize environmental impacts and the use of non-renewable natural resources such as aggregates. 	<ul style="list-style-type: none"> Environmental impacts have been minimized through mitigation measures (refer to Section 8.0).
<ul style="list-style-type: none"> Minimize property requirements and impacts on adjacent properties. 	<ul style="list-style-type: none"> The alternative with the most easily mitigated property impacts was selected. Effort has been made to minimize the property required and maximize opportunities for the use of the remaining lands. During Detail Design, there is the potential for design refinements that further reduce property impacts.
<ul style="list-style-type: none"> Minimize net energy usage of the transportation system. 	<ul style="list-style-type: none"> The implementation of the proposed works will help avoid possible traffic disruptions which could lead to reduced access and increased fuel consumption during idling.
<ul style="list-style-type: none"> Avoid directing large volumes of long-distance provincial traffic through settlement areas. 	<ul style="list-style-type: none"> The QEW is within an existing transportation corridor. Settlement areas are not affected. Construction staging has been designed to avoid lane closures, so as not to impede QEW traffic flow.
<ul style="list-style-type: none"> Maximize opportunities to make the facility “more safe”. 	<ul style="list-style-type: none"> The Recommended Plan makes the facility “more safe” by increasing shoulder widths on both structures to the existing MTO design standards. In addition, the new bridge provides improved vertical and horizontal alignments for the QEW. The introduction of a twin bridge provides redundancy in the event that one of the bridges becomes unserviceable, by enabling bi-directional traffic with reduced lanes.
<ul style="list-style-type: none"> In consideration of all of the above, provide the maximum benefit for the lowest cost (considering construction, maintenance and operation costs). 	<ul style="list-style-type: none"> A Value Engineering (VE) and Cost Risk Assessment (CRA) Study was held in Fall 2012 to: ensure that the project accomplishes necessary functions; consider risks to cost and schedule; identify unnecessary or excess costs; challenge how the project is being solved; and develop risk management and mitigation strategies. A key outcome of the VE and CRA study was the recommendation that North Twinning and South Twinning be carried forward for further investigation; additional evaluation resulted in North Twinning being selected as the Technically Preferred Alternative.

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Environmental Protection (Section 4.2)	
<ul style="list-style-type: none"> Conduct studies and/or projects with an inherent approach of avoiding or minimizing overall environmental impacts through consideration of alternatives. 	<ul style="list-style-type: none"> Studies were conducted for natural, cultural and socio-economic features to determine environmental sensitivities and constraints. Project-specific reports are on file at MTO and are summarized in Sections 4.0 and 8.0. Alternatives were developed and assessed which best met the study objectives and minimized overall environmental impact. See Section 6.0 for details about the alternative generation and evaluation process.
<ul style="list-style-type: none"> Identify existing environmental conditions and potential impacts relevant to the study and/or project. 	<ul style="list-style-type: none"> Existing environmental conditions are presented in Section 4.0 of this TESR. Potential impacts and proposed mitigation are presented in Section 8.0 of this TESR.
<ul style="list-style-type: none"> Meet the statutory duties and other requirements of federal and provincial environmental legislation. 	<ul style="list-style-type: none"> Statutory requirements of the <i>Environmental Assessment Act</i> addressed through adherence to the <i>Class Environmental Assessment for Provincial Transportation Facilities</i> (1999, as amended in 2000). The watercourse crossings were reviewed in accordance with the MTO/DFO/OMNR Fisheries Protocol (version 2, 2013) during Detail Design. If an authorization under the Federal Fisheries Act is required, it will be obtained prior to construction. Potential Species At Risk Act (SARA) Permit requirements (refer to Section 9.1.1) will be reviewed during Detail Design. If a SARA Permit is required, it will be obtained prior to construction.
<ul style="list-style-type: none"> Meet the intent of government-approved policy and inter-ministerial protocols. 	<ul style="list-style-type: none"> Intent of all relevant government approved policies and protocols have been and will be met. The study has followed MTO's Environmental Standards and Practices, and policies and inter-ministerial protocols such as the MTO/DFO/MNRF Fisheries Protocol (version 2, 2013) were followed during the Class EA process.
<ul style="list-style-type: none"> Address the Ministry of Transportation's Statement of Environmental Values.⁶ 	<ul style="list-style-type: none"> The Recommended Plan has demonstrated protection of the natural environment by minimizing impacts and incorporating mitigation. Environmental concerns in decision-making have been demonstrated in this design through inclusion of environmental criteria in the evaluation of alternatives. Integrated transportation planning has been provided through the application of sound transportation engineering and environmental planning principles. Consultation has been addressed through a consultation program that included a project website, three PICs, stakeholder meetings, direct contact with the Project Team via mail, email, phone or fax and newspaper notifications inviting stakeholder participation and comments. First Nation and Métis Nation communities and related organizations and agencies were contacted by the Project Team at key milestones throughout

