

# **Environmental Assessment Approval**

**Approval Date: January 5, 2021**

**Highway 102 Aerotech Connector Road Project**

**Department of Transportation and Infrastructure Renewal**

**Wellington, Halifax Regional Municipality, Nova Scotia**

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## **Terms and Conditions for Environmental Assessment Approval**

### **1 Definitions**

- 1.1 Environment Act means Environment Act 1994-95, c.1, s.1, and includes, unless the context otherwise requires, the regulations made pursuant to the Act, as amended from time to time.
- 1.2 Department means the Department of Environment, and the contact for the Department for this Approval is:  
  
Nova Scotia Environment  
Central Region, Bedford Office  
30 Damascus Street, Nova Scotia B4A 0C1  
Phone: (902) 424-7773 Fax: (902) 424-0597
- 1.3 Minister means the Minister of Environment.
- 1.4 Commencement means the same as to commence work, as defined in the Environmental Assessment Regulations.
- 1.5 EA means Environmental Assessment

### **2 Scope**

- 2.1 This Approval (the "Approval") relates to the Approval Holder(s) and their Registration Document and all documentation submitted to the Department prior to the issuance of this approval for the Highway 102 Aerotech Connector Road Project, situated at or near Wellington, Halifax Regional Municipality, Nova Scotia, hereafter referred to as the "Project".
- 2.2 The Approval Holder(s) shall ensure the Project is carried out in accordance with this Approval and reference documents, including the Registration Document and supporting documentation.

### **3 General**

- 3.1 The Approval Holder shall conduct the Project in accordance with the Environment Act, as amended from time to time.
- 3.2 The Approval Holder shall, within two years of the date of issuance of this Approval, commence work on the Project unless granted a written extension by the Minister.
- 3.3 The Approval Holder shall provide written notification to the Department of the commencement date of the Project, at a minimum 30 days prior to the commencement.
- 3.4 The Approval Holder shall provide to the Department a concordance table detailing the status of the EA terms and conditions on January 31 of each year until released in writing by the Department.
- 3.5 Prior to any proposed expansion, modification or relocation of any aspect of the Project from that proposed in the Registration Information, the Approval Holder must submit the proposal to the EA Branch for review and may require an EA.
- 3.6 Nothing in this Approval relieves the Approval Holder of the responsibility for obtaining and paying for all other licenses, permits, approvals or authorizations necessary for carrying out the Project which may be required by municipal by-laws or provincial or federal legislation. The Minister does not warrant that such licenses, permits, approvals or authorizations will be issued.
- 3.7 No authority is granted by this Approval to enable the Approval Holder(s) to commence or continue the Project on lands which are not in the control or ownership of the Approval Holder(s). It is the responsibility of the Approval Holder(s) to ensure that such a contravention does not occur. The Approval Holder(s) shall provide, to the Department, proof of such control or ownership upon expiry of any relevant lease or agreement. Failure to retain said authorization may result in this Approval being cancelled or suspended.
- 3.8 The Approval Holder shall 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 this Approval from a parent company to a subsidiary or an affiliate is deemed to be a transfer requiring consent.
- 3.9 If there is a discrepancy between the Registration Documentation and the terms and conditions of this Approval, the terms and conditions of this Approval shall apply.
- 3.10 Upon any changes to the Registry of Joint Stock Companies information related to the Approval Holder, the Approval Holder shall provide a copy to the Department within 5 days of the changes.

