

# Environmental Assessment Approval

Approval Date: JUN 27 2017

## Highway 101 Twinning Three Mile Plains to Falmouth Project

### Department of Transportation and Infrastructure Renewal

#### Hants County, Nova Scotia

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The Highway 101 Twinning Three Mile Plains to Falmouth Project (the "Project"), proposed by: Department of Transportation and Infrastructure Renewal (the "Approval Holder") in Hants County, Nova Scotia is approved pursuant to Section 40 of the *Environment Act* and Section 13(1)(b) of the Environmental Assessment Regulations. This Approval is subject to the following conditions and obtaining all other necessary approvals, permits or authorizations required by municipal, provincial and federal acts, regulations and by-laws before commencing work on the Project. It is the responsibility of the Approval Holder to ensure that all such approvals, permits or authorizations are obtained before commencing work on the Project.

This Environmental Assessment Approval is based upon the review of the conceptual design, environmental baseline information, impact predictions, and mitigation presented in the Registration Document.

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#### Terms and Conditions for Environmental Assessment Approval

##### 1.0 General Approval

- 1.1 The Environmental Assessment Approval for the Project is limited to the Project as described in the Environmental Assessment Registration Document. Any proposal by the Approval Holder for expansion, modification or relocation of any aspect of the project from that proposed in the Registration Document must be submitted to the Environmental Assessment Branch for review and may require an environmental assessment (EA).
- 1.2 The Approval Holder must, within two years of the date of issuance of this Approval, commence work on the Project unless granted a written extension by the Minister.

The Approval Holder must notify Nova Scotia Environment (NSE) of the commencement date of the Project at a minimum 30 days prior to the commencement, unless otherwise approved by NSE.

- 1.3 The Approval Holder must not transfer, sell, lease, assign or otherwise dispose of this Approval without the written consent of the Minister. The sale of a controlling interest of a business or a transfer of an approval from a parent company to a subsidiary or an affiliate is deemed to be a transfer requiring consent.
- 1.4 The Approval Holder must implement all mitigation and commitments in the Registration Document, unless otherwise approved by NSE.

## **2.0 Surface Water Resources**

- 2.1 The Approval Holder must not undertake any Project related activities within 30 metres of watercourses and/or wetlands unless otherwise approved by NSE. No development or removal of vegetation within this 30 metre buffer is permitted unless otherwise approved by NSE.
- 2.2 The Approval Holder must obtain approval under the Activities Designation Regulations from NSE regarding wetland alterations related to the Project, and must also develop and implement a wetland monitoring plan to monitor impacted wetlands including salt marshes.
- 2.3 The Approval Holder must notify Canada's Ramsar Administrative Authority (at Canadian Wildlife Service, Environment and Climate Change Canada) for project related impacts on Ramsar Wetlands of International Importance.
- 2.4 Prior to commencement of the Project (unless otherwise approved by NSE), the Approval Holder must submit a surface water monitoring program including sampling locations, parameters and frequency. The Approval Holder must implement the program once accepted by NSE. Based on the results of the monitoring program, the Approval Holder must make necessary modifications to mitigation plans and/or operations as required by NSE.
- 2.5 Prior to commencement of the Project, the Approval Holder must develop and implement erosion and sedimentation control measures to mitigate the potential release of sediments into the environment as a result of Project related activities.

### **3.0 Groundwater Resources**

- 3.1 Prior to commencement of the Project (unless otherwise approved by NSE), the Approval Holder must provide NSE a standardized baseline survey report of existing water supply wells within 500 meters of the centerline of the new highway alignment. The pre-construction survey report must include detailed information about the water well supply in addition to water samples collected and analyzed for total and fecal coliform bacteria, pH, general chemistry and metals. The survey result is to be tabulated and compared to relevant regulations and guidelines.
- 3.2 Prior to any blasting, the Approval Holder must develop and implement an updated blasting plan. The plan must include an updated pre-blast survey (conducted in accordance with the NSE "Procedure for Conducting a Pre-Blast Survey") for structures and water wells within 800 meters of the blast area, a detailed blast monitoring plan, and a full blast damage response policy.
- 3.3 Prior to commencement of the Project (unless otherwise approved by NSE), the Approval Holder must provide NSE a baseline survey report for all dug wells located within 50 meters of a major overburden cut (e.g., greater than 5 meters). The baseline report must include detailed information for these dug wells as required in Condition 3.1 above, as well as information on water well depth, static water level depth and water well yield.
- 3.4 Prior to operation of the Project, the Approval Holder must provide details of a salt management plan that must include specific details on how the Project operations phase is designed to protect vulnerable source water around areas of potentially affected water well supplies within 500 meters of the centerline of the new highway alignment. The Approval Holder must implement the plan once the plan is accepted by NSE.
- 3.5 Prior to operation of the Project, The Approval Holder must develop a comprehensive post-construction groundwater quality and water level monitoring plan that is carried out for a minimum 5-year period unless otherwise approved by NSE. The Plan must include the following points, and the Approval Holder must implement the plan once the plan is accepted by NSE:
  - a) a description of the post-construction groundwater monitoring program;
  - b) a map showing locations of groundwater monitoring sites;

c) a table identifying the name, location, monitoring frequency and parameters for each groundwater monitoring site; and

d) monitoring well decommissioning procedures if dedicated monitoring wells are installed.