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	<ul style="list-style-type: none"> the study process, including for Study Commencement, each of the PICs, and Study Completion. Green practices promoted through general protection mitigation measures. MTO practices will be implemented through standard contract requirements.
<ul style="list-style-type: none"> Balance environmental protection considerations with transportation engineering considerations during each stage of the study and/or project process, recognizing that safety and effectiveness of the transportation system is fundamental to such decisions. 	<ul style="list-style-type: none"> Environmental protection considerations have been balanced with transportation engineering considerations, as demonstrated in the evaluation of alternatives, selection of a Recommended Plan and mitigation measures.
<ul style="list-style-type: none"> Recognize that environmental mitigation measures themselves may have environmental impacts which offset their benefit. 	<ul style="list-style-type: none"> It is recognized that environmental mitigation measures themselves may have environmental impacts which offset their benefit (i.e. additional vegetation removal may be required to install silt fence barriers for erosion).
<ul style="list-style-type: none"> Provide mitigation effort in proportion to environmental significance and ability to reasonably mitigate. 	<ul style="list-style-type: none"> Appropriate mitigation effort has been provided. Emphasis has been placed on reducing impacts and providing mitigation. Refer to Section 8.0 for recommended mitigation measures.
<ul style="list-style-type: none"> Monitor the implementation of environmental protection and mitigation measures during construction. 	<ul style="list-style-type: none"> Monitoring requirements will be specified during Detail Design.
External Consultation (Chapter 5)	
<ul style="list-style-type: none"> External stakeholders, including external agencies and the public will be notified of the proponent's intention to carry out a study at the beginning of the study, before the proponent becomes committed to a particular solution. 	<ul style="list-style-type: none"> External stakeholders were notified at the commencement of the study by mail / email, by newspaper advertisements in local newspapers (<i>St. Catharines Standard, Niagara Falls Review, and Welland Tribune</i>), and through the project website (www.qewgcs.ca). Consultation first occurred at study commencement and was ongoing throughout the duration of the study.
<ul style="list-style-type: none"> In all cases, the consultation plan will be developed to place emphasis on consultation with the stakeholders most directly affected. 	<ul style="list-style-type: none"> Emphasis was placed on consulting with local stakeholders by advertising in local newspapers, through direct distribution of study milestone notices, registered letters to impacted property owners, and by contacting local municipal authorities and agencies in addition to provincial and federal ministries.
<ul style="list-style-type: none"> The consultation plan will provide timely, user-friendly opportunities for input by the public and the agencies whose mandates are most directly affected. 	<ul style="list-style-type: none"> The consultation plan provided opportunity for timely, user-friendly input throughout the project through a variety of consultation methods (including website comment form, Project Team email account, and three Public Information Centres). Notices placed in local newspapers invited stakeholder participation and comments. Stakeholder meetings were held as appropriate.

⁶ <https://www.ebr.gov.on.ca/ERS-WEB-External/content/sev.jsp?pageName=sevList&subPageName=10005>

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<ul style="list-style-type: none"> • Consultation will be used to assist in the identification of data requirements. 	<ul style="list-style-type: none"> • Provincial and federal agencies, municipalities, the local Conservation Authority, utilities and interest groups were contacted initially to determine existing background information and sensitivities and assist in determining further data requirements.
<ul style="list-style-type: none"> • The proponent will constructively address input received during the consultation process. 	<ul style="list-style-type: none"> • All input received during the consultation process was addressed (refer to Section 3.0).
<ul style="list-style-type: none"> • During later planning and design phases, the proponent will show how the input received in earlier stages affected the project. 	<ul style="list-style-type: none"> • The outcome from input received is documented in Section 3.0.
<ul style="list-style-type: none"> • The amount, extent and timing of consultation will vary according to the complexity of a specific project, the nature of the specific environmental issues, and the concerns expressed by the public and external agencies. 	<ul style="list-style-type: none"> • The extent of consultation focused on local stakeholders, relevant provincial and federal ministries, the local Conservation Authority, and municipalities as per the nature of the project. • The timing of consultation provided opportunity for input throughout the project, including three PICs held at key study milestones, a project website that was maintained for the duration of the study, and stakeholder meetings as required.
<ul style="list-style-type: none"> • For each study, appropriate methods of notification will be selected based on the nature of the study, the external parties to be contacted, the stage of the study, and the issues to be addressed. 	<ul style="list-style-type: none"> • Appropriate methods of notification were utilized during this study including direct mail / email notification, newspaper advertisements, Canada Post unaddressed bulk mail to local residents and businesses, and notification available on the project website.
<ul style="list-style-type: none"> • The proponent will make reasonable efforts to resolve concerns. Mediation will be considered for major issues, at key decision points. 	<ul style="list-style-type: none"> • Reasonable effort has been undertaken to address all stakeholder and agency concerns (refer to Section 3.0).
Evaluation (Section 4.3)	
<ul style="list-style-type: none"> • The evaluation process must be traceable, replicable, and must be understandable by those who may be affected by the decisions. 	<ul style="list-style-type: none"> • The evaluation process is traceable, replicable and understandable and was based on a qualitative trade-off analysis and is clearly explained using a variety of factors (refer to Section 6.0). • This evaluation process is commonly used in MTO projects for alternative selection and is generally accepted as a reasonable methodology for projects of this scope and complexity.
<ul style="list-style-type: none"> • All relevant factors, including transportation engineering and environmental protection, will be given due consideration. 	<ul style="list-style-type: none"> • All relevant factors were considered during the selection of the Technically Preferred Alternative (refer to Table 6-3), including the natural, cultural and socio-economic environments, transportation / technical considerations and cost.
<ul style="list-style-type: none"> • The evaluation may be subjective (based on reasoned argument) or objective (using quantifiable data). 	<ul style="list-style-type: none"> • The evaluation was based on reasoned argument and augmented with qualitative research and background / field information where appropriate.
<ul style="list-style-type: none"> • For Group 'A' projects, the proposed evaluation process in planning will be established through consultation with external stakeholders. 	<ul style="list-style-type: none"> • Not applicable, as this is a Group 'B' project.