- 3.11 Where a timeline is associated with a condition(s) of the Approval, the Approval Holder shall fulfil the requirements of the condition(s) within the prescribed timeline, unless otherwise authorized in writing by the Department.
- 3.12 The Approval Holder shall notify the Department in writing within 48 hours of any incidents of non-compliance with this Approval.
- 3.13 The Approval Holder shall bear all expenses incurred in carrying out the environmental management and monitoring required under the terms and conditions of this Approval.
- 3.14 Unless specified otherwise in this Approval, all samples required to be collected by this Approval shall be collected, preserved and analyzed, by qualified personnel, in accordance with recognized industry standards and procedures that are deemed acceptable to the Department.
- 3.15 The Approval Holder shall ensure that this Approval, or a copy, is present at the Project site while personnel are on site and that personnel directly involved in the Project are made fully aware of the terms and conditions which pertain to this Approval.
- 3.16 The Approval Holder shall update and/or revise any of the plans, programs or other documents required in this Approval to reflect the progressive development of and/or changes to the Project at a schedule acceptable to, or upon the request of, the Department.
- 3.17 Based on the results of the monitoring plans required in this Approval, the Approval Holder shall make necessary modifications to mitigation plans and/or changes to Project operations to prevent unacceptable environmental effects, as required by the Department.
- 3.18 Where a condition of this Approval requires the Approval Holder to consult a particular party or parties regarding the content of a document, the Approval Holder shall: provide a written notice to each such party inviting comments on the document within a reasonable timeframe, provide a written explanation to each party how the comments are addressed and considered, as well as maintain a record of consultation with each party and provide a copy of such consultation to the Department.

If there is a conflict between the Approval Holder and a party or parties that they are required to consult, the Department will determine if suitable consultation has been completed.

#### **4 Highway Right of Way**

- 4.1 A right-of-way (ROW) of 90 metres shall be established for the new highway route (Option A, in the Addendum of the EA Registration Document) to provide additional offset from dwellings, unless otherwise approved in writing by the Department.

## **5 Sulphide Bearing Material**

- 5.1 The Approval Holder shall retain a Professional Engineer licensed to practice in the Province of Nova Scotia to prepare a Sulphide Bearing Rock Management Plan (SBRMP) for all areas of the Project with known or potential acid rock drainage concerns.

The plan, along with design drawings and specifications, shall be prepared by a professional experienced with managing sulphide bearing materials and be provided to the Department for review and acceptance prior to any disturbance of sulphide bearing materials.

- 5.2 The SBRMP shall include, but not be limited to:

- a) describing all pre-construction, construction and post-construction monitoring and mitigation plans to be undertaken to address control of acid rock drainage.
- b) a confirmation sampling plan for rock left in place to confirm it is not potentially acid generating:
  - i Any potential for acid generating conditions at the site post construction will require long-term monitoring to ensure effluent discharge limits prescribed by the Sulphide Bearing Material Disposal Regulations are met.
  - ii The Approval Holder may be required to comply with revised or additional discharge limits as directed by the Department.
  - iii Should long-term monitoring be required, annual monitoring reports are required to be submitted to the Department by April 30 of each year until otherwise stated by the Department.

- 5.3 The disturbance of sulphide bearing material on the site shall, at a minimum, incorporate the following measures:

- a) Limiting the removal of surface vegetation covering sulphide bearing bedrock during construction to that required for staged excavation, drilling and blasting activities.
- b) Limiting excavation, drilling and blasting activities to generate rock volumes that allow for controlled and staged cut and fills.
- c) Designing blasting plans that reduce fractures and overbreak on rock to minimize exposure of sulphide bearing rock where possible.
- d) Limiting storage periods of disturbed rock prior to disposal.
- e) Limiting exposure of sulphide bearing material with an impervious material in accordance with the Sulphide Bearing Material Disposal Regulations.

- 5.4 Disturbed sulphide bearing materials shall not remain exposed to elements of weather in excess of 30 days. Storage periods may be reduced/varied at the direction of the Department. If necessary, exposed stockpile materials shall be covered with tarps, capped with clay or covered in a manner acceptable to the Department.
- 5.5 The excavated/blasted sulphide bearing material shall be moved from the excavation or blast site and disposed of at the approved disposal facility specified in the Addendum of the EA Registration Document.
- 5.6 Records of the removal, transfer and final disposal of the sulphide bearing materials shall be maintained on the site and be available for inspection upon request by the Department. These records shall include details of the specific location from which the materials were removed, the date they were transferred to the disposal facility and the total volume disposed.
- 5.7 Written certification by a professional engineer is required stating that removal and disposal of sulphide bearing materials and mitigative measures to reduce acid rock drainage have been conducted in accordance with the terms and conditions of this Approval and has met the minimum requirements of all drawings and specifications:
  - a) This certification must be provided to the Department, within 6 weeks of project completion.
  - b) The certification must confirm that all as-built drawings and any other relevant documentation have been turned over to the Approval Holder by the engineer.

## **6 Surface Water Resources**

- 6.1 The Approval Holder shall not conduct any Project activities, or removal of vegetation within 30 metres of a watercourse and/or a wetland unless otherwise authorized in writing by the Department.
- 6.2 Refueling shall not be conducted within 30 metres of any surface water resource.
- 6.3 Prior to commencement of the Project, the Approval Holder shall submit to the Department, for review and acceptance, an erosion and sedimentation control plan, developed by a qualified professional engineer or geoscientist licensed to practice in the Province of Nova Scotia. The Approval Holder shall implement the plan once deemed acceptable by the Department.
- 6.4 Prior to commencement of the Project, the Approval Holder shall submit to the Department for review and acceptance, a surface water monitoring and management plan. This plan shall include but not be limited to:

- a) Sampling locations, parameters, frequency, and methodologies.
- b) Identification of methods used to determine water quality sample locations and sampling frequency.
- c) Analytical requirements for Project identified contaminants of concern (e.g., sediment, acid rock drainage, metals, salt, herbicides, hydrocarbons).
- d) Details on any/all specific mitigation measures to be implemented to address the contaminants of concerns listed in condition 6.4 (c).
- e) Pre-construction, construction and post-construction monitoring with respect to acid rock drainage and metal leaching is to be included as part of the overall Plan.
- f) Details on the changes to local surface water runoff drainage patterns throughout all phases of the project, including pre-construction, construction and post-construction.
- g) Final road drainage designs completed by a Professional Engineer licensed to practice in the Province of Nova Scotia. Designs shall consider potential impacts on local drainage patterns resulting from the proposed works.
- h) A summary of how the potential interaction between structures that may be in place for both the active transportation trail and connector road was considered in final designs.

The Department recognizes that there may be some overlap between the required contents of the surface water monitoring plan and the Sulphide Bearing Rock Management Plan, specifically meant to address acid rock drainage concerns.

The Approval Holder shall implement the plan once the plan is deemed acceptable by the Department.

- 6.5 Prior to undertaking any construction activity in the bed or banks of a watercourse, the Approval Holder shall obtain any watercourse alteration construction Approvals or Notification receipts which may be required pursuant to Part V of the *Environment Act*. The watercourses alteration applications shall include but not be limited to:

- a) A summary of how structures were designed to incorporate climate change, as mentioned in the EA Registration Document: “Culverts designed to address potential climate change impacts on stream flow (implementation of the 1:100-year storm event design)”.
- b) Details associated with any loss or potential loss fish and fish habitat associated with the proposed works, where applicable.

6.6 Prior to any wetland alterations, the Approval Holder shall obtain the Part V Approval under the *Environment Act* for any wetlands to be altered by the Project. The Wetland Alteration applications shall include but not be limited to:

- a) Areas of wetland loss calculated based upon the Right-of Way of the road route (Option A) presented in the Addendum of the EA Registration Document, the associated detailed design drawings showing cross-drain culvert configurations.
- b) Details associated with the loss of fish and fish habitat associated with the proposed works, including consideration for any partial infilling of associated wetlands, where applicable.
- c) a Wetland Monitoring Plan that shall consider, but not be limited to:
  - i How baseline conditions will be documented before construction (and grubbing) begins. This should include indicators of hydrology, water quality parameters and vegetation community.
  - ii How changes in hydrology of the partially impacted wetlands will be monitored and proposed performance indicators.
  - iii How changes in the vegetation community of the partially in filled wetlands will be monitored, especially regarding the proportions of wetland specific plants, and invasive species and proposed performance indicators.
  - iv How changes in water quality of the impacted wetlands will be monitored and proposed performance indicators.
- d) a Wetland Compensation Plan. Preference shall be given to on-the-ground wetland restoration within the affected watersheds that provide hydrologic, water quality support and/or stream flow functions, if available, followed by on-the-ground wetland restoration opportunities elsewhere in the province.

## **7 Groundwater Resources**

- 7.1 The Approval Holder shall clarify the potential use of herbicides within the Project area with respect to the separation distance from groundwater drinking water supplies, noting also that the Project area spans two municipal drinking water watershed areas which are the source for several water supplies. This information is to be provided to the Department for review and acceptance prior to commencement of the Project.
- 7.2 Prior to commencement of the Project, the Approval Holder shall provide to the Department a standardized Baseline Survey Report (BSR) of existing water supply wells within 500 meters of the centerline of the new highway alignment. The pre-construction water well survey report shall include detailed water well construction information for the water well supply and survey results are to be mapped, tabulated and compared to relevant regulations and guidelines. The report shall include, but not be limited to:
- a) a map showing the location of the surveyed water supply wells;
  - b) a table listing the water supply unique identification numbers, civic address location, monitoring parameters, relevant drinking water guidelines and identified exceedances for: minimum water quality sampling of total and fecal coliform bacteria, general chemistry and full standard ICP-MS metals for each water well monitoring site (refer to Tables 1 and 2 in the NSE Drop on Water Fact Sheet on Groundwater Chemistry and Metals for information on recommended parameters).
- 7.3 The BSR shall be deemed acceptable by the Department and shall include any additional information requested by the Department.
- 7.4 Prior to commencement of the Project, the Approval Holder shall develop and implement a plan to communicate the BSR to the local community (personal information from well owners shall not be disclosed to the public). The plan shall be reviewed and accepted by the Department prior to implementation.
- 7.5 Additional water well surveys during the Project operations phase may be conducted by the Approval Holder at any time for mitigation activities, or at the request of the Department.
- 7.6 Prior to any blasting, the Approval Holder shall develop and implement an updated blasting plan. The plan shall include a completed pre-blast survey for structures and water wells within 800 metres of the point of the blast, a detailed blast monitoring plan, and a full blast damage response policy. The plan shall be made available to the Department upon request.



- 7.7 Prior to operation of the Project, the Approval Holder shall develop a salt management plan. This plan shall 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 shall implement the plan once the plan is accepted by the Department.
- 7.8 Prior to commencement of the Project, the Approval Holder shall provide to the Department for review and acceptance, a comprehensive pre-construction, construction and post-construction plan for groundwater monitoring. This plan shall include, but not be limited to:
- a) Monitoring for groundwater quality, quantity and water levels every six months during the construction phase and every 2 years during the operational and maintenance phase of the Project, unless otherwise determined by the Department.
  - b) A monitoring well network consisting of at least 1 upgradient, or ambient, monitoring well unaffected by the Project, 2 monitoring wells located on the north side of the road alignment corridor, and 2 monitoring wells located on the south side of the corridor (all 4 monitoring wells located generally in the western area of the Project site adjacent to the community where residential wells are located), for a combined total of a minimum of 5 monitoring wells.
  - c) A monitoring well network description, monitoring well construction records and a map showing the location of the permanent monitoring wells to be included in the groundwater monitoring well plan.
  - d) A table listing the unique identification number, location, monitoring frequency and monitoring parameters, relevant drinking water guidelines and identified exceedances for: minimum water quality sampling of total and fecal coliform bacteria, general chemistry and full standard ICP-MS metals for each monitoring well site (refer to Tables 1 and 2 in the NSE Drop on Water Fact Sheet on Groundwater Chemistry and Metals for information on recommended parameters).
  - e) A proposed approach to communicate groundwater monitoring results to the local community during the construction phase of the Project.

The Approval Holder shall implement the groundwater monitoring plan once the plan is deemed acceptable by the Department.

- 7.9 The Approval Holder, at their expense, shall replace any water supply which has been lost or damaged as a result of Project construction and operations, as required by the Department.

## 8 Flora and Fauna

- 8.1 Prior to commencement of the Project, the Approval Holder shall provide Nova Scotia Department of Lands and Forestry (Lands & Forestry), Wildlife Division with digital way points and shape files revealing precise locations for wetlands and species listed under the Species at Risk Act (SARA), Endangered Species Act (ESA), and/or 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 data provided to Lands & Forestry shall include date, species, observer name and habitat description. Written confirmation from Lands and Forestry is required indicating all GIS data has been provided in an appropriate format.
- 8.2 The Approval Holder shall develop a Wildlife Management Plan in consultation with Lands & Forestry (Regional Services and Wildlife Division) and Environment and Climate Change Canada (Canadian Wildlife Service). The plan shall include surveys/survey methodology, mitigations and monitoring necessary to protect wildlife during the planning and construction phase of the Project. The points to be addressed in the Plan shall include, but not be limited to:
- a) Measures to protect all identified species listed under the Species at Risk Act and/or Endangered Species Act as well as all S1, S2 and S3 listed species under the Atlantic Canada Conservation data Centre.
  - b) Bat preconstruction field surveys using adequate and sound scientifically methodologies to expand understanding on the status of the bat population in the western portion of the Local Study Area (LSA) and development of appropriate mitigation measures if required.
  - c) Bird nighttime point count preconstruction surveys where gaps (section of the LSA not previously surveyed) have been identified and development of appropriate mitigation measures if required.
  - d) Appropriate mitigation measures to minimize the risk of impacts on birds listed under the *Migratory Birds Convention Act* and processes to follow should an active nest be found at any time of the year.
  - e) Appropriate measures to identify any killdeer (*Charadrius vociferous*) nesting pairs and nests in the construction area from April to June and avoid disturbing established nests until chicks have fledged, since the species may nest in newly cleared areas.
  - f) Surveys be conducted and appropriate measures and procedures to follow in the event of finding raptor nests within the Project's ROW.
  - g) Appropriate mitigation measures for the event of finding Snapping Turtle (*Chelydra serpentina*) or nests while undertaking Project related work, as well as measures to minimize artificial nesting habit creation, which can act as ecological sinks for the species.

- h) Measures to manage non-native (alien invasive) plant species during all Project phases.
- i) Measures to identify and protect rare (i.e. S1, S2, and S3 ranked) lichen species occurring in proximity (< 500m) of the ROW, and measures to monitor and track the health of these individuals for a minimum of 5 years into the post-construction phase, unless otherwise directed by the Department.
- j) Communication protocol to address items such as, but not limited to, wildlife encounters, SAR protection measures, and reporting requirements.

Prior to commencement of the Project, the Approval Holder shall ensure the Wildlife Management Plan is deemed acceptable by the Department. The Approval Holder shall begin to implement the plan immediately following the acceptance of the Wildlife Management Plan by the Department. Any proposed changes to the plan shall be previously authorized in writing by the Department.

- 8.3 Prior to commencement of the Project, the Approval Holder shall develop a plan for compensating for the potential loss of wildlife and its habitat for species listed under the NS Endangered Species Act (NESA) or S1, S2, or S3 species listed under the Atlantic Canada Conservation Data Center in consultation with Lands & Forestry. This plan shall include, if applicable, rationalization for wildlife disruption other than inadvertent loss.

Prior to commencement of the Project, the Approval Holder shall ensure the plan is deemed acceptable by the Department. Should loss of any species listed in the plan occur during the construction phase of the Project, the Approval Holder shall implement the plan as accepted by the Department.

- 8.4 Prior to commencement of the Project, the Approval Holder shall develop a plan for crossings structures to reduce habitat fragmentation and improve wildlife passage in consultation with Lands & Forestry, Wildlife Division.

Prior to commencement of the Project, the Approval Holder shall ensure the plan is deemed acceptable by the Department. The plan shall be implemented as accepted and any changes to the wildlife crossing designs shall be previously authorized in writing by the Department.

- 8.5 The Approval Holder shall clear vegetation outside of the breeding season for most bird species (April 15 to August 31), unless otherwise authorized in writing by Lands and Forestry. Clearing during the breeding season may require additional surveys and mitigations as directed by the Department. Vegetation clearing shall be recorded in a daily log that shall be available for review by the Department indicating the date and time of the clearing operation and the contractor.

- 8.6 The Approval Holder shall report sightings of species at risk as listed on Schedule 1 of the Species at Risk Act to the Canadian Wildlife Service. The Approval Holder shall report sightings of species listed under the Nova Scotia Endangered Species Act to Lands and Forestry. The Approval Holder shall provide written notification to the Department that sightings have been reported to the Canadian Wildlife Service and to Lands and Forestry.

## **9 Air Quality and Noise**

- 9.1 Prior to commencement of the Project, the Approval Holder shall develop a plan to suppress dust associated with the Project during the construction phase. The Approval Holder shall implement the plan once the plan is deemed acceptable by the Department.
- 9.2 At the request of the Department, the Approval Holder shall develop and implement an air quality and/or dust monitoring plan. This plan shall include, but not be limited to, sampling locations (may include point(s) beyond the property boundary of the Site), parameters, monitoring methods, protocols and frequency. The number and location of the monitoring station(s) shall be established by a qualified person retained by the Approval Holder. The Approval Holder shall implement the plan once the plan is deemed acceptable by the Department.
- 9.3 At the request of the Department, the Approval Holder shall monitor noise levels. The number and location of the monitoring station(s) for noise measurement shall be established by a qualified person retained by the Approval Holder. The Approval Holder shall implement the plan once the plan is deemed acceptable by the Department.

## **10 Archaeological and Heritage Resources**

- 10.1 Prior to commencement of the Project, the Approval Holder shall engage a qualified archaeologist to carry out the recommendations outlined in the archaeological resource impact assessment for this Project and approved by Nova Scotia Department of Communities, Culture and Heritage (CCH) on August 19, 2019. The archaeologist shall complete a formal shovel testing program in consultation with CCH in the immediate area of the stone cellar, and within 50m south of the cellar identified along Old Holland Road to accurately determine the feature's age, function and significance. The archaeologist shall submit a report which includes the shovel testing results immediately to CCH for review and acceptance, once the results become available.
- 10.2 The Approval Holder shall cease work and contact the Special Places Coordinator, Nova Scotia Department of Communities, Culture and Heritage (CCH) immediately upon discovery of an archaeological, or paleontological site, artifact or fossil specimen unearthed during any phase of the Project. If the find is of certain or possible Mi'kmaq origin, the Approval Holder shall also contact the appropriate Mi'kmaq representatives as advised by CCH.

## **11 Public Engagement**

- 11.1 Prior to commencement of the Project, the Approval Holder shall establish a complaint resolution plan for receiving and responding to complaints related to the Project, including a reporting system which records and documents steps taken to determine the cause of complaint and the corrective measures taken to alleviate the cause and prevent its recurrence. The Approval Holder shall implement the plan once deemed acceptable by the Department. The Plan shall be revised or updated as required by the Department.
- 11.2 Prior to commencement of the Project, the Approval Holder shall appoint a contact person designated to deal with complaints and shall provide the contact information to the Department.
- 11.3 Prior to commencement of the Project, the Approval Holder shall develop and implement a plan for the formation and operation of a Community Liaison Committee (CLC) including terms of reference, which meets the Department's Guide for the Formation and Operation of a Community Liaison Committee. The plan shall be implement once deemed acceptable by the Department and the Approval Holder shall operate the CLC for the duration of the Project or until released in writing by the Department.

## **12 Engagement with the Mi'kmaq of Nova Scotia**

- 12.1 At the Department's request, the Approval Holder shall develop and implement a Mi'kmaq Communication Plan for the Project. This plan shall consider a process for communicating Project details, including the ones related to the wetlands, and seeking input from the Mi'kmaq. The Approval Holder shall implement the plan once the plan is deemed acceptable by the Department.

## **13 Contingency Plan**

- 13.1 Prior to commencement of the Project, the Approval Holder shall develop a contingency plan which meets the Department's Contingency Planning Guidelines. The plan shall provide prevention measures and 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. The plan shall be maintained and updated over the life of the project.
- 13.2 The contingency plan shall be kept on the Project site at all times when personnel are on site and made available to the Department upon request.



Gordon Wilson, MLA  
Minister of Environment