- 3.6 Prior to operation of the Project , the Approval Holder must submit a water supply contingency plan acceptable to NSE, and the plan must include the following to respond to potential Project impacts on water wells: reference to the post-construction monitoring plan and how the results of that plan will be used, how water well complaints will be processed, what situations will trigger corrective action, the main potential corrective actions proposed to address any water quantity and water quality issues and how disputes will be resolved.

The plan must specifically address the provision for protected, non-interrupted supplies for potentially affected business and registered public drinking water supply owners. The Approval Holder must implement the plan once the plan is accepted by NSE.

- 3.7 Any water wells decommissioned by the Approval Holder must follow the Well Construction Regulations, and NSE's Water Well Decommissioning Guidelines.

#### **4.0 Fish and Fish Habitat**

- 4.1 Prior to commencement of the Project, the Approval Holder must communicate to the public and the Mi'kmaq to explain why the causeway at the Avon River was selected over other options (including a bridge).

- 4.2 Prior to commencement of the Project at the Avon River causeway (unless otherwise approved by NSE), the Approval Holder must provide the following information to the satisfaction of the Fisheries and Oceans Canada (DFO). The Approval Holder must report to NSE that the information has been provided to DFO.

a) provide sufficient and updated baseline information on fish near the existing aboiteau and causeway at the Avon River; and

b) provide detailed design of the aboiteau structure to enable fish passage together with an analysis of any other options for fish passage at the Avon River causeway.

## 5.0 Flora and Fauna

- 5.1 Prior to commencement of the Project, the Approval Holder must provide Nova Scotia Department of Natural Resources (DNR), Wildlife Division with digital way points and/or shape files revealing precise locations for all S1, S2 and S3 listed species (under the Atlantic Canada Conservation Data Center), identified during field work within the area of the Project. The date of the above noted field data must also be provided to DNR. The Approval Holder must report to NSE that the files have been provided to DNR.
- 5.2 Prior to the commencement of the Project, the Approval Holder must develop in consultation with DNR, Wildlife Division a wildlife management plan to include the following points. The Approval Holder must implement the plan once the plan is accepted by NSE:
  - a) measures to mitigate potential Project related impacts on plants including: Black Ash (*Fraxinus nigra*), Eastern White Cedar (*Thuja occidentalis*), Bebb's Sedge (*Carex bebbii*), Fan-Leaved Hawthorn (*Crataegus flabellate*), Purple-Veined Willowherb (*Epilobium coloratum*), Big-Leaved Marsh-Elder (*Iva frutescens*), Soapberry (*Shepherdia canadensis*), and Roland's Sea-Blite (*Suaeda rolandii*);
  - b) measures to mitigate wildlife-vehicle collisions; and
  - c) measures to manage non-native (alien invasive) plant species.
- 5.3 The Approval Holder must clear vegetation outside of the breeding season for most bird species (April 15 to August 31), unless otherwise approved by NSE.

## 6.0 Air Quality and Noise

- 6.1 At the request of NSE, the Approval Holder must develop and implement an air quality and/or dust monitoring plan. This plan must include but not be limited to sampling locations, parameters, monitoring methods, protocols and frequency. Based on the results of the monitoring programs as proposed, the Approval Holder must make necessary modifications to mitigation plans and/or operations as required by NSE.
- 6.2 At the request of NSE, the Approval Holder must monitor noise levels. Based on the results of monitoring program as proposed, the Approval Holder must make necessary modifications to mitigation plans and/or operations as required by NSE.

## **7.0 Archaeological and Heritage Resources / Aboriginal Interests**

- 7.1 Prior to commencement of the Project (unless otherwise approved by NSE), the Approval Holder must retain a professional archaeologist to develop in consultation with the Nova Scotia Department of Communities, Culture and Heritage (CCH), an archaeological contingency plan to mitigate potential Project related impacts. The Approval Holder must implement the plan once the plan is accepted by NSE.
- 7.2 During Project construction and operation, the Approval Holder must not undertake any Project related activities within the area of high archaeology potential (the yellow rectangle area in the western part of the Project area, as identified in Figure 5.11 of the Registration Document) unless otherwise approved by NSE.
- 7.3 The Approval Holder must cease work and contact the Special Places Coordinator, CCH immediately upon discovery of an archaeological site or artifact unearthed during any phase of the Project. If the find is of certain or suspected Mi'kmaq origin, the Approval Holder must also contact the appropriate Mi'kmaq representatives as advised by CCH.

## **8.0 Public Consultation**

- 8.1 Prior to commencement of the Project, the Approval Holder must develop and implement a complaint resolution plan to address all concerns associated with the Project. As part of the plan, the Approval Holder must appoint a contact person designated to deal with complaints, and must provide the contact information to NSE.
- 8.2 The Approval Holder must continue to operate a Community Liaison Committee (CLC). The NSE's Guidelines for the Formation of a Community Liaison Committee should be used for guidance. The Approval Holder must operate the CLC for the duration of the Project and until released in writing by NSE.

## **9.0 First Nation and Aboriginal Engagement**

- 9.1 The Approval Holder must develop and implement a Mi'kmaq Communication Plan for the Project, which will include a process for communicating Project details and seeking input from the Mi'kmaq community.

## 10.0 Contingency Plans

- 10.1 Prior to commencement of the Project, the Approval Holder must develop and implement a spill contingency plan which meets NSE's Contingency Planning Guidelines. The plan must address accidental occurrences including but not limited to: spills of hydrocarbons or other hazardous materials, failure of erosion and sediment control measures, fires, and vehicular collisions.

A handwritten signature in blue ink, reading "Iain Rankin", is positioned above a solid horizontal line.

Iain Rankin, MLA  
Minister of Environment