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<ul style="list-style-type: none"> • Factors may be refined from one stage of a project to the next. 	<ul style="list-style-type: none"> • Factors were refined throughout the course of the study through field investigations, engineering work and understanding of stakeholder concerns.
Environmental Documentation (Section 6.1)	
<ul style="list-style-type: none"> • The document content requirements will be fulfilled. 	<ul style="list-style-type: none"> • The document content requirements and the corresponding sections of the TESR are as follows: <ul style="list-style-type: none"> ○ Study objectives – Section 1.3 and Section 5.0 ○ Earlier and related work – Section 1.4 ○ Transportation engineering issues – Sections 1.3, 4.4 and 5.0 ○ Environmental issues – Section 4.0 and Section 8.0 ○ Alternatives developed and evaluated – Section 6.0 ○ External consultation – Section 3.0 ○ Changes made as a result of external consultation – Section 3.0 ○ Recommended Plan – Section 7.0 ○ Commitments to future work – Section 8.0, Section 9.0 and Section 11.0
<ul style="list-style-type: none"> • Documentation will deal with project-specific details and issues. Information presented in the Class EA parent document will not be repeated. 	<ul style="list-style-type: none"> • This TESR addresses project-specific details and issues (i.e. problems and opportunities for the QEW Garden City Skyway; site-specific natural, cultural and socio-economic features; alternatives selection; impact assessment; and mitigation). • Information in the Class EA parent document has not been unnecessarily repeated.
<ul style="list-style-type: none"> • Documentation will cover the results of the study to date. 	<ul style="list-style-type: none"> • This TESR covers the results of the QEW Garden City Skyway Class EA study to date.
<ul style="list-style-type: none"> • A TESR and DCR must cover full phases. 	<ul style="list-style-type: none"> • This TESR covers the full Planning / Preliminary Design phase.
<ul style="list-style-type: none"> • Where a Study Design Report, TESR, or DCR is required, an opportunity to review the documentation and provide comments will be provided. 	<ul style="list-style-type: none"> • A 30-day opportunity to review the TESR will be provided at the review locations as noted in The Public Record (See page i of this report). • An invitation to provide comments on the TESR has been provided in the notification for filing this TESR, sent by direct mail / email to contacts on the study contact list, published in local newspapers (<i>St. Catharines Standard</i>, <i>Niagara Falls Review</i>, and <i>Welland Tribune</i>), and posted on the project website (www.qewgcs.ca).
<ul style="list-style-type: none"> • The review period for Study Design Reports, TESRs, and DCRs will be at least 30 days. 	<ul style="list-style-type: none"> • A review period of 30 days was provided for the TESR.

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Bump-up (Section 6.2)	
<ul style="list-style-type: none"> Notice of bump-up opportunity will be provided upon formal submission of the TESR in all cases, and if applicable, upon submission of the DCR. 	<ul style="list-style-type: none"> Part II Order (“bump up”) opportunity notification has been provided for in the notification for filing the TESR.
<ul style="list-style-type: none"> The review period following the notice of bump-up opportunity will be at least 30 days in all cases. 	<ul style="list-style-type: none"> A review period of 30 days has been provided for this TESR.
<ul style="list-style-type: none"> Environmental Clearance – Construction Start will not be issued, and the construction of physical works will not begin, until the 30 day review period is over and any bump-up requests have been dealt with. 	<ul style="list-style-type: none"> Not applicable for a Preliminary Design project.
Environmental Clearance (Chapter 8)	
<ul style="list-style-type: none"> The study principles for transportation engineering, environmental protection, evaluation, consultation, documentation, and bump-up set out in this Class EA have been applied to the project. 	<ul style="list-style-type: none"> Study principles have been applied to this project as detailed in this table.
<ul style="list-style-type: none"> The study process set out in this Class EA has been applied. 	<ul style="list-style-type: none"> The study process for a Group ‘B’ project under the Class EA has been applied, as detailed in this TESR